# ASSESSMENT OF STAKEHOLDER PERCEPTIONS TOWARDS MALTA'S LAND-BASED WIND ENERGY PLANS

**Brian Restall**

A dissertation submitted in partial fulfilment of the requirements for the joint degree of Master of Science in Sustainable Environmental Resource Management from the University of Malta (Malta) and James Madison University (Virginia, USA).

Department of Integrated Science and Technology (ISAT), James Madison University
Institute of Earth Systems (IES), University of Malta

October 2010

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|---|---|
| Supervisor: | Dr. Elisabeth Conrad |
| Co-supervisor: | Dr. Maria Papadakis |
| Reader: | Dr. Tonio Sant |
| External examiner: | Dr. Jennifer Coffman |

## Declaration of originality

This is to certify that the work is entirely my own and not of any other person, unless explicitly acknowledged (including citation of published and unpublished sources). The work has not previously been submitted in any form to the University of Malta or James Madison University, or to any other institution for assessment for any other purpose.

Signed

Date 28th October 2010

# Abstract

This research paper sets out primarily to build on research literature about stakeholder perceptions (including levels of acceptance) of wind farm projects in Malta. It collects critical new information for Malta about the perspectives and considerations of stakeholders with different interests, and their relationship towards wind power policy making, planning and decision making in respect to the planned onshore wind farm at Wied Rini in Bahrija. This is expected to provide reliable benchmarking data and knowledge that can inform environmental decision-making and stakeholder involvement, while identifying possible ways to assist mediation and reduce conflict. Field research was conducted using Q methodology in order to systematically compare patterns in stakeholder views according to cultural types, and their energy/environmental priorities within spatial planning.

Results indicate clearly that in most cases same issues are looked at significantly differently by the various stakeholders, with four major discourses standing out but indicating rather polar views. This implies that local concerns need to be heeded very carefully, whether they are deemed 'legitimate' or not. Due to the many uncertainties dominating the project, science alone is not sufficient to provide peace of mind and scientific arguments can often be used in stakeholder quibbling or lead to further controversy. Similarly any attempts to subdue objectors or manipulate community engagement to reach a forced approval of the project can be counterproductive, and will result in longer and more painful public confrontations.

Public perception across most of the discourses are characterised by mistrust and constant doubts for the motives of politicians, and a lot of effort needs to be directed towards establishing a level of trust between the different stakeholders and local agencies. However one of the most important calls made by the prevalent discourses is towards expanding and improving community participation in the way the wind project plans are planned and authorized. Of course the implication is that this requires adequate information campaigns and possibly an institutional capacity re-think that empowers constructive public involvement in the burden sharing, with the understanding that this will lead to better decision making and less public opposition.

## Word Count

Number of Pages: 207

Body Word Count: 24,217 (excl. table of contents and appendices)



Author: Brian Restall

The author can be reached via email on brian.restall@pim.com.mt

# Acknowledgements

I would like to express my gratitude to Dr. Elisabeth Conrad, my supervisor at the Institute of Earth Systems (IES) of the University of Malta (UOM), for her support and thorough feedback throughout every stage of this thesis.

Thanks are also due to Dr. Maria Papadakis and Dr. Jonathan Miles from the Department of Integrated Science and Technology at James Madison University (JMU), and Dr. Tonio Sant and Ing. Robert Farrugia at the Institute of Sustainable Energy for their help and suggestions.

I would also like to show my appreciation to Dr. Liberato Camilleri from the Department of Statistics and Operations Research, and Dr. Mark Sacco from the Institute of Health Care, for their assistance to analyse the Q methodology results.

My sincere thanks must also go to all the staff at the IEI and JMU, who during the past year have supported me and given me advice throughout the whole scholastic year.

I am also grateful to several contributors and work colleagues for helping me during the various stages of my dissertation, and to my better half for putting up with me during the last year. My final word of thanks must go to all the stakeholder respondents who found time to provide me with their points of view, and all the authors cited.

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*"Like chain saws in the hills,*
*catching birds in their arms,*
*killing the peace of Llywernog,*
*they came as sly as a fox,*
*rising like mushroom overnight*
*and standing in a row on the moor,*
*practising karate with their arms,*
*splitting the wind and the quietness. "*

*Poem about a wind farm project found on the Country Guardian web page attributed to Welsh school children (www.countyguardian.net) [Accessed 18 May 2007].*

## Abbreviations

| | |
|---|---|
| AdT | Malta Transport Authority |
| AEI | Areas of Ecological Importance |
| AEI | Acoustic Ecology Institute |
| AHLV | Areas of High Landscape Value |
| BRF | Bahrija residents and farmers |
| BLM | Birldlife Malta |
| CDM | Clean Development Mechanism |
| DEH | Department for Environmental Health |
| EC | European Commission |
| EEA | European Energy Association |
| EIA | Environmental Impact Assessment |
| EIPP | Environment Initiative Partnership Programme |
| ELC | European Landscape Convention |
| EMAS | Eco-Management and Audit Scheme |
| EMF | Electro magenetic fields |
| EREC | European Renewable Energy Council |
| ETS | Emissions Trading Scheme |
| EWEA | European Wind Energy Association |
| EU | European Union |
| GP | General public |
| GHG | Greenhouse Gas |
| GPP | Green Public Procurement |
| GWEC | Global Wind Energy Council |
| IAIA | International Association for Impact Assessment |
| IPPC | Integrated Pollution Prevention and Control |
| ISO | International Organisation for Standardization |
| JMU | James Madison University |
| KWh | Kilowatt Hour |
| LC | Local Council |
| MEPA | Malta Environment & Planning Authority |
| MCA | Malta Communications Authority |
| MEU | Management Efficiency Unit |
| MITC | Ministry for Infrastructure, Transport and Communications |
| MRA | Malta Resources Authority |
| MRRA | Ministry for Resources and Rural Affairs |
| MSA | Malta Standards Authority |
| MSLA | Mean Sea Level Aquifer |
| MTA | Malta Tourism Authority |
| MW | Megawatt |
| NAO | National Audit Office |
| NEC | National Emissions Ceiling |
| NEHAP | National Environmental Health Action Plan |
| NIMBY | Not in my back yard |
| NGO | Non-Governmental Organisation |
| NSO | National Statistics Office |
| NSRF | National Strategic Reference Framework programme |
| NREAP | National Renewable Energy Action Plan |
| PDS | Project Description Statement |
| OHSA | Occupational Health and Safety Authority |
| Q | Q methodolgy |
| RE | Renewable Energy |
| RES | Renewable Energy Sources |
| SAC | Special Area of Conservation |
| SPA | Special Protection Areas |
| SEA | Strategic Environmental Assessment |
| SIA | Social Impact Assessment |
| TJ | Tera joules |
| UCA | Urban Conservation Area |
| UN | United Nations |
| UNFCCC | United Nations Convention on Climate Change |
| UoM | University of Malta |

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# CHAPTER 1

## 1.1 Introduction

The Maltese Government has recently introduced ambitious policy targets for wind energy generation (MRA 2010). While studies suggest that in Europe and Malta stakeholders seem to generally hold positive attitudes towards wind energy (EC, 2006c and 2007c)[1], proposals for the construction of new wind farms have been met with strong resistance (MEPA 2009, Malta Independent 2009)[2] which has the potential to prevent the achievement of these targets (Graham et al. 2009)[3]. Scoping comments submitted to MEPA in May/June 2009 indicate that numerous concerns have already been put forward by various stakeholders like BirdLife Malta due to the ornithological importance of Bahrija, the Malta Communications Authority due to electromagnetic interference caused by wind turbines to radar, broadcasting, and microwave services/stations in the nearby areas, the Department for Environmental Health on issues of raw material and waste, noise pollution and shadow flicker effects, and from the general public or residents who are concerned with various health, social, aesthetic and environmental issues (MEPA 2009)[4].

Consequently environmental resource managers and decision makers are nowadays faced with a difficult dilemma. On the one hand, technical and organizational expertise is a necessary but insufficient condition to make prudent decisions on resource allocation and opportunities, and taking account of stakeholders' views is being mandated in most countries. (e.g. the Aarhus Convention 1998).[5] On the other hand, stakeholders do not come to the table as blank slates but with an agenda and this can have a beneficial or damaging effect in realizing coordinated action. Similarly, public perceptions are at least partially driven by biases, anecdotal evidence, false assumptions about

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[1] 71 per cent of EU citizens are firmly in favour of the use of wind power in their countries. On a scale from 1 (strongly opposed) to 7 (strongly in favour), the EU average is 6.3. Even higher rates of support were recorded in some countries, for example Denmark (6.7), Greece (6.5), and Poland, Hungary and Malta (6.4). European Commission (2007c) '*Energy technologies: Knowledge, perception, measures*', Special Eurobarometer 262, Wave 65.3 – TNS Opinion & Social.
European Commission (2006c) *Attitudes towards energy*, Special Eurobarometer 247/Wave 64.2

[2] Court Briefs: Farmers object to wind farm application. Malta Independent Online http://www.independent.com.mt/news.asp?newsitemid=88559

[3] Graham, Jessica b.; Stephenson, Janet R.; Smith, Inga J. (2009) *Public perceptions of wind energy developments: case studies from New Zealand.* Retrieved online http://ideas.repec.org/a/eee/enepol/v37y2009i9p3348-3357.html

[4] Scoping comments submitted to MEPA between 24/05/2009 to 23/06/2009. PA 01819/09 (GFE 00002/09). Outline application for wind farm and installation of a temporary wind monitory mast Site at, Wied Rini, Bahrija, Rabat. http://www.mepa.org.mt/eiadetailspage?pict=images/EIA_jpegs/Rabat.jpg&casenum=PA/01819/09&NewCases=true&Flag=0

[5] United Nations Economic Commission for Europe (UNECE) Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters was adopted on 25th June 1998

resource interactions with the environment, and sensation (Okrent 1998)[6]. **Perception** in this context refers to "*both the response of the senses to external stimuli and purposeful activity in which certain phenomena are clearly registered while others recede in the shade or are blocked out.*" (Yi-Fu 1990) [7]. Another major constraint is also the costs in terms of time and resources necessary to capture the views of stakeholders (Hughes 1998)[8].

Nonetheless integrating socio economic and environmental values into resource management decisions requires the input of those stakeholders whose interests and values are affected by the decision options (Kunreuther 1996)[9]. In many instances, these interests and values are so obvious that agencies, guided by scientific knowledge, tend to act on the behalf of the common good without major reassurance that their action is in accordance with the needs and concerns of the communities they serve (Chess 1998)[10]. However this is nowadays no longer acceptable in most pluralistic societies since it turns out that community interests are not always that obvious after all and cannot be ignored.[11] Besides, scientific knowledge in environmental decisions is often ambiguous and contested (Stoll-Kleemann 2006)[12].

Clearly effective involvement of stakeholders in the decision making process can produce better community endorsement that is superior to representations produced solely by expert-centred processes since it allows for stakeholder appreciation and reflection, can capture different perspectives, allows for social, economic and political flexibility, enhances perceived legitimacy of decisions taken and potentially captures alternative options (Swanson 2009)[13]. Research also indicates that stakeholders are willing to suffer 'harm' if they feel it is justified, or if it serves other goals, but at the same time, they may reject even the slightest possibility of risk if they feel the

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[6] Okrent, D. (1998) *Risk Perception and Risk Management: On Knowledge, Resource Allocation and Equity*. Reliability Engineering and Systems Safety 59, 17-25

[7] Tuan Yi-Fu. (1990) *Topophilia. A study of environmental perception, attitudes, and values*. Columbia University Press.

[8] Hughes Ross, (1998) *Environmental impact assessment and stakeholder involvement*. International Institute for Environment and Development. *Environmental Planning Issues No. 11.*
[Accessed on 27/07/2010] http://www.iied.org/pubs/pdfs/7789IIED.pdf

[9] Kunreuther, H., Slovic, P. (1996) *Science, Values, and Risk*. In: Kunreuther, H., Slovic, P. (eds). Annals of the American Academy of Political and Social Science, Special Issue. Challenges in Risk Assessment and Risk Management. Sage, Thousand Oaks, 116-125

[10] Chess, C., Dietz, Th., Shannon, M. (1998). *Who Should Deliberate When?* Human Ecology Review 5(1), 60-68

[11] *Muscat lambasts bulldozer government*. The Malta Independent online. [Accessed on 17/02/2010] http://www.independent.com.mt/news.asp?newsitemid=88243

[12] Stoll-Kleemann Susanne, Martin Welp (Eds.). (2006) *Stakeholder Dialogues in Natural Resources Management*. Theory and Practice. http://www.springerlink.com/content/u2080n273u73x460/

[13] Swanson Darre, Bhadwal Suruchi. (2009) *Creating adaptive policies. A Guide for Policy-making in an Uncertain World*. http://www.idrc.ca/en/ev-147096-201-1-DO_TOPIC.html

decision is imposed on them or violates their attitudes and values (Maclean 1986)[14]. Consequently, in many environmental decisions, plural stakeholder input is needed to produce a fair and balanced decision that is better accepted (Creighton 1983)[15]. Such input requires direct participation efforts that are nowadays mandated as part of the scope of normal decision-making procedures, and not simply left to majority voting by a representational branch of government (Webler 1999)[16].

Consequently proper understanding of stakeholders' attitudes and adequate participatory deliberative methods involving all the stakeholders need to be employed in addition to scientific input (Liberatore 2003)[17] in order to achieve Malta's wind energy ambitions. This paper provides some insight into stakeholders' perspectives using the planned Bahrija wind farm as a case study.

## 1.2 Wind Energy outlook across the European Union

Electricity obtained from the wind is one of the most technologically advanced renewable energy sources today, and is considered to be financially competitive compared to traditional sources of electricity generation. According to the European Environment Agency (EEA 2008a)[18], the production of energy and electricity from renewable energy sources grew steadily between 1992 and 2006, with particularly large increases in wind and solar electricity. In fact Figure 1 below reveals that the power sector in Europe is still moving away from coal, fuel oil and nuclear, as each of those power technologies continued decommissioning inefficient plants in 2009.

[14] MacLean, D. (1986) *Social Values and the Distribution of Risk*. In: MacLean, D. (ed). Values at Risk. Rowman and Allanheld, Totowa, 75-93

[15] Creighton, J.L. (1983). *The Use of Values: Public Participation in the Planning Process*. In: Daneke, G.A., Garcia, M.W., Delli Priscoli, J. (eds.). Public Involvement and Social Impact Assessment. Westview Press, Boulder, 143-160

[16] Webler, Th. (1999). *The Craft and Theory of Public Participation: A Dialectical Process*. Risk Research 2 (1), 55-71

[17] Liberatore, A., Funtowicz, S. (2003) *Democratizing Expertise, Expertising Democracy: What Does This Mean, and Why Bother?*, Science and Public Policy 30 (3), 146-150

[18] EEA, 2008a. (November 2008) *EEA Energy Core set Indicators. Core Set Indicator 031-Renewable electricity consumption*. [Accessed January 2009]. http://www.eea.europa.eu/data-and-maps/indicators/

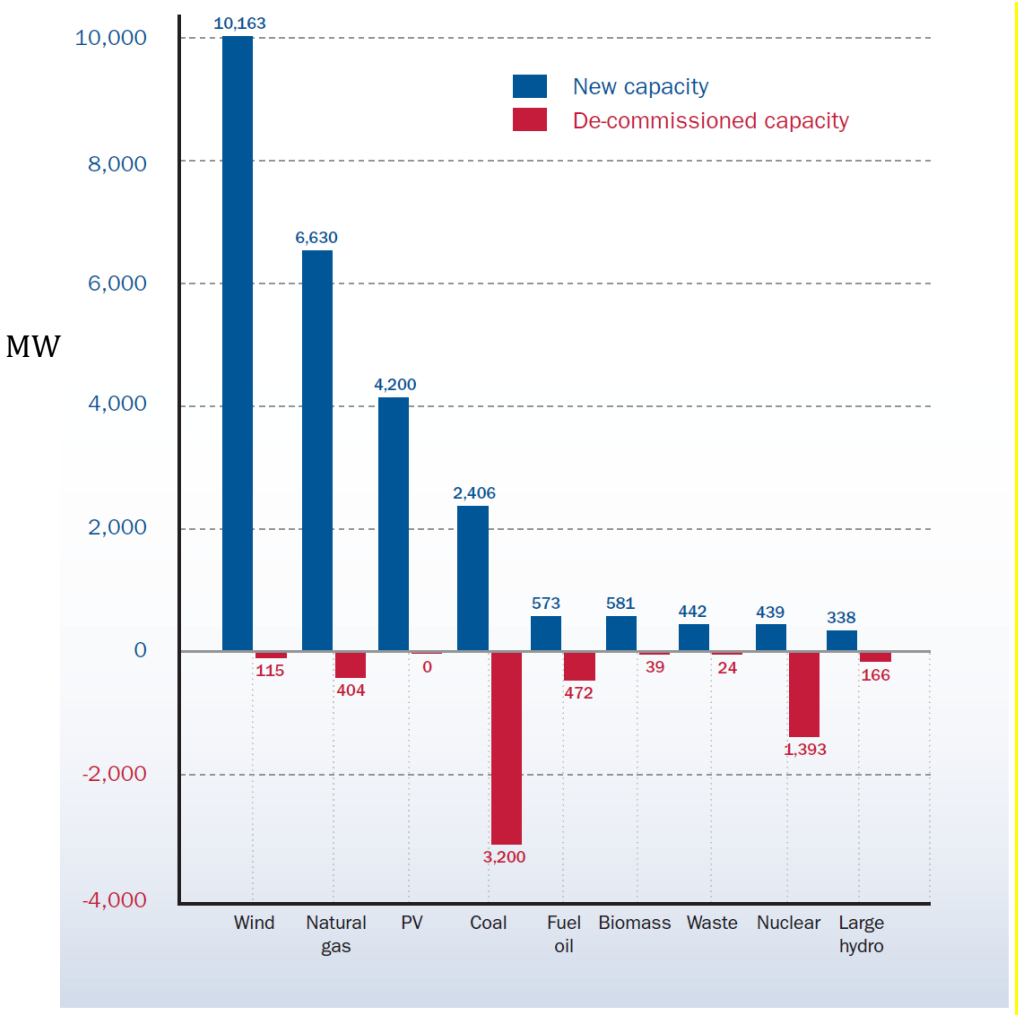


***Figure 1 - New installed energy capacity and de-commissioned capacity in EU 2009 in MW. (EWEA 2010)***

The wind capacity installed by the end of 2009 across the EU will in a normal year produce 163 terrawatt hours (TWh) of electricity, and overall installed capacity is currently meeting 4.8% of total EU power demand. This represents an increase of circa 23% over 2008, and is the second year in a row that more wind power was installed in the EU than any other generating technology (EWEA 2010)[19]. Malta has to-date no installed capacity whatsoever.

Offshore wind energy has also started taking off as an industry in and of itself, and it is expected that by the second half of the 2020s the offshore industry will actually become bigger than the onshore one.

[19] The European Wind Energy Association. (February 2010). *Wind in power. 2009 European statistics*. [Accessed on 01/09/2010].
http://www.ewea.org/fileadmin/ewea_documents/documents/statistics/general_stats_2009.pdf

The European Commission's goal is of increasing the current wind energy share of total demand from 4.8% to 12 % by 2020, and significant further expansion will be needed to meet the EU-27 target of generating at least 20 % of final energy consumption from renewable sources by 2020 (European Commission 2007)[20]. The European Wind Energy Association (EWEA 2009)[21] predicts that the EU-27 will have circa 80 GW installed capacity, and has set a target of 180 GW installed capacity by 2020. This would be equivalent to approximately 5 % of total power supply in 2010 and between 11.6 to 14.3 % in 2020, depending on the electricity demand. This would power circa 131 million EU households and avoid 333 million tonnes of CO2 annually.

The above figures and outlooks confirm that wind power, together with other renewable energy technologies and a shift from coal to gas, can help policymakers work towards promoting emissions free technologies. Wind can also facilitate agreement on a new and strengthened post-Kyoto[22] pact that reduces greenhouse gas emissions caused by burning fossil fuels. It is also bound to play a very significant role in delivering European carbon reductions, whilst helping the EU meet the energy and climate crises being faced today. Malta also has a potential opportunity with utilising wind power towards reaching its RES targets.

*Figure **2*** below provides a quick summary of the estimated RES potential for Malta for both on-shore and offshore wind, in comparison with other solutions (Re-Shaping project 2009)[23].

[20] European Commission (2009). *EU action against climate change: Leading global action to 2020 and beyond*. [Accessed October 2010].
http://ec.europa.eu/environment/climat/pdf/brochures/post_2012_en.pdf
[21] The European Wind Energy Association. (February 2010). *Wind in power. 2009 European statistics*. [Accessed on 01/09/2010].
http://www.ewea.org/fileadmin/ewea_documents/documents/statistics/general_stats_2009.pdf
[22] See http://europa.eu.int/comm/environment/climat/kyoto.htm
[23] Re-Shaping Project. (2009) *Renewable Energy Policy Country Profiles*. IEE. http://www.reshaping-res-policy.eu/downloads/RE-SHAPING%20Renewable%20Energy%20Policy%20Country%20profiles%202009.pdf

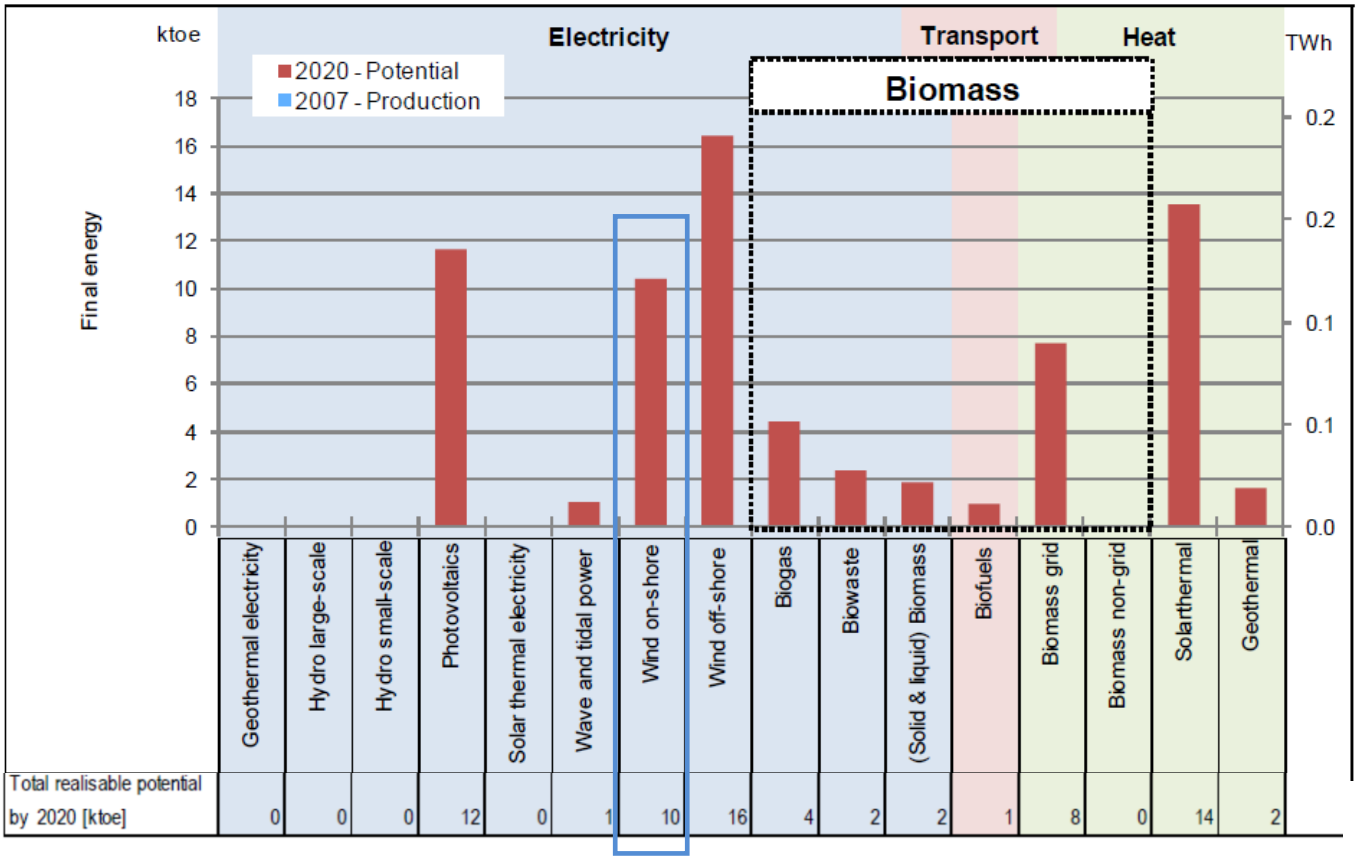


***Figure 2 - Malta Summary of RES Potential [24] (Re-Shaping project 2009)***

## 1.3 The policy context for wind energy in Malta

Malta's signature to the Kyoto Protocol[25] places obligations on the Maltese government to curtail greenhouse gas emissions, which mostly emanate from the production of electricity from two fossil fuel-based power plants. Further obligations also arise out of EU directive 2009/28[26] that deals with promoting RES, and EU directive 2003/87[27] which establishes the mechanism for greenhouse gases trading quotas.

However besides the above political obligations, a long term strategy of reliance on fossil fuels as a single source of power may be problematic for Malta in the future, both from a sustainability as well as from a pricing point of view. To-date Malta is served by one vertically-integrated corporation (Enemalta) for the generation, distribution and supply of electricity through a totally isolated

[24] 1 ktoe = 11.628 GWh = 41.868 TJ

[25] http://europa.eu.int/comm/environment/climat/kyoto.htm

[26] Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC (Text with EEA relevance)

[27] Directive 2003/87/EC of the European Parliament And of the Council dated 13th October 2003 establishing a scheme for greenhouse gas emission allowance trading within the Community and amending Council Directive 96/61/EC. Available at http://europa.eu.int/eur-lex/pri/en/oj/dat/2003/l_275/l_27520031025en00320046.pdf .

network. Furthermore it is totally dependent on petroleum product imports for its supply in conventional energy which exposes the Maltese economy to energy price pressures by international market forces that are uncontrollable.

Furthermore demand for electricity in Malta has also been on the increase, mainly driven by economic and population growth, together with ensuing improved standards of living. In fact a progressive increase in energy demand has been noted; from 284GWh in 1970 to 2,263GWh in 2005 (MRA 2009). Similarly overall GHG emissions have increased by 44% between 1990 and 2003 with the main contributors to GHG emissions being the energy generation sector (from the two existing power generation plants) and the transport sector, having a share of 63% and 20% respectively (MEPA 2010); which could force Malta to buy excess emission quotas from countries that have surplus credit[28].

The most immediate solution to relieve this dependence would be tapping into electricity supply from Sicily via an interconnection submarine cable to the European electrical network, which would also be instrumental for the integration of a large intermittent source of renewable energy such as the proposed wind farms (Enemalta 2009)[29].

The following sub-sections attempt to describe briefly the major political and policy obligations that are relevant to Malta' renewable energy plans with a particular focus to wind energy.

### *1.3.1 European Union Directive 2009/28/EC*

The European Union Directive 2009/28/EC[30] on the promotion of the use of energy from renewable sources requires that Member States should achieve a share of energy of the gross final consumption from renewable resources. However due to various limitations of the Maltese islands, like its geographical insularity and population density on a small footprint, Malta managed to negotiate an obligation of achieving a 10% target, the lowest amongst the EU 27[31], for its share of energy from

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[28] Emissions trading, or "cap-and-trade" as also commonly known, is becoming a key market-based approach for the control of pollutants through the provision of economic incentives to limit or reduce emissions. http://ec.europa.eu/environment/climat/pdf/emission_trading2_en.pdf

[29] Enemalta Corporation (2009). *Request for Information regarding a submarine electrical interconnection between the Maltese and European Grids*. File ref no. TD/246/4/207.
http://www.enemalta.com.mt/filebank/documents/RFI%20Interconnector%20Final%20date%20change.pdf

[30] Directive 2009/28/EC of the European Parliament and of the Council of 23 April 2009 on the promotion of the use of energy from renewable sources and amending and subsequently repealing Directives 2001/77/EC and 2003/30/EC
http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:140:0016:0062:en:PDF

[31] EU-27: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Italy, Latvia, Lithuania, Luxemburg, Malta, the Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden and the United Kingdom.

renewable sources in gross final consumption of energy by 2020. This includes energy consumed in transport, electricity, heating and cooling.

It is important to mention at this stage a report prepared by the Auditor General in September 2009 on Malta's potential contingent liability in the event that renewable energy targets are not attained (NAO 2010)[32]. This report attempted to provide strictly hypothetical estimates for Malta's contingent liability on the bases of financial penalties that could be imposed by the European Court of Justice, statistical transfers and cooperation agreements. Despite major limitations of this study (related to scarce data available, the unknown potential impact of technological advancements in the renewable energy field, Malta's future energy demand and future fossil fuel prices) the report presents a range of contingent liabilities. These could amount to around €2.9 million (based on a five-year lump sum penalty and a subsequent periodic payment based on a presumed five-year period of non-compliance), and €6.5 million / €36.1 million respectively for a one percent shortfall from the renewable energy targets. Additionally, in the event that renewable energy targets remain unattained, the risk also exists that Malta would face further non-compliance costs, in terms of other EU Directives, such as Directive 2001/81/EC[33] on national emission ceilings for certain atmospheric pollutants like carbon dioxide emissions.

### *1.3.2 National Renewable Action Plan*

Article 4 of the Directive 2009/28/EC defines the requirement that each Member State shall adopt a National Renewable Action Plan (NREAP) indicating the local measures for energy from renewable energy sources as well as energy efficiency strategies or any other measures required to reach that target. The same Article 4 also requires that the NREAP of each Member State is to be notified to the Commission by 30 June 2010, and as per Article 22, on 31 December 2011 and every 2 years thereafter. At the time of writing Malta missed the European Commission's deadline to submit its NREAP[34] and the Proposed National Renewable Energy Action Plan Report was eventually published on the 6th July 2010, suggesting committing towards a National 2020 target and estimated trajectory

[32] National Audit Office (June 2010) Malta's Renewable Energy Contingent Liability". Potential costs relating to the non-attainment of the EU's mandatory 2020 targets.
http://www.nao.gov.mt/loadfile.ashx?id=a2ea83eb-a424-4b79-9c5f-455544f69dc7

[33] Directive 2001/81/EC of the European Parliament and of the Council of 23 October 2001 on national emission ceilings for certain atmospheric pollutants.
http://eur-lex.europa.eu/smartapi/cgi/sga_doc?smartapi!celexplus!prod!DocNumber&lg=en&type_doc=Directive&an_doc=2001&nu_doc=81

[34] *Malta misses EU deadline for renewable energy plan*. Friday, 2nd July 2010. Ivan Camilleri, Brussels
http://www.timesofmalta.com/articles/view/20100702/local/malta-misses-eu-deadline-for-renewable-energy-plan

of energy from renewable sources in heating and cooling, electricity and transport that exceeds the original mandatory target marginally to 10.2% (MRA 2010)[35].

A later report by the European Environment Agency (Sep 2010)[36] has collated the renewable energy projections as published in the National Renewable Energy Action Plans for each of the European Member States, and offers an easy visual of Malta' targets.

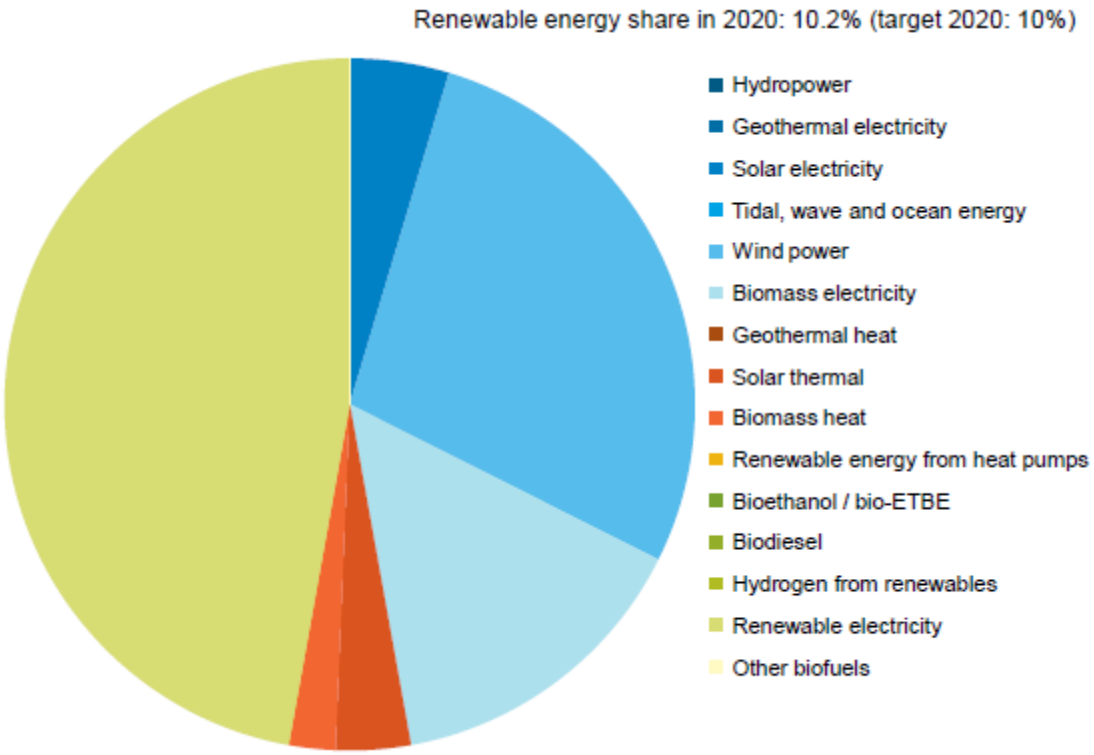


***Figure 3 - Renewable energy share in 2020: 10.2% (target 2020: 10%)***

This latest report acknowledges concerns about the possible negative effects of the development of wind energy facilities on the fauna and flora on the chosen sites, in particular at Sikka l-Bajda. Furthermore it does not exclude that other sites may be considered for the installation of other wind farms, subject to approval from the respective authorities.

### *1.3.3 Draft energy policy for Malta and SEA*

The draft energy policy of 2006 (MRRA 2006)[37] was recently reviewed to reflect among others the conclusion of the EC climate change and energy package in December 2008, and was published in

[35] Proposed National Renewable Energy Action Plan Report. (6th July 2010). Ministry for Resources and Rural Affairs. Accessed online on 14/07/2010.
http://ec.europa.eu/energy/renewables/transparency_platform/action_plan_en.htm

[36] Hekkenberg M., Beurskens L.W.M. (September 2010) *Renewable Energy Projections as Published in the National Renewable Energy Action Plans of the European Member States*

[37] Ministry for Resources and Rural Affairs. (August 2006) *A Draft Renewable Energy Policy for Malta.*
http://www.doi.gov.mt/en/archive/prebudget2007/Renewable%20Energy.pdf

April 2009 (MRRA)[38]. In particular, the revised energy policy takes into account the EC mandatory target for Malta of 10% share of renewable energy mix by 2020 including 10% in the transport sector. A public consultation process was launched in April 2009 on the revised Energy Policy. The outcome of the consultation is being analysed and concurrently the Strategic Environment Assessment (SEA)[39] process on this policy was initiated (MRA 2010)[40].

The policy proposal includes a series of measures and actions to reach the various objectives including measures to tap Malta's renewable energy sources potential. The biggest project is in fact plans for three wind farms.[41] Other projects include the further use of photovoltaic and solar energy through schemes promoting the technology for household and business use. To-date most of these projects are still at tendering or Environmental Impact Assessment (EIA) stage and no infrastructure has yet been put in place. It is pertinent to point out that the "*Planning guidance for micro-wind turbines*" at the domestic level was approved by MEPA in May 2010[42].

In January 2009, the National Climate Change Committee presented its report entitled *''National Strategy for Policy and Abatement Measures Relating to the Reduction of Greenhouse Gas Emissions*" (MRRA 2009)[43]. This report, while being in synergy with the draft national energy policy, also proposes measures to increase the uptake of renewable energy systems as part of the effort for climate change mitigation. Following a consultation process the report was reviewed and adopted by Parliament in September 2009.

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[38] Ministry for Resources and Rural Affairs. (April 2009) *A proposal for an energy policy for Malta* http://www.mrra.gov.mt/htdocs/docs/energy%20policy%20for%20malta.pdf

[39] European Directive 2001/42/EC on the assessment of the effects of certain plans and programmes on the environment requires that a SEA of a wide range of plans and programmes is carried out prior to the implementation of the plan or programme. The objective of the "SEA Directive" is to provide a high level of protection of the environment and to contribute to the integration of environmental considerations into the preparation and adoption of plans with a view to promoting sustainable development.

[40] Malta Resources Authority. (March 2010) *Strategic Environmental Assessment on an Energy Policy for Malta.* http://www.mra.org.mt/Downloads/Consultations/Scoping%20Report%20Energy%20Policy_%20Public%20Consultation.pdf

[41] http://www.mrra.gov.mt/windfarms.asp

[42] Malta Environment and Planning Authority (May 2010) *Planning guidance for micro-wind turbines* http://www.mepa.org.mt/file.aspx?f=4911

[43] Ministry for Resources and Rural Affairs (September 2009). *National Strategy for Policy and Abatement Measures Relating to the Reduction of Greenhouse Gas Emissions.* https://opm.gov.mt/file.aspx?f=1439

### *1.3.4 European Landscape Convention*

The European Landscape Convention (Council of Europe 2000)[44] which was adopted in 2000, and signed by Malta, has important implications for Malta's wind energy plans. It sets a requirement for public authorities to adopt policies and measures at local, regional and international level for protecting, planning for and managing landscapes throughout Europe. The Convention stresses the importance of stakeholder participation in decision-making on landscape protection, particularly at local level, and proposes legal and financial measures at the national and European levels, aimed at shaping *`landscape policies'* and promoting interaction between local and central authorities as well as trans-frontier cooperation in the field.

**Landscape** means an area, as perceived by people, whose character is the result of the action and interaction of natural and/or human factors (European Landscape Convention 2000).[45] It is largely acknowledged that the landscape is an important aspect of the quality of life for people in both urban and rural regions, as well as in degraded areas, and those areas recognized for their high quality and outstanding beauty (EEA 2009)[46]. Recent developments across Malta over the last decades in agricultural practices, housing, transport, tourism and recreation, infrastructure, as well as in regional and urban planning, have led to increased landscape transformation. In this respect, the Convention has a strong human element within its framework and responds to the European public's desire to enjoy high quality landscapes while playing an active part in their development (Cassar 2006)[47].

The installation of any on-shore wind farm technologies is bound to be highly contentious on an island as small as Malta. This is primarily due to the high population density and the fact that any rural area may be quite possibly populated by a number of families inside the required buffer space. Hence the selection of a site having the appropriate requisites for grid connection, access and environmental impacts for an on-shore wind farm is quite limited. Consequently compliance with the intentions of the European Landscape Convention can go a long way to ensure that any implementation decisions are undertaken with the involvement of the stakeholders, and with democratic intent.

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[44] European Landscape Convention (ETS no. 176). [Retrieved online 02/09/2010] http://www.pcl-eu.de/project/convention/conv.php?PHPSESSID=1a30d3344cf04ba62c91ec1bf56ecf7b

[45] European Landscape Convention (ETS no. 176). http://www.pcl-eu.de/project/convention/conv.php?PHPSESSID=1a30d3344cf04ba62c91ec1bf56ecf7b

[46] European Environment Agency (2009) *Environment in the European Union at the turn of the century. 3.13. Rural areas - our link to the land*. Environmental assessment report No 2. [Retrieved online 02/09/2010] http://www.eea.europa.eu/publications/92-9157-202-0/3.13.pdf

[47] Dr. Cassar F. Louis. (September 2006 ). *A landscape approach to conservation: integrating ecological sciences & participatory methods*. Thesis submitted in fulfillment of the requirements for a PhD. University of Reading.

## 1.4 Malta's Wind Energy Plans and Study Area - Wied Rini, Bahrija

In 2009, the Government of Malta decided on three sites to be assessed further for the development of wind farm facilities. This paper will focus specifically on the onshore wind farm at Wied Rini, which lies in the vicinity of Bahrija and Mtahleb[48]. Bahrija is well exposed to a north westerly prevailing wind with an annual mean speed of circa 7.0 – 7.5 m/s at 45 m height (Farrugia et al. 2005)[49]. The wind farm will have a capacity of up to 10.2 MW (Megawatts) and will consist of up to 12 wind turbines which will be connected to the national electricity grid, and capable of generating circa 28 GW (Gigawatts) hours of clean electricity annually, enough energy for about 5900 households[50]. This is equivalent to around 1.17% of the current electricity demand, and 0.86% of the projected demand for the year 2020 (MRRA 2009)[51].

Figure 4 below shows the various sites that have been proposed for wind farm development.

[48] Planning Application 01819/09. *Outline application for wind farm and installation of a temporary wind monitory mast*.
[49] Farrugia R.N., Fsadni M., Mallia E.A., Yousif C, (2005). *The Renewable Energy Potential Of the Maltese Islands.* Xjenza, 2005; 10 p. 32-42.
[50] *Based on a household daily consumption of 13 Kilowatt-hours per day.*
[51] Ministry for Resources and Rural Affairs (April 2009) *A proposal for a land based wind farm at Wied Rini l/o Bahrija*. Project description statement.
http://www.mrra.gov.mt/htdocs/docs/wiedriniprojectdescription.pdf


***Figure 4 - Areas being proposed for wind farm development***

This paper is concerned with the Ghemieri site which extends from Wied Rini to an area known as Tal-Merhla that lies in the limits of Mtahleb, and will be referred to herein as the Bahrija wind farm. Photomontages of the Bahrija wind farm as proposed are available in Annex 6. The project covers an area of circa 0.65 square kilometres, with the altitude being around 200 metres above sea level, on a site mainly composed of garigue with rocky outcrops, a few grassland areas and land of important agricultural value. Vegetation is sparse and confined to shrubs and wild flowers, including a range of orchid species (MRRA 2009). The coordinates of the area corners are listed in *Figure 5* below.

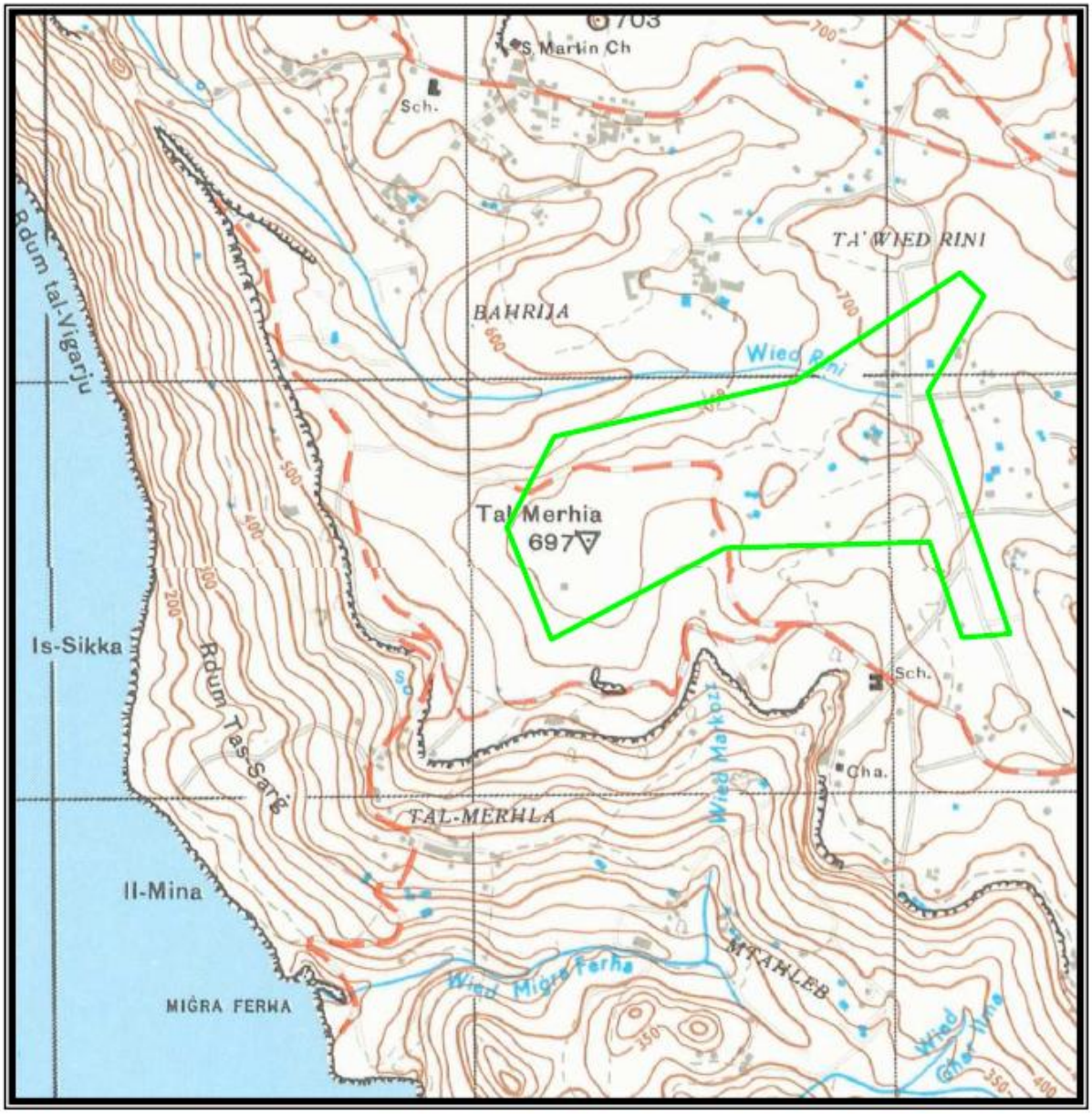


***Figure 5 - Indicated area on topographical map (MRRA 2009)***

There are also a number of fields in the area of important agricultural value. Some locations of the proposed site are designated as Protected Areas, including Natura 2000 sites [Special Areas of Conservation (SAC) and Special Protection Areas (SPA)], Areas of Ecological Importance Levels 2/3 (AEI), Areas of Garrigue (NWCO 13), and Areas of High Landscape Value (AHLV) (MRRA 2009).[52]

GO p.l.c. own an operational telecommunication station on site which includes a lattice transmitting tower. There are also around 20 disused telecommunication lattice towers in the entire area of Bahrija and Mtahleb as shown in *Figure 6* below. Since their structural condition is critical, any of

[52] Ministry for Resources and Rural Affairs. (April 2009) *A proposal for a land based wind farm at Wied Rini l/o Bahrija*. Project description statement.
http://www.mrra.gov.mt/htdocs/docs/wiedriniprojectdescription.pdf

these towers located close to the intended wind turbine locations will probably have to be removed for safety reasons.

***Figure 6 - Disused telecommunication lattice towers (MRRA 2009)***

Malta's wind energy resources have been studied for a number of years by the Institute for Energy Technology[53] of the University of Malta. The studies have been based on wind speed measurements at specific onshore sites which indicate that Wied Rini is well exposed to the north westerly prevailing winds. On-site measurements taken at Bahrija have shown that the annual mean wind speed can reach 7.0 – 7.5 m/s at 45m height (Farrugia, *et al*., 2005). These conditions are considered to be very favourable for large scale wind power generation. A wind mapping exercise by Mott MacDonald (2005)[54] estimated that the annual wind speed at Ghemieri, which lies close to Wied Rini, is around 5.41 m/s at 10 m above the ground. Detailed site-specific measurements will still have to be performed to be able to establish more accurately the wind resource at Wied Rini.

[53] http://www.um.edu.mt/iet . Nowadays referred as the Institute for Sustainable Energy

[54] MacDonald Mott (July 2005) *Strategy for Renewable Electricity Exploitation in Malta. Volume 1: Renewable Electricity Target.* http://www.mra.org.mt/Downloads/Publications/MM%20Phase%201.pdf
MacDonald Mott (August 2005) *Volume 2: Policy Options Review*.
http://www.mra.org.mt/Downloads/Publications/MM%20Phase%20II%20.pdf

Similar proposals have been put forward by Government for another small onshore wind farm at Hal Far Industrial Estate (capacity of 4.25 MW)[55], and for a close to shore offshore wind farm at Is-Sikka l-Bajda about 1.5 km off the coast of Rdum tal-Madonna, limits of Mellieha (capacity of 95 MW).[56] (MRRA 2009) These 3 combined projects would bring the wind energy generation capacity in Malta to 109.4MW and an estimated annual electricity generation of 254GWh (MRA 2010)[57].

## 1.5 The need for Public Participation

Land is one of Malta's most important environmental media, providing the physical context for the ecological systems that support biodiversity and human life itself. Social and cultural activities use land as a backdrop, and it is a fundamental economic resource. With an area of 315km$^2$ and a population density of 1,309 persons per square kilometer (km$^2$) in 2008 (MEPA 2010)[58] (which is by far the highest in the EU and one of the highest in the world), Malta's land area is subject to strong pressures for building development as land is required to provide for housing and other needs. *Figure 7* below shows the high percentage of agricultural land that would be required to fulfill 25% of Malta's electricity demand through wind energy in comparison with other European states (EEA and EC, 2008a.)[59].

[55] Ministry for Resources and Rural Affairs. (April 2009) *A proposal for a small land based windfarm at Hal Far*. Project description statement. http://www.mrra.gov.mt/htdocs/docs/halfarprojectdescription.pdf

[56] Ministry for Resources and Rural Affairs. (April 2009) *A proposal for an offshore windfarm at is-Sikka l-Bajda*. Project description statement. http://www.mrra.gov.mt/htdocs/docs/sikkabajdaprojectdescription.pdf

[57] Malta Resources Authority (14th January 2010) *Report on plans to achieve the set RES target of 10% by 2020.* http://ec.europa.eu/energy/renewables/transparency_platform/doc/malta_forecast_english.pdf

[58] Malta Environment & Planning Authority. (March 2010) *The Environment Report 2008*. [Accessed online] http://www.mepa.org.mt/ter

[59] European Environment Agency (2009) *Europe's onshore and offshore wind energy potential. An assessment of environmental and economic constraints.* European Environment Agency Technical report. No 6/2009. http://www.energy.eu/publications/a07.pdf

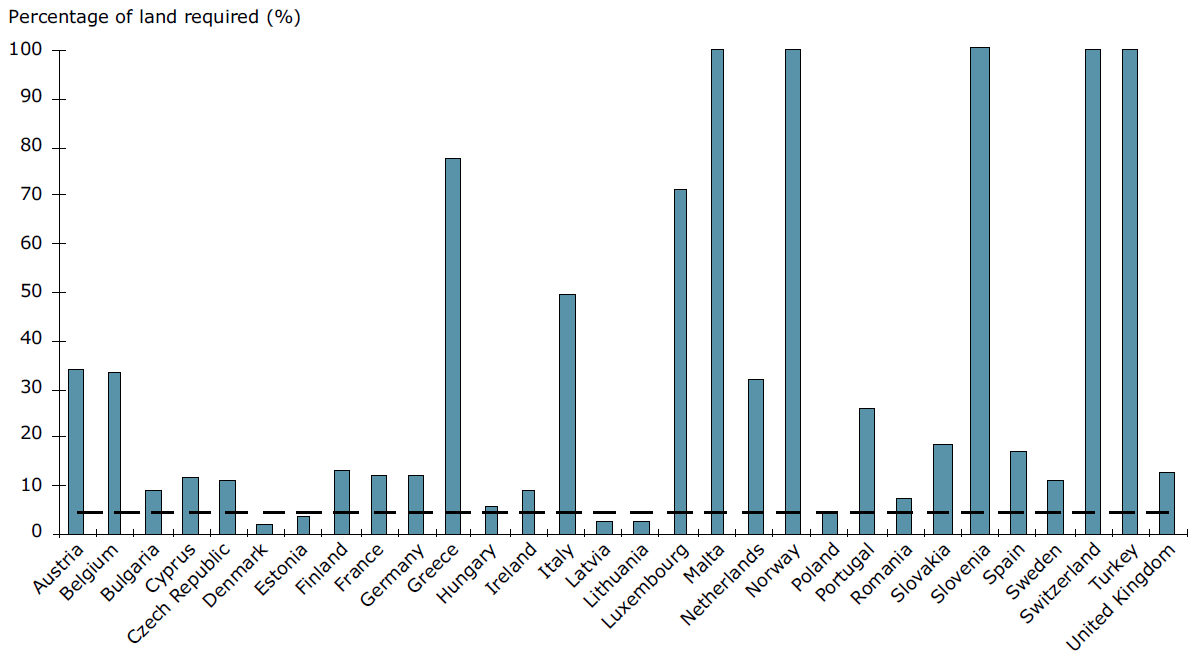


***Figure 7 - Percentage of agricultural land required to fulfil 25 % of the electricity demand through wind energy in 2030 (EEA and EC, 2008a.)***

Consequently decisions relating to land-use change are often highly contested, as indicated by preliminary comments received from stakeholders during the scoping meeting held by MEPA (June 2009) and detailed further on.

The fundamental issue in the implementation of wind energy plans remains that any siting decision will affect a multitude of stakeholders. This is especially the case for the proposed Wied Rini wind farm, which is planned to be in relatively close proximity to residential settlements in the area.

Furthermore, despite a high general popularity for wind energy in Malta, as indicated by various polls (EC, 2006c and 2007c)[60], this alone is not a sufficient indication of public acceptance for the actual implementation of the Bahrija wind farm, and simply cannot be taken for granted. Undoubtedly decision makers need to address the issue of social acceptability by stakeholders concerned if the project intends to take off.

However, participatory methods may offer an approach to accommodating the issues raised by the increased opposition to such developments, and consequent refusals for planning permission (Coleby et al. 2009).[61] The European Union Convention on Access to Information, Public Participation in

[60] High rates of support in favour of the use of wind power were recorded in Malta, 6.4 on a scale from 1 (strongly opposed) to 7 (strongly in favour), with the EU average standing at 6.3. European Commission (2007c) *'Energy technologies: Knowledge, perception, measures'*, Special Eurobarometer 262, Wave 65.3 – TNS Opinion & Social.
European Commission (2006c) '*Attitudes towards energy'*, Special Eurobarometer 247/Wave 64.2

[61] Coleby A. M., Miller D. R., Aspinall P.A.. (May 2009). *Public Attitudes and Participation in Wind Turbine* Development. Journal of Environmental Assessment Policy and Management. Vol. 11 • No.1

Decision-making and Access to Justice on Environmental Matters (Aarhus, June 1998)[62] outlines the basic principles underlying why participation should be considered a right. Indeed the importance of public engagement in planning is a core element of the Aarhus Declaration (European Union 1998) and has led to the need to develop protocols for stakeholder involvement.

**Public participation** is defined by Pring and Noé (2002)[63] as an "*all en-compassing label used to describe the various mechanisms that individuals or groups may use to communicate their views on a public issue*". Public participation is based on the belief that those who are affected by a decision have a right to be involved in the decision-making process, and is a two-way collaborative problem solving process with the goal of achieving better and more acceptable decisions. (IAPP 2007)[64]

According to Jones (2007)[65] the desirability of public participation can be justified under the following five headings:

1. Democratisation

   People are more inclined to identify themselves with the spaces where they spend their time if involved actively in decision-making of that same landscape, increasing individual, social and cultural fulfilment. Clearly the democratic system is enhanced when the public to an increased degree can participate in decision-making (Jonsson & Lundqvist, 2006).[66]

2. Legitimacy

   Legitimacy for decision making and trust are increased when people are listened to, acknowledged and treated with respect. (Zachrisson 2004). Similarly, decisions gain higher legitimacy if the public is involved in the formulation of visions and decision-making criteria (Jonsson & Lundqvist, 2006).

3. Information Exchange

   Public participation offers the opportunity to learn from the public's inherent knowledge, values, viewpoints and behaviour in decision-making and providing authorities with a better

[62] Malta signed the Aarhus Convention in December 1998 and ratified it in April 2002.
[63] Pring, G., Noé, Susan Y., (2002). *International Law of Public Participation.* in Zillman et al., Human Rights in Natural Resource Development, Oxford, New York, Oxford University Press

[65] Jones, Michael. (October 2007) *The European Landscape Convention and the Question of Public Participation* Department of Geography, Norwegian University of Science and Technology. Landscape Research, Vol. 32, No. 5, 613 – 633.
[66] Jonsson, A. & Lundqvist, L. J. (2006) *Engagera sig i vattenfra˚gorvarfor, hurmycket och var?*, in:
A. Joborn, I. Danielsson & H. Oscarsson (Eds) Pa˚ tal om vatten. Om vagen mot en hallbar vattenforvaltning, Vastra rapport 6, pp. 93 – 122 (Go¨ teborg: Vastra).

overview of problems as perceived by the public, thus facilitating the finding of appropriate solutions (Jonsson & Lundqvist, 2006).

4. Tackling of Conflicts

   Participation offers an opportunity to understand the different viewpoints of all stakeholders and may assist in discussing outstanding conflicts and resolving them. (Jonsson & Lundqvist, 2006; Zachrisson, 2004;[67] Laasonen 2008[68]).

5. Heterogeneity and Social Justice

   Sigurd Bergmann (2006)[69] proposes a notion of environmental ethics which argues that recognizing the significance of landscapes to all inhabitants (heterogeneity); and ensuring public participation without discrimination ensures the acceptance of differences and leads to the achievement of social justice.

## 1.6 Research Problem

This thesis sets out primarily to develop an understanding of perceptions and considerations towards wind energy policy making, planning and decision making of local stakeholders with different interests in respect to the planned onshore wind farm at Wied Rini in Malta. This is expected to provide reliable benchmarking data and knowledge that can inform environmental decision-making, while identifying possible ways to assist mediation and reduce conflict. Field research will be conducted using Q methodology in order to systematically compare patterns in stakeholder views according to cultural types, and their energy/environmental priorities within spatial planning.

The paper will also show how these findings could be applied in Malta to effectively contribute towards understanding stakeholder perceptions of potential onshore wind projects, and informing the decision making process. These findings are expected to have implications for the achievement of Malta's wind energy policy and aspirations, while relating critically to participatory citizenship at the local level.

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[67] Zachrisson, A. (2004) *Co-management of Natural Resources. Paradigm Shifts, Key Concepts and Cases*, Mountain Mistra Programme report, Report no. 1 (Umea: Mountian Mistra Programme).

[68] Laasonen Salla. (February 2008). *Environmental Conflict Mediation and Social Impact Assessment: approaches for Enhanced Environmental Governance?*. Helsinki.

[69] Bergmann, S. (2006) *Atmospheres of synergy: towards an eco-theological aesth/ethics of space*, Ecotheology, 11(3), pp. 326 – 356.

### *1.6.1 Research Objectives*

This paper aims to provide practical guidelines to policy makers, environmental resource and policy managers in achieving successful community stakeholder involvement before and during wind project planning. This is expected to enable a more transparent and effective participatory planning process.

The research paper intends to pursue the following four objectives:

Objective I: Examine the literature on public acceptance and attitudes to wind farm developments.

Objective II: Conduct a number of Q sorts to assess stakeholder opinions towards the newly proposed land-based wind projects.

Objective III: Examine the findings from the Q sort, both quantitatively and qualitatively, in order to identify factors affecting public perceptions of wind farms; and to explore notions of NIMBYism[70] and the 'tragedy of the commons'[71] influencing discourse and narrative in environmental participation and politics.

Objective IV: Provide some recommendations and guidance based on the findings towards effective stakeholder dialogue[72] and public participation of relevance to wind energy projects in Malta.

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[70] Devine-Wright, P., 2005a. Beyond NIMBYism: towards an integrated Framework for Understanding Public Perceptions of Wind Energy. Wind Energy 8, 125–139. *NIMBY means 'Not In My Back Yard'. The term (or the derivative Nimbyism) is used pejoratively to describe opposition by residents to a proposal for a new development close to them.*

[71] *Refers to a dilemma in which multiple individuals acting independently and solely and rationally consulting their own self-interest will ultimately destroy a shared limited resource even when it is clear that it is not in anyone's long term interest for this to happen.* Hardin Garrett "*The Tragedy of the Commons*", Science, 162(1968):1243-1248. Retrieved online http://dieoff.org/page95.htm

[72] Stoll-Kleemann Susanne, Martin Welp (Eds.). (2006) *Stakeholder Dialogues in Natural Resources Management. Theory and Practice*. http://www.springerlink.com/content/u2080n273u73x460/

# CHAPTER 2

# LITERATURE REVIEW

## 2.1 Introduction

The aim of this chapter is to review academic literature on research and knowledge undertaken in the area of social acceptance, attitudes and perception in relation to wind energy in order to apply it to analyse public and stakeholder attitudes towards planned wind farm projects in Malta. The literature review will also attempt to delimit the research problem while establishing the context of the topic and providing methodological insights.

In short this chapter aims to provide a framework for establishing how this paper applies and advances previous research efforts to the Maltese context.

## 2.2 Social Acceptance of wind energy

Social acceptance in this context refers to the levels of public support for, and acceptance of, a wind farm project (Horbaty 2009)[73]; and many of the barriers for achieving successful wind projects at the implementation level can be considered as a manifestation of a lack of social acceptance (Wustenhagen et al 2005)[74]. Wustenhagen (2005) made a substantial contribution toward defining social acceptance by distinguishing three dimensions namely (see *Figure 8* below):

[73] Horbaty Robert, (6th draft: 6th of February 2009) *Winning Hearts and Minds*. ENCO Energie Consulting AG.

[74] Wustenhagen, Rolf a Wolsinkb Maarten, Burer, Mary Jean Burer. (2005) *Social acceptance of renewable energy innovation: An introduction to the concept*. Journal of Environmental Planning and Management. Energy Policy 35 (2007) 2683–2691. Vol. 53, No. 5, July 2010, 535–558.
http://www.ieawind.org/iea_wind_pdf/New_Task_Social_Acceptance_29_10_07.pdf

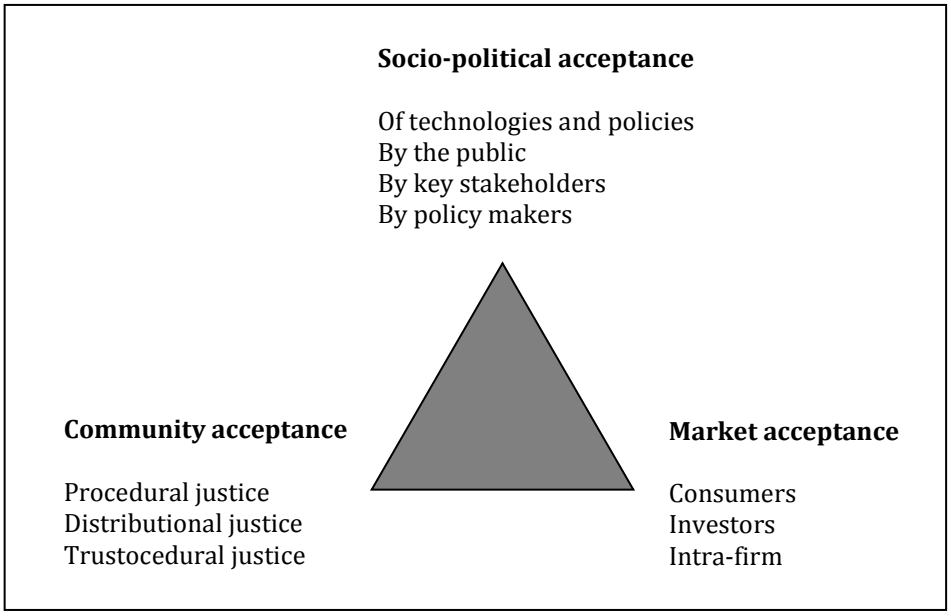


***Figure 8 - The triangle of social acceptance of renewable energy innovation. (Wustenhagen et al. 2007)***

1. **Socio-political acceptance** which refers to social acceptance on the broadest level by key stakeholders and policy actors. Several indicators demonstrate that public acceptance for renewable energy technologies and policies is high in many countries (Across the EU 25 48% support that Governments should focus on developing the use of solar power, 41% for promoting advanced research for new energy technologies and 31% for developing the use of wind power (31%). (Special Eurobarometer, 2006)[75]. However this could easily mislead policy makers to believe that social acceptance is not an issue at the local level, whereas when it comes to effective wind farm investment or siting decisions there is indeed a problem (Bell et al., 2005)[76].

2. **Community acceptance** which refers to the specific acceptance of siting decisions and renewable energy projects by local stakeholders, particularly residents and local authorities. This is where many argue that people support renewable energy as long as it is not in their own backyard (NIMBY), while others argue that there is a typical pattern of local acceptance before, during, and after a project which follows a U-curve, indicating high acceptance to

[75] European Commission (2006) Special Eurobarometer. *Attitudes towards Energy*. Fieldwork October - November 2005. Publication January 2006. http://www.managenergy.net/download/ebs_247_en.pdf

[76] Bell, D., Gray, T., Haggett, C., (2005) *The 'Social Gap' in wind farm citing decisions: explanations and policy responses*. Environmental Politics 14, 460–477.

(relatively) low acceptance during the initial siting phase and back up to a higher level of acceptance once a project is up and running (Gipe 1995 and Pasqualetti *et al.* 2002)[77].

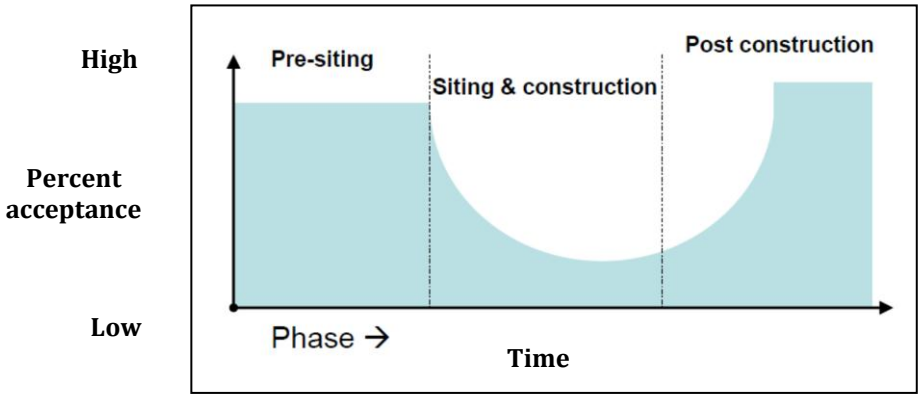


***Figure 9 - Wolsink's U-curve of acceptance (Gipe 1995)***

Typical factors that seem to influence community acceptance are factors related to distributional justice (How are costs and benefits shared?), procedural justice (Is there a fair decision making process giving all relevant stakeholders an opportunity to participate?) (Gross, 2007)[78], and whether the local communities trust the information and intentions of the investors or actors from outside the community (Huijts et al., 2007)[79]

3. **Market acceptance** which refers to the process of market adoption of an innovation by consumers through a communication process between individual adopters and their environment (Rogers 1995). For instance despite the fact that consumers nowadays demand increasing amounts of green energy, (Bird et al. 2002[80]; Wustenhagen et al. 2003)[81], in all likelihood this supply would probably come from other distant localities. However there still needs to be siting processes for power plants to supply that demand, that would in turn affect the opportunities of potential investors and finally market acceptance. (Wustenhagen et al)[82]

Consequently as wind energy uptake increases worldwide to meet renewable energy targets, it becomes clear that social acceptance remains one of the major barriers towards wind farm

[77] Produced by the Dutch wind power developer L. Arkesteijn from research conducted by M. Wolsink from 1985 to 1990
[78] Gross, C., (2007) *Community perspectives of wind energy in Australia. The application of a justice and community fairness framework to increase social acceptance*. Energy Policy 35 (5), in press.
[79] Huijts, N.M.A., Midden, C.J.H , Meijnders, A.L, (2007) *Public acceptance of carbon dioxide storage*. Energy Policy 35 (5).
[80] Bird, L., Wustenhagen, R., Aabakken, J., (2002) *A review of international green power markets: recent experience, trends, and market drivers*. Renewable and Sustainable Energy Reviews 6 (6), 513–536.
[81] Wustenhagen, R., Markard, J., Truffer, B., (2003) *Diffusion of green power products in Switzerland*. Energy Policy 31, 621–632.
[82] Wüstenhagen R, Wolsink M, Bürer MJ (2007) *Social Acceptance of Renewable Energy Innovation - An Introduction to the Concept*. Energy Policy 35(5): 2683.
http://www.alexandria.unisg.ch/publications/Rolf_Wuestenhagen/40501

implementations at the local level. These issues are of specific concern to this thesis since it explores the current dichotomy where wind energy seems to enjoy high levels of support in comparison with other RES according to public polls that have been undertaken locally and worldwide; but on the other hand further studies indicate that this support is highly conditional and cannot be taken for granted when it comes to the actual implementation stage. This is typically due to very particular features of wind energy that impact people and social acceptance (Horbaty 2009)[83], namely:

1. Wind farms tend to be smaller in terms of energy generation (density) than conventional power plants, thus increasing the number of siting requirements and decisions that need to be taken.
2. Consequently the relative visual impact (per MWh of output) tends to be higher. This is further exacerbated by the fact that farms are preferably sited in close proximity to where the energy consumer lives due to distribution constraints, thus bringing the visual and environmental impact closer to their residence.
3. Wind energy technologies do not compete with present technologies on a level playing field due to the externalities issue, thus forcing a difficult choice between short-term costs and long-term benefits. (WTO 2006)[84]

The first social acceptance studies in relation to wind power were undertaken by Carlman (1984)[85] who introduced the basic principle that the siting of wind turbines was "*also a matter of public, political, and regulatory acceptance*". Her first results, and others who pursued this topic (Bosley and Bosley, 1988[86]; Thayer, 1988;[87] Wolsink, 1987[88]), clearly indicate that typical constraints that affected social acceptance of wind energy and related implementation plans included:

- the lack of support among key stakeholders,
- reluctance among policy makers to dedicate themselves to consistent and effective policies,

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[83] Horbaty Robert (2009) *Winning Hearts and Minds*. 6th draft: 6th of February 2009, ENCO Energie Consulting AG.
[84] *In economics, an externality is a cost or benefit that is not transmitted through prices, but which is incurred by a party who did not agree to the action causing the cost or benefit. This implies that in a competitive market, prices do not reflect the full costs or benefits of producing or consuming a product or service.* World trade report 2006. Subsidies, trade and the WTO. The economics of subsidies. http://www.wto.org/english/res_e/booksp_e/anrep_e/wtr06-2c_e.pdf
[85] Carlman, I., (1984) *The views of politicians and decision-makers on planning for the use of wind power in Sweden*. In: European Wind Energy Conference, 22–36 October 1984, Hamburg, pp. 339–343.
[86] Bosley, P., Bosley, K., (1988) *Public acceptability of California's wind energy developments: three studies*. Wind Engineering 12 (5), 311–318.
[87] Thayer, R.L., (1988) *The aesthetics of wind energy in the United States: case studies in public perception.* European Community Wind Energy Conference, Herning, DK, June 6–8. pp.470–476.
[88] Wolsink, M., (1987) *Wind power for the electricity supply of houses.* Netherlands Journal of Housing and Environmental Research 2 (3), 195–214.

- the lack of understanding of public attitudes towards wind power,
- the crucial relationship between landscape issues and attitudes
- social implications in relation to the scale of the installations
- options for ownership of installations and of decentralized power supply were raised (McDaniel, 1983[89]; Wolsink, 1987).

Clearly the issue of social acceptance is gaining ground as decision making is taking on a more pluralistic dimension, especially as wind energy plans gain momentum in Malta. Furthermore the proposed site in Wied Rini is somewhat more complex since the turbines are within a few hundred metres of residences, and in the case of some residences even less than 300 metres away (Scoping comments from Bahrija residents and farmers June 2009)[90]. This includes the entire large settlement of Landrijiet, the settlements of Wied iz-Zebbug, Ta' Bieb ir-Ruwa, Ix- Xewkija and at Wied Rini itself. Please refer to *Figure 5* earlier.

### *2.2.1 Community acceptance and the NIMBY bias*

Another dimension of community acceptance that is of relevance to the discussion of wind energy is the 'Not In My Back Yard' bias or syndrome (NIMBY). The NIMBY bias attributes the dichotomy between a general acceptance for wind energy but a stiff manifestation of resistance to specific wind farm projects, to the simple fact that people are willing to support renewable energy until they are actually confronted with it when it is planned in their close proximity; at which point they oppose it for selfish reasons (O'Hare, 1977)[91]. Wolsink (2007) states that in fact "*Attitudes towards wind power are fundamentally different from attitudes towards wind farms.*" [92] **Attitudes** in this context are primarily a cultural stance, a position one takes vis-a-vis the world which has greater stability than perception and is formed of a long succession of perceptions obtained by experience (Schilff 1970).[93]

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[89] McDaniel, B.A., (1983) *Economic and social foundations of solar energy*. Environmental Ethics 5 (2), 155–168.
[90] Scoping Comments submitted to MEPA. PA 01819/09 (GFE 00002/09) Outline application for wind farm and installation of a temporary wind monitory mast Site at, Wied Rini, Bahrija, Rabat. http://www.mepa.org.mt/EIACMS/documents//Scoping%20Comments%20submitted%20to%20MEPA_Bahrija_260609.pdf
[91] O'Hare, M., (1977) *Not on my block you don't: Facility siting and the strategic importance of compensation*. Public Policy 25, 407–458.
[92] Wolsink, Maarten. (2007) *Planning of renewables schemes: Deliberative and fair decision-making on landscape issues instead of reproachful accusations of non-cooperation.* Energy Policy. Kidlington: May 2007. Vol. 35, Iss. 5; p. 2692.
[93] Myra R. Schilff, (1970) *Some theoretical aspects of attitudes and perception.* Natural Hazard Research, University of Toronto , Working Paper No. 15

Wolsink (2006)[94] and Bell (2005)[95] argue that in many cases the NIMBY bias tends to hamper the vision of planners, investors and policy-makers; and also claim that this is an over-simplification of people's actual motives (e.g. Wolsink, 2006; Bell et al.,2005). In fact, Wolsink (2000) also identifies a typology of 'resistance' types of wind farm opponents as being:

i. Resistance Type A (a positive attitude to wind power but resistance to more local facilities;
ii. Resistance Type B (rejection of local turbines because of a general rejection of turbine technology);
iii. Resistance Type C (a positive attitude to wind power, which turns negative during local debates);
iv. Resistance Type D (resistance created by project specific faults).

On the other hand, other studies indicate that opposition decreases, rather than increases with the degree of being directly affected by a specific wind power project. (Simon and Wustenhagen, 2006)[96]

According to Wolsink (2007)[97], the acceptability of locations is tied very closely to fundamental cultural landscape values, and objections are mainly rooted in arguments concerning landscape characteristics and community identity. The visual evaluation of the impact of wind power on the value of the landscape is by far the most dominant factor in explaining why some are opposed to wind power implementation and why others support it.

Van Der Horst (2007)[98] pursues a similar argument, stating that:

> **"***Residents of stigmatised places are more likely to welcome facilities that are relatively 'green', while people who derive a more positive sense of identity from particular rural landscapes are likely to resist such potential developments, especially if they also live there.... The existence of heavy industry and large(r) stacks in the area appears to make residents less likely to oppose the development of new plants ... and more likely to support wind farms as an improvement of the image of the area. This is consistent with the literature on polluted and stigmatised places where efficacy is low ... and this raises questions of environmental equity*."

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[94] Wolsink, M., (2006) *Invalid theory impedes our understanding: a critique on the persistence of the language of NIMBY*. Transactions of the Institute of British Geographers 31, 85–91.
[95] Bell, D., Gray, T., Haggett, C., (2005) *The 'Social Gap' in wind farm citing decisions: explanations and policy responses*. Environmental Politics 14, 460–477.
[96] Simon, A., Wustenhagen, R., (2006) *Factors influencing the acceptance of wind energy in Switzerland*, poster presented at the workshop ''Social acceptance of renewable energy innovation'', Tramelan (Switzerland). 2006. http://www.iwoe.unisg.ch/energy.
[97] Wolsink, M. (2007) *Wind power implementation: The nature of public attitudes: Equity and fairness instead of "backyard motives"*, Renewable and Sustainable Energy Reviews, vol 11, pp1188–1207 page 2696
[98] Van der Horst, D., (2007) *Nimby or not? Exploring the relevance of location and the politics of voiced opinions in renewable energy siting controversies.* Energy Policy 35 (5), in press.

He further argues that these aspects need to be clarified and accounted for in analyses of elicited responses if we are to improve our understanding of the social construction of individual attitudes in siting conflicts.

Arthur Jobert et al. (2007)[99] also suggest that factors which are decisive for the acceptance of wind energy on the local level are influenced by both the planning rules (the framework conditions such as economic incentives and regulations) and local factors (e.g. features of the local economy, the territory, local actors and the planning process on-site.

Consequently the scale of wind energy projects and the dominant significance of the landscape qualities of the site require decision making that fully recognises the importance of local factors by adopting a collaborative approach to siting.

### *2.2.2 Community perspectives on fairness and trust*

Catherine Gross' (2007) research brings to the fore the importance of fair processes with regard to community acceptance and she argues that different sections of a community are likely to be influenced by different aspects of justice, namely by outcome fairness, outcome favourability and process fairness. She argues that outcomes which are perceived to be unfair can result in protests, damaged relationships and divided communities particularly when decisions are made that are perceived to benefit certain sections of the community at the expense of others.

Trust is also a very crucial element of perceived process fairness and damaged relationships, and this remains a key issue in siting decisions. Owens (2004)[100] suggests that siting decisions are always heavily influenced by a myriad of environmental, economic and social risks; and that perceived fairness depends on how potential risks are defined, how information about those risks is produced, and how and by whom they are managed. This is particularly the case when investors and facility owners are considered to be outsiders to the community, and doubts with regards to their aims, attitude and competence tend to emerge. This creates a fragile state of affairs since trust is usually gained slowly but can be destroyed rapidly (Slovic, 1993)[101]. Nicole Huijts et al. (2007)[102] found that

[99] Jobert, A., Laborgne, P., Mimler, S., 2007. Local acceptance of wind energy. Factors of success identified in French and German case studies. Energy Policy 35 (5), in press.
[100] Owens, S., (2004) *Siting, sustainable development and social priorities*. Journal of Risk Research 7, 101–114.
[101] Slovic, P., (1993) *Perceived risk, trust and democracy*. Risk Analysis 13, 675–682.

while trust in the professional actors like government was of particular importance, NGOs were found to be trusted most, and industry least by the general public.

### *2.2.3 Values towards wind energy*

Social scientists tend to view social values as '*an enduring belief that a specific mode of conduct – or end state of existence - is personally or socially preferable to its opposite*' (Rokeach 1973)[103], and research indicates that responses of people with different values towards wind energy projects can vary quite widely. Cognitive research has sought to explain people's support or rejection for policies in terms of their underlying values and beliefs. This research drew on the Theory of Reasoned Action (Ajzen and Fishbein 1980)[104] and Value Belief Norm theory (Stern 2000)[105], both of which view human beliefs as being organised in a structure with persons' values being more stable over time, and peripheral beliefs being more apt to change. (Rockeach 1972)[106] Beliefs about the effects or consequences of environmental actions on the things that people value are thought to be particularly important in judging actions that affect the environment (Stern 1995)[107]. Studying human values and the ways in which they influence these judgements can help to explain some of the differences of view that are evident in debates about wind farm projects.

Unfortunately no clear research has been identified that looked closely at values that are important to judging wind farm projects specifically. However a lot of inferences can be obtained about potential values that can be important from a conceptual framework developed in the area of forest management by Stankey and Schindler (2006)[108], which include:

1. *Deeply held values for the natural environment* can have a big impact on social acceptability and can be explained by differences in 'use' values for the natural environment.
2. *Informed beliefs about consequences* are another important factor in the development of people's attitudes toward the environment generally (Stern 1995)[109]. These beliefs are influenced by people's values, as described above, and may also be influenced by new

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[102] Huijts, N.M.A., Midden, C.J.H , Meijnders, A.L, (2007) *Public acceptance of carbon dioxide storage*. Energy Policy 35 (5), in press.
[103] Rokeach, M. (1973) *The Nature of Human Values*. New York: The Free Press.
[104] Ajzen, I. and M. Fishbein, (1980) *Understanding Attitudes and Predicting Social Behaviour*., Englewood Cliffs, New Jersey: Prentice-Hall Inc.
[105] Stern, P.C. (2000) *Toward a Coherent Theory of Environmentally Significant Behaviour.* Journal of Social Issues. 56(3): p. 407-424.
[106] Rokeach, M. (1972) *Beliefs, Attitudes and Values*. London: Jossey-Bass Inc.
[107] Stern, P.C., et al. (1995) *Values, Beliefs and Proenvironmental Action: Attitude Formation Toward Emergent Attitude Objects.* Journal of Applied Social Psychology, 1995. 25(18): p. 1611-1636.
[108] Stankey, G.H. and B. Shindler, (2006) *Formation of Social Acceptability Judgements and Their Implications for Management of Rare and Little- Known Species.* Conservation Biology, **20**(1): p. 28-37.
[109] Stern, P.C., et al., (1995) *Values, Beliefs and Proenvironmental Action: Attitude Formation Toward Emergent Attitude Objects.* Journal of Applied Social Psychology. **25**(18): p. 1611-1636.

information (Stern 2000)[110], such as scientific or media reports about the effects of logging practices.

3. *Normative beliefs*[111] have been shown to affect environmental attitudes (Vaske et al. 2001)[112] wherein the group, expressing and enforcing the cultural standards of society, affects strongly the perception, attitude, and environmental value of its members. Culture can influence perception to the degree that people will see things t hat do not exist (Yi-Fu 1990)[113].
4. *Trust in managers* is more likely if they feel the managers or developers share their values, and are competent. Studies have shown that people with greater trust in managers have a more positive attitude to their management practices (Slovic 1993)[114].
5. *Aesthetic responses* are considered to be largely emotional responses, but may also be affected by people's knowledge and values.
6. *The context* is of essence, and the place, physical, social and policy context is likely to affect social values and acceptability.

Stankey and Shindler suggest that these values lead to a model similar to ***Figure 10*** below.

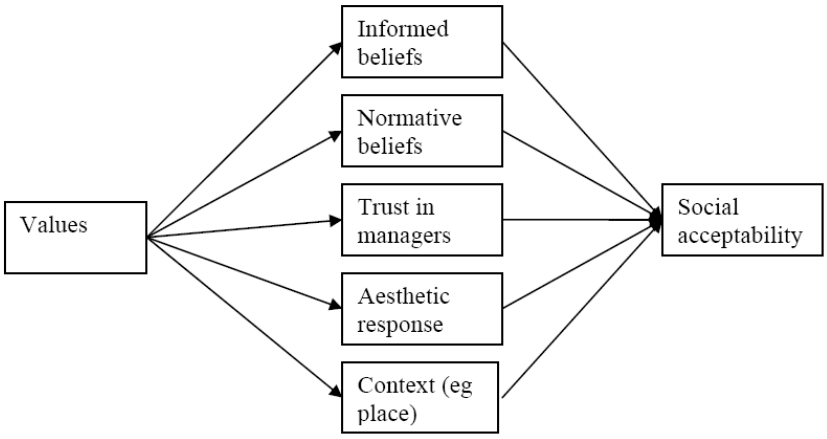


***Figure 10 - Conceptual model of the factors underlying social acceptability judgements, (loosely based on Stankey and Shindler 2006).***

In conclusion the above indicates that people's acceptability and judgments are affected by a range of factors that includes their deeply held values for the natural environment, and any prior experience or knowledge they may have. Thus social acceptability has a thought-based (cognitive) component based on values, as well as a more emotion based aesthetic component.

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[110] Stern, P.C., (2000) *Toward a Coherent Theory of Environmentally Significant Behaviour.* Journal of Social Issues. 56(3): p. 407-424.
[111] Normative beliefs are individuals' beliefs about the extent to which other people who are important to them think they should or should not perform particular behaviors.
[112] Vaske, J.J., D.R. Williams, and S. Jonker, (2001) *Demographic Influences on Environmental Value Orientations and Normative Beliefs About National Forest Management.* Society and Natural Resources, 2001. 14: p. 761-776.
[113] Tuan Yi-Fu, (1990) *Topophilia. A study of environmental perception, attitudes, and values.* Columbia University Press.
[114] Slovic, P., (1993) *Perceived risk, trust and democracy*. Risk Analysis 13, 675–682.

## 2.3 Recurrent concerns with wind farms

This section will concentrate on typical attitudes towards wind energy and wind turbines. The prospect of wind farm developments seems to raise common and recurrent fears among affected communities. A study by Hill (2001)[115] which was based on 27 surveys on public attitudes undertaken in the UK between 1991 and 2001 indicates that opposition to wind energy, and to wind farm projects in particular, is mostly about noise, landscape impacts, size and number of turbines, property devaluation, loss of agricultural land, increased traffic, tourism losses, a lack of benefits for locals and impacts on birds. As mentioned this study was conducted specifically to the UK and has significant limitations in its recommendations for other countries like Malta. Furthermore some even challenge the reliability of wind energy, its ability to displace fossil-fuel generated electricity and its cost and dependency on government subsidies. (Wolsink 2000[116], Warren *et al.* 2005[117], Szarka and Bluhdorn 2006[118])

### *2.3.1 Visual impact*

The most important and recurrent environmental issue inherent in wind farm development seems to be visual impact on the landscape (Righter 2002[119], Strachan and Lal 2004[120], Ellis *et al.* 2006)[121]. According to the EWEA (2009) [122] characteristics of wind developments that may cause landscape and visual impacts include:

- turbine size, height, number, material and colour,
- access and site tracks,
- substation buildings,
- compounds,
- grid connection,

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[115] Hill, A. (2001) *Trends in public opinion, British Wind Energy Association, UK*. http://www.bwea.com/pdf/trendsbwea23.pdf

[116] Wolsink, M. (2000) *Wind power and the NIMBY-myth: institutional capacity and the limited significance of public support*. Renewable Energy 21 , p. 49.

[117] Warren, C. R. et al. (2005) *'Green on green': public perceptions of wind power in Scotland and Ireland.* Journal of Environmental Planning and Management 48:6 , p. 853.

[118] Szarka, J. and Bluhdorn, I. (2006) *Wind power in Britain and Germany: explaining contrasting development paths* Anglo-German Foundation for the Study of Industrial Society , London

[119] Righter, R. W. Pasqualetti, M. J. , Gipe, P. and Righter, R. W. (eds) (2002) *Wind power in view: energy landscapes in a crowded world* pp. 19-41. Academic Press , San Diego — Chapter 1

[120] Strachan, P. A. and Lal, D. (2004) *Wind energy policy, planning and management practice in the UK: hot air or a gathering storm?*. Regional Studies 38:5 , p. 551.

[121] Ellis, G. , Barry, J. and Robinson, C. (2006) *Renewable energy and discourses of objection - towards deliberative policy making.* [Accessed 14 May 2010] http://www.qub.ac.uk/research-centres/REDOWelcome/RESULTS/

[122] Lago Carmen et al on behalf of the European Wind Energy Association. (March 2009). *Wind Energy - The Facts*. http://www.wind-energy-the-facts.org/en/home--about-the-project.html

- anemometer masts,
- transmission lines (SDC, 2005).

Unfortunately some judgements of visual impact are by nature a highly subjective opinion, and while some may find wind farms ugly and problematic, many find them graceful or claim that they make the visual landscape more engaging. This is particularly the case when talking about the Bahrija area which is considered to be one of Malta's rural environments "natural treasures" by many.[123]

The issue of subjectivity comes to the fore when you consider an interesting comparison of the visual impact of electricity infrastructure compared to that of wind turbines which indicates that today's wide spread network of power lines and poles have cognitively become an accepted and almost natural component of our landscape, even to people living in rural areas. Wind turbines, on the other hand, often elicit a very different response and for many are deemed to be unacceptable intrusions on the rural landscape (Serralles, 2004).[124]

Another characteristic of wind farms is that they are not permanent, so the area where the wind farm has been located can return to its original condition after the decommissioning phase thus weakening visual impact objections (SDC 2005; Brusa 2006). However it is important to keep in mind that it might be difficult to restore the natural environment to its former state after decommissioning, especially when it comes to infrastructural developments like access roads and substations.

### *2.3.2 Noise nuisance and health*

Noise generated by rotating blades is another major concern to stakeholders. Despite the fact that noise levels can be measured and predicted, public attitude towards noise depends heavily on their perception, and also with negative attitude toward the visual impact of the wind turbines. (Pedersen and Persson Waye, 2007)[125] According to Colby et al. (2009)[126] a major cause of concern about wind turbine sound is its fluctuating nature which is particularly stressful for some people because it is difficult to get accustomed to intermittent noise. Some may find this sound annoying that affects their quality of life, a reaction that depends primarily on personal characteristics as opposed to the

[123] Bugeja Lino. (13th June 2009) *Beautiful Baħrija must be preserved* http://www.timesofmalta.com/articles/view/20090613/letters/beautiful-bahrija-must-be-preserved

[124] Serralles, R. J. (2004) *Electricity, policy and landscape: An integrated geographic approach to renewable electric energy development.* Dissertation Abstracts International. (UMI No. 3153797).

[125] Pedersen, E., L. R.-M. Hallberg, and K. Persson Waye. (2007) *Living in the vicinity of wind turbines—A grounded theory study*. Qualitative Research in Psychology 4: 49–63.

[126] Colby David (2009) Wind Turbine Sound and Health Effects. An Expert Panel Review. American Wind Energy Association and Canadian Wind Energy Association. http://www.awea.org/newsroom/releases/AWEA_CanWEA_SoundWhitePaper_12-11-09.pdf

intensity of the sound level. On the other hand the same study concedes that the swishing sound caused by wind turbines not only can annoy people but also keep them awake at night and even cause psychological problems because of the stress. However the Colby report insists that the body of accumulated knowledge provides no evidence that the audible or sub-audible sounds emitted by wind turbines have any direct adverse physiological effects. Pierpont (2006) [127] begs to differ and identifies a new health risk called wind turbine syndrome (WTS)[128] which is the disruption or abnormal stimulation of the inner ear's vestibular system by turbine infrasound and low-frequency noise. This can cause problems ranging from internal pulsation, quivering, nervousness, fear, chest tightness and tachycardia, increased heart rate, trigger nightmares and other disorders in children as well as harm cognitive development in the young. Consequently it seems that many people are potentially being affected and the concentration of wind farms might have serious implications for a limited number of individual households in their close proximity. Nonetheless negative impacts are not inevitable or universal, and further research is necessary in this area.

On another note it has been noted that people with no specific experiences with wind power believe that noise is louder than those who actually live beside turbines. (Holdningsundersøgelse 1993)[129] In fact it has been noted that repeated comments at wind farm open days indicate a genuine surprise by visitors on how quiet they really are. (Pool 2009)[130] A paper by Wolsink and Sprengers (1993)[131] investigating the noise problem in Denmark, the Netherlands, and Germany shows that the level of annoyance is hardly related to the actual sound level of specific turbines but related to other causes such as negative feelings towards the wind turbines.

By and large, those affected by the noise generated by wind turbines live within close proximity of a large wind power plant or individual turbine. Although the noise at these distances is not deemed in comparison to other noises (see *Table 1* below), it nevertheless is sufficient to be heard indoors and may be especially disturbing in the middle of the night when traffic and household sounds (background noise) are diminished (Acoustic Ecology Institute 2009)[132]. However improvements in rotor blade configuration have made more recent wind farms far less audible to nearby residents

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[127] Pierpont Nina (2006) *Health effects of wind turbine noise.* Report presented to NY State legislators. http://www.savewesternny.org/docs/pierpont_testimony.html
[128] http://www.windturbinesyndrome.com/img/WTSguide.pdf
[129] Holdningsundersøgelse, Ringkjøbing. (1993) Danish Wind Turbine Manufacturers Association.
[130] Pool Rebecca. (2009) *A quiet revolution*. The Institution of Engineering and Technology [Retrieved online 1/09/2010]. http://kn.theiet.org/magazine/issues/0917/quiet-revolution-0917.cfm
[131] Wolsink & Sprengers (1993) *Windturbine Noise: A New Environmental Threat?,* University of Amsterdam.
[132] AEI (2009) *Acoustic Ecology Institute Fact Sheet: Wind Energy Noise Impacts*. Excerpted from a 25-page AEI Special Report: Wind Energy Noise Impacts, available at: http://www.AcousticEcology.org/srwind.html

compared to earlier designs (AWEA 2008)[133]. The table below compares noise generated by wind turbines with other everyday activities, based on data from the Scottish Government (PAN45, 2002).[134] The sound power level levels at the planned wind farm in Wied Rini are expected to be in the range of 95-102 dB(A) at the individual turbine locations, and the sound pressure levels around 35-45 dB(A) at a distance of 350 m for a typical wind farm consisting of ten wind turbines (MRA April 2009)[135]. The noise level reduces very quickly as you move away, with a gradual loss of intensity of around 6 dB per doubling of distance.

| Source/Activity | Indicative noise level (dB) |
|---|---|
| Threshold of hearing | 0 |
| Rural night-time background | 20-40 |
| Quiet bedroom | 35 |
| **Wind farm at 350m** | **35-45** |
| Busy road at 5km | 35-45 |
| Car at 65 km/h at 100m | 55 |
| Busy general office | 60 |
| Conversation | 60 |
| Truck at 50km/h at 100m | 65 |
| City traffic | 90 |
| Pneumatic drill at 7m | 95 |
| Jet aircraft at 250m | 105 |
| Threshold of pain | 140 |

***Table 1 - Comparative Noise for Common Activities (EWEA 2009)[136]***

### *2.3.3 House prices*

There is still no international evidence to support any claim of a decrease in property value that might be present in communities surrounding wind energy facilities. Specifically, neither the view of wind turbines or the proximity of houses to them is found to have any measurable and statistically significant effect on home sales prices. On the other hand, anecdotal evidence exists of increases in

[133] Modern wind farms at a distance of 350m are no noisier than a quite bedroom at night (35-45dB(A)) or the background noise of the wind is higher than the turbine sound (AWEA, 2008)

[134] The Scottish Executive Development Department Planning Services (January 2002) *PAN 45: Renewable Energy Technologies.* http://www.scotland.gov.uk/Publications/2002/02/pan45/pan-45

[135] Ministry for Resources and Rural Affairs (April 2009) *A proposal for a land based wind farm at Wied Rini l/o Bahrija*. Project description statement.
http://www.mrra.gov.mt/htdocs/docs/wiedriniprojectdescription.pdf

[136] European Wind Energy Association (EWEA) (2009) *Factsheets*
http://www.ewea.org/index.php?id=1611

house prices (Hoen 2009[137], Reese 2006[138], Sterzinger et. al. 2003[139]). However this will not necessarily be the case in Malta, especially for properties that are in close proximity of the wind farm, and only future evidence can tell what the final outcome of house pricing will be in Bahrija.

### *2.3.4 Electromagnetic interference*

The concern with electromagnetic interference (EMI) emitted by wind turbines is generally associated with the disruption of telecommunication facilities, and in some cases TV reception (Harland, 2000)[140]. However, these issues can be easily addressed where necessary through booster or relay stations, and there are quite a few examples of wind farms that operate close to telecommunication sites or microwave corridors without causing any problems (Gipe, 2002[141]; EECA, 1996[142]).

### *2.3.5 Effects on tourism*

The perceived impacts of wind energy developments on tourism create an interesting conundrum. Wind farms may be represented as despoiling the landscape, such that tourists will be frightened off, but other studies suggest that any impact wind turbines might have on tourism is small[143] and in some cases can be considered popular attractions for many tourists (Pasqualetti *et al*. 2002)[144] and their enjoyment of their holiday would be unimpaired by the presence of wind farms (Clark, 2003)[145]. Nonetheless it remains crucial to reduce impacts further by including a Tourist Impact Statement as part of the planning process.

### *2.3.6 Flicker shadow and strobing effect*

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[137] Hoen Ben, Wiser Ryan, Cappers Peter, Thayer Mark, and Sethi Gautam. (December 2009) *The Impact of Wind Power Projects on Residential Property Values in the United States: A Multi-Site Hedonic Analysis*. Office of Energy Efficiency and Renewable Energy Division. Download from http://eetd.lbl.gov/EA/EMP

[138] Rees J. et al. (2006) *Land Value Impact of Wind Farm Development*. Crookwell New South Wales. [ Retrieved online 01/10/2010]
http://www.epuron.com.au/PortalData/5/Resources/02. projects/02.02. cullerin/Section 3.6 Land values.pdf

[139] Sterzinger G. et al. (2003) *The Effect of Wind Development on Local Property Values*. Renewable Energy Policy Project. [ Retrieved online 01/10/2010]
http://www.repp.org/articles/static/1/binaries/wind_online_final.pdf

[140] Harland Jim (2000). *Managing wind power development in New Zealand.* Postgraduate paper in Geography, Victoria University, Wellington.

[141] Gipe, P. (2002) *Aesthetic guidelines for a wind power future*, In: Pasqualetti, M.J., P. Gipe and R.W. Righter (Editors), Wind Power in View, p. 173-212, Academic Press, San Diego.

[142] EECA (1996) *New and emerging Renewable energy opportunities in New Zealand*. Energy Efficiency and Conservation Authority, Wellington.

[143] Scottish Government (2008) *The Economic Impacts of Wind Farms on Scottish Tourism*. [Retrieved online 02/09/2010] http://www.scotland.gov.uk/Resource/Doc/214910/0057316.pdf

[144] Pasqualetti, M.J., P. Gipe and R.W. Righter (2002) *Wind Power in View*. Academic Press, San Diego.

[145] Clark, L. (2003). *Tourists who are fans of wind farms*. London Press Service, Issue 10.

A wind turbine's moving blades can cast a moving or an on-again, off-again shadow on a nearby residence, depending on the time of the year and time of the day which effects how low the sun is in the sky. Flicker from turbines that interrupt or reflect sunlight at frequencies greater than 3 Hz poses a potential risk of inducing photosensitive seizures (Harding 2008)[146], and the risk is maintained over considerable distances from the turbine. It is therefore important to keep rotation speeds to a minimum, and the layout/siting of wind farms should ensure that shadows cast should not be readily visible to the general public and does not fall upon the windows of nearby buildings. It is possible to calculate very precisely whether a flickering shadow will in fact fall on a given location near a wind farm, and how many hours in a year it will do so.

### *2.3.6 Bird collisions and displacement*

It has been broadly suggested that collision risks at onshore wind turbines can cause substantial mortality within avian populations, or possibly even force several bird species which show a strong fidelity to migration routes to avoid wind farm areas. This is one of the major reasons why some environmental organizations have actively lobbied against wind energy development in the past (Gipe 1995);[147] however supporters tend to down play the significance of this concern by framing the avian mortality rates within mortalities due to other human-made structures (Erickson et al., 2001[148]; Winegrad, 2004; Gipe, 1995). In fact Erickson et al. (2001) claim that bird fatalities due to wind turbine collisions are a very small percentage of all collision fatalities with human-made structures.

Similarly wind farms could also cause fragmentation or disturbance of coherent ecological units for bird communities which forage, roost or nest in the sites (Winegrad, 2004) [149]. Impacts of sound disturbance, especially low frequency sounds from wind farms, on communication and navigation among birds seems largely unknown.

Consequently there are still considerable research gaps, and in most cases it is difficult to generalise since impacts are very site specific. To minimise collision risk, placement of wind farms in important

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[146] Harding *et. al* (2008) *Wind turbines, flicker, and photosensitive epilepsy: Characterizing the flashing that may precipitate seizures and optimizing guidelines to prevent them*. *Epilepsia,* 49(6):1095–1098, 2008 http://www.mfe.govt.nz/rma/call-in-turitea/submissions/186changeappendix3.pdf

[147] Gipe, P. (1995) *Wind energy comes of age*. New York: John Wiley.

[148] Erickson, W. P., Johnson, G. D., Strickland, M. D., Young, D. P., Sernka, K. J. & Good, R. E. (2001). *Avian collisions with wind turbines: A summary of existing studies and comparisons to other sources of avian collision mortality in the United States*. National Wind Coordinating Committee Resource Document. Retrieved online August 1, 2005, from http://osti.gov/bridge/servlets/purl/822418-vE680X/native/822418.pdf.

[149] Winegrad, G. (2004). *Why avian impacts are a concern for wind energy development*. Session presented at the meeting of the American Wind Energy Association, Wind Energy and Birds/Bats Workshop, Washington, DC. [Retrieved online 24/07/2010]http://www.osti.gov/bridge/servlets/purl/836926-JJs9me/native.

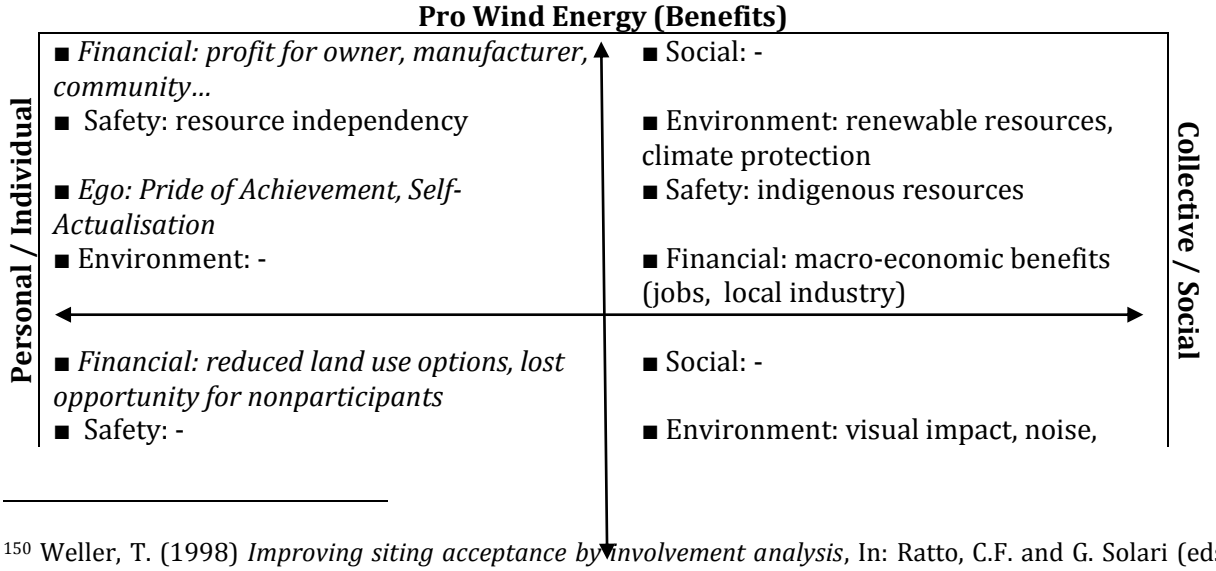
migration on corridors should be avoided, the alignment of turbines needs to be considered carefully (Erickson et al., 2001), and turbines needs to be made more visible and illuminated adequately for birds. Winegard offers another four recommendations to prevent and/or minimize the impacts of wind projects on wildlife:

1. Undertake a thorough study of potential impacts of proposed wind projects on birds and their habitat.
2. Avoid siting wind projects in known critical bird habitats or migratory paths.
3. Bury power lines and minimize lighting when possible, and
4. Conduct scientific monitoring of avian impacts at operating wind projects and publish the data.

### *2.3.7 Other underlying concerns*

Careful planning and siting can help mitigate most of the above concerns however Weller (1998)[150] suggests that opposition to wind farms can also be due to underlying and personal objections that are rather difficult to expose during public participation. He identified the following "hidden" arguments (represented in *Figure 11* below):

- "Lost business", because objectors feel excluded from financial benefits.
- "Traditionalism", because wind projects have never before been approved in the region
- "Envy", because a neighbour may earn money as a result of the project
- "Personal conflicts", because they oppose everything the neighbour wants to achieve




[150] Weller, T. (1998) *Improving siting acceptance by involvement analysis*, In: Ratto, C.F. and G. Solari (eds), Wind energy and Landscape, p. 147-160, Balkema, Rotterdam, Netherlands

| | |
|---|---|
| | land consumption, birds |
| ■ *Ego: impact on traditional habits, envy, personal bias* | ■ Safety: availability concerns |
| ■ Environment: visual impact, noise | ■ Financial: subsidy misuse |

**Against Wind Energy (Disadvantages)**

***Figure 11 - Pros and Cons (hidden arguments in italic) (Weller, 1998)***

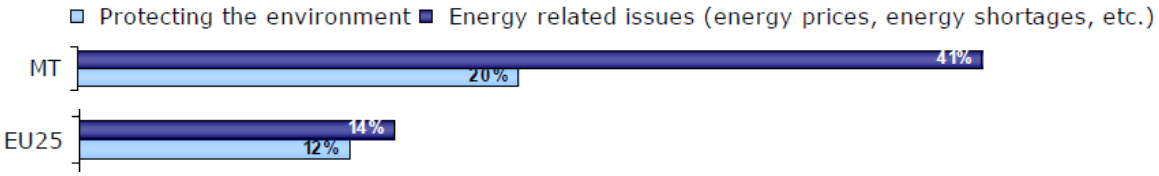
## 2.4 Public perception studies on wind farms in Malta

A number of studies have been undertaken to assess public attitudes towards wind energy in Malta. The following sections attempt to highlight the major findings and assumptions that can be made from the major efforts that have been conducted.

### *2.5.1 Special Eurobarometer Survey 262*

According to the Special Eurobarometer (SE) 262 "Energy Technologies: Knowledge, Perception, Measures (EC 2007)[151], on average 53% of EU citizens appear to believe that their country is entirely or very much dependent on energy coming from abroad. At country level, Denmark is the only country where energy exports exceed energy imports, while the energy dependence rate is highest in small countries such as Malta (84%), Latvia (86%) and Cyprus (89%).More specifically, in Cyprus and Malta, 73% and 63% of respondents respectively are aware of the fact that their country is entirely dependent on energy imports. This has implications to the overall acceptance of wind energy, as also highlighted in a number of other responses that are of relevance to the arguments put forward in this paper, namely:

**QD1 What are the most important issues facing Malta today?**



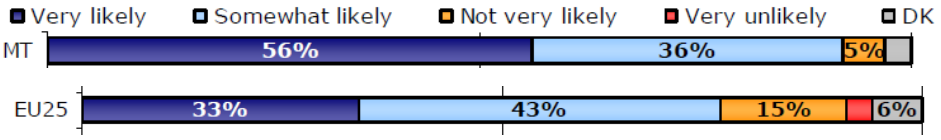

**QD7 And thinking about energy in 30 years, which do you think will be the three most used energy sources in Malta?**

| | | |
|---|---|---|
| Solar energy | 69% | +43* |
| Wind energy | 49% | +46* |
| Oil | 34% | -58* |

** Difference between perceived current energy sources (QD6) and future energy sources (QD7)*

[151] European Commission (June 2007) *Special Eurobarometer 262 / Wave 65.3. "Energy Technologies: Knowledge, Perception, Measures"*. Fieldwork: May – June 2006. Publication: January 2007 – *TNS Opinion & Social.* http://ec.europa.eu/public_opinion/archives/ebs/ebs_262_en.pdf

**QD9.3 How likely do you think each of the following incidents might happen in Malta in the next three years? Energy prices being multiplied by 2 or more times - % country**

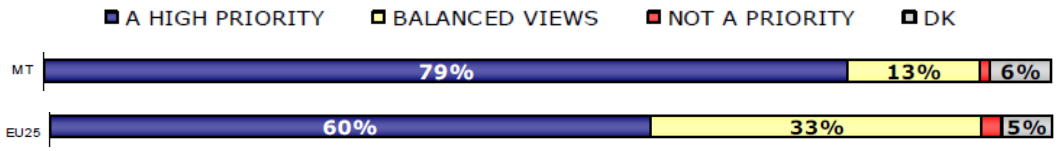



**QD12 In your opinion, which two of the following should be given top priority in the Maltese Government's energy policy?**

| | EU25 | MT |
|---|---|---|
| Guaranteeing low prices for consumers | 45% | 63% |
| Guaranteeing a continuous supply of energy | 35% | 36% |
| Protecting the environment | 22% | 30% |
| Protecting public health | 29% | 22% |
| Guaranteeing independence in the field of energy | 18% | 8% |
| Reducing energy consumption | 15% | 12% |
| Fighting global warming | 13% | 6% |
| Guaranteeing the competitiveness of our industries | 7% | 13% |

In most countries, respondents mention guaranteeing low prices and a continuous supply of energy most frequently. Southern European countries – Greece (68%), Portugal (66%), Cyprus (63%) and Malta (63%) in particular – rank low energy prices as a priority for national energy policy.

**QD13 Do you think that energy related research should be a priority for the European Union?**




*2.5.2 MEPA Public Attitudes Survey 2008*

Another survey of relevance is the MEPA Public Attitudes Survey 2008 (MEPA 2010)[152], published in 2010, which collated responses from a representative sample size of 1,042 respondents aged 18 plus. Some interesting results to specific questions related to wind energy were obtained:

| | Strongly | Disagree | No | Agree | Strongly |
|---|---|---|---|---|---|

[152] Malta Environment and Planning Authority (April 2010) *Public Attitudes Survey 2008: Analysis of results.*

| | | disagree | | opinion | | agree |
|---|---|---|---|---|---|---|
| **"Climate change will affect the Maltese Islands"** | | 1% | 2% | 12% | 50% | 34% |
| **"I am willing to pay a little bit more for electricity from renewable sources"** | | 3% | 13% | 17% | 51% | 16% |
| | **Do not know** | **Very low** | **Low** | **Medium** | **High** | **Very high** |
| **"There is a ... potential for renewable energy in the Maltese Islands"** | 12% | 4% | 8% | 14% | 36% | 26% |

### *2.5.3 Social acceptance study of wind farms in Gozo*

A slightly more focused but unpublished study was undertaken by students from James Madison University as part of a report titled "*Wind energy in Kercem, Gozo: A case study on technical feasibility and social acceptance*" (Williams et al. 2010)[153]. A simple questionnaire was designed to gauge public opinion on the impact of a wind farm in Gozo. **Public opinion** refers to the distribution of opinions and attitudes held by the public on a particular issue.[154] The content, stability, intensity and direction of public opinion are all important indicators of what the public wants and expects out of its government and political leaders.

Questions were designed to gauge the public's personal feelings on renewable energy, the benefits and disadvantages that were important to them, how much RES technology they would be willing to accept, and how important the visual impact of a wind farm was to them. Both tourists and locals were interviewed, yet data was kept separate for the purpose of distinguishing and comparing each set. The sample size was of 40 interviews. Results indicated that the majority of the public was in favour of, or willing to support, a wind farm on the island. The results to specific questions were as follows:

| **Do you agree that wind farms are necessary so that we can produce renewable energy to help us meet current and future energy needs in Gozo?** | **Yes** | **No** | **No opinion** |
|---|---|---|---|
| Locals: | 83% | 11% | 6% |
| Tourists: | 91% | 9% | 0% |

| **Would you support the construction of a wind farm on the island?** | **Yes** | **No** | **No opinion** |
|---|---|---|---|
| Locals: | 55% | 28% | 17% |
| Tourists: | 64% | 0% | 36% |

[153] Farrugia Robert, Williams Evans, Fox Jessica, Cochran Kelsey, McHarg Matt. (May 2010). Institute for Sustainable Energy, University of Malta. Summer session 2010.

[154] http://en.wikipedia.org/wiki/Public_opinion

None of the tourists opposed the idea, but the ones that had no opinion often agreed that it was more important how the locals felt about it rather than the tourists. Many added that it wouldn't affect their decision to come back to Malta, and that they didn't mind their appearance.

| **How concerned are you about the appearance of a wind farm on the island of Gozo?** | **Not at all** | **Somewhat** | **Very** |
|---|---|---|---|
| Locals: | 24% | 41% | 35% |
| Tourists: | 27% | 64% | 9% |

The locals did show some concern about the appearance of the wind farm despite 81% indicating that wind energy was necessary and 55% support the construction of a wind farm. 64% of the tourists were somewhat concerned about the appearance.

| **What sort of wind technology would you be ready to accept?** | **A single turbine** | **A few Turbines (5- 10)** | **A sizeable wind farm (20-30)** | **None** | **No Opinion** |
|---|---|---|---|---|---|
| Locals: | 12% | 29% | 29% | 6% | 24% |
| Tourists: | 23% | 39% | 15% | 8% | 15% |

Locals where in the most part inclined towards 5-10 or 20 to 30 turbine farms at 29% support in both cases, while 24% had no opinion in the matter since they did not feel qualified to make such a judgement. Tourists on the other hand were more inclined towards 5-10 turbine farms.

## 2.6 The Bahrija Environmental Impact Assessment

The potential impact of large scale onshore wind generation facilities has been, from the onset, a source of concern in Malta.[155] In particular, there are concerns linked with significant visual and landscape impacts given the country's small superficial area and high population density. The three proposed sites are therefore subject to all the necessary environmental impact assessments as required by the applicable directives and the local environment and planning regulations. Environmental Impact Assessment (EIA) is "*the process of identifying, predicting, evaluating and mitigating the biophysical, social and other relevant effects of development proposals prior to major*

[155] Bonello Alexander. *Wind farm in Bahrija*. The Malta Independent. [Retrieved online 02/09/2010] http://www.independent.com.mt/news.asp?newsitemid=89518
*Court Briefs: Farmers object to wind farm application*. [Retrieved online 02/09/2010]
http://www.independent.com.mt/news.asp?newsitemid=88559
*Wind farm gewwa l-Bahrija*. Facebook discussion. [Retrieved online 02/09/2010]
http://www.facebook.com/topic.php?uid=4650004644&topic=8729
*Assessing wind turbines*. Anne Zammit. Sunday, 5th July 2009. [Retrieved online 02/09/2010]
http://www.timesofmalta.com/articles/view/20090705/environment/assessing-wind-turbines .
*The problem with wind farms*. Jeffrey Pullicino Orlando. Friday, 27th November 2009.[Retrieved online 02/09/2010]
http://www.timesofmalta.com/articles/view/20091127/opinion/the-problem-with-wind-farms
Pullicino George. *Irresponsible politics*. 21st May 2009.[Retrieved online 02/09/2010]
http://stocks.timesofmalta.com/articles/view/20090521/opinion/irresponsible-politics
Debono James. Blowing in the wind. Malta Today. 26th October 2008. [Retrieved online 02/09/2010]http://archive.maltatoday.com.mt/2008/10/26/t11.html

*decisions being taken and commitments made*" (IAIA, 1999)[156] in order to achieve environmentally sound and sustainable development proposals and activities.

This paper is concerned with informing stakeholders about the various perceptions that are prevalent about the Bahrija wind energy plans.

### *2.6.1 Preliminary Comments during the Wied Rini Scoping meeting*

It is pertinent to point out that a first scoping meeting with stakeholders was held on the 3rd June 2009 by MEPA[157] to discuss the '*Outline application for wind farm and installation of a temporary wind monitory mast Site at, WiedRini, Bahrija in Rabat*' (PA 01819/09). In attendance were MEPA (GOV), MRRA (GOV), Kunsill Lokali Rabat (Local Council), Birdlife Malta (NGO), Din l-Art Helwa (NGO), Flimkien ghall-Ambjent Ahjar (NGO): Ramblers Association of Malta (NGO), Zminijietna (NGO).

Further comments were invited and had to be submitted to MEPA, and numerous concerns where received and noted, including from the affected locals or residents. Besides a detailed position paper published by Birdlife Malta[158], the most salient comments received were the following[159]:

*Abbreviations:*

| | |
|---|---|
| *General public:* | *GP* |
| *Bahrija residents and farmers:* | *BRF* |
| *Birdlife:* | *BLM* |
| *Department for Environmental Health:* | *DEH* |
| *Malta Communications Authority:* | *MCA* |

| Issue | Concern | Objector |
|---|---|---|
| Habitat | It is not clear whether there will be overlap between the proposed project site and the candidate Special Area of Conservation (SAC) designated area. | BLM BRF GP |
| | The area is of immense environmental, and ecological importance, as well as encompassing cultural heritage sites of archeological value. | BRF |
| | The area selected for this project is:<br>▪ A Rural Conservation Area (RCA) whereby Structure Plan policy RCO 2 states that no form of urban development will be permitted within Rural | BRF |

[157] MEPA (2009) *Scoping Meeting with Stakeholders*. PA 01819/09: Outline application for wind farm and installation of a temporary wind monitory mast Site at Wied Rini, Bahrija, Rabat. Wednesday 3rd June, 2009, 4.00pm. http://www.mepa.org.mt/EIACMS/documents///Scoping%20meeting%20Bahrija%20wind%20farm%2003-06-2009.pdf

[158] Birdlife Malta (May 2009) *Position Paper on a proposed land based windfarm at Bahrija*. http://www.birdlifemalta.org/files/reports/3/report.pdf

[159] MEPA (2009) Scoping Comments submitted to MEPA. PA 01819/09 (GFE 00002/09) Outline application for wind farm and installation of a temporary wind monitory mast Site at, Wied Rini, Bahrija, Rabat. http://www.mepa.org.mt/EIACMS/documents//Scoping%20Comments%20submitted%20to%20MEPA_Bahrija_260609.pdf

| | | |
|---|---|---|
| | Conservation Areas.<br>▪ A Scheduled Area of Ecological Importance, serving as a buffer zone to the Scheduled Level 1 water course. Paragraph 15.34 of the Structure Plan Memorandum states a general presumption against any development in protected areas. The community wishes to see included in the EIA, why such a project will go against these two MEPA directives. It is important to note that certain members of the community have been penalized, large sums of money, by Mepa due to development in the named area. | |

| | | |
|---|---|---|
| Ornithological | The cliffs adjacent to the windfarm site are designated as an Special Protection Area (SPA), entitled 'Rdumijiet ta' Malta: Ras il-Pellegrin sa Ix- Xaqqa' for the following bird species listed in Annex I of the Birds Directive (Directive 79/409/EEC): Yelkouan shearwater *Puffinus yelkouan* and Cory's Shearwater *Calonectris diomedea*. | BLM |
| | Furthermore, the site is of importance to many migratory species, particularly raptors. Being on one of the main European–African migratory flyways, the Migra l-Ferha, Imtahleb and Bahrija areas are especially important in spring and autumn in easterly winds, when birds of prey and herons often make first landfall in this area, sometimes in large numbers. The site is also an important area for several locally rare species, including the Corn Bunting *Miliaria calandra* (European Species of Conservation Concern), Short-toed Lark *Calandrella brachydactyla* (listed under Annex 1 of the Birds Directive) and Spectacled Warbler *Sylvia conspicillata.* | BLM |
| | Risks to the birds using and/or passing through the area from a windfarm in the Bahrija area could include;<br>▪ Displacement<br>▪ Death by turbine<br>▪ Barrier effects | |
| | Foundation type of the turbines. | BRF |
| | Impacts on Hydrology | BRF |
| | Impacts of trenches along existing roads and widening of roads. | BRF |

| | | |
|---|---|---|
| Visual Landscape | Great visual impact from most angles of sight. This site will therefore intrinsically have a great zone of visual influence due to its prominence and positioning. | BRF |

| | | |
|---|---|---|
| Social | The proposed site is undoubtedly one of, if not the most, popular recreational areas for thousands of families particularly on weekends and public holidays throughout the Autumn, Winter and Spring months of the year. In fact the Bahrija-Mtahleb-Kuncizzjoni area may be considered as:<br>▪ the most popular and sought after countryside area in the Maltese Islands<br>▪ the traditional site for walks, pick-nicks, drives and general recreation for a large proportion of the Maltese population<br>▪ one of the last few relatively large areas of rural countryside in Malta<br>▪ not being mainly taken up by agricultural land hence allowing for the easy recreation of many<br>▪ of exceptional natural beauty<br>▪ of notable environmental value | BRF |
| | The great negative impact on the value of private property in the vicinity of the wind farm, notably within the communities mentioned above. | BRF |
| | Economic impacts on the farmers at the Wied Rini Site since the enormous size of these structures will provide shade to the surrounding fields, that is detrimental to the crops grown in these fields | BRF |
| | When completed it is expected to generate no more than 0.86% of the nation's consumption, or enough to supply the energy requirements of around 5,900 households. but also that in all likeliness it will adversely affect a greater number of households than it can supply electricity to, defeating the whole purpose of its existence. | BRF |

| | | |
|---|---|---|
| Health | Electromagnetic interference to radar, broadcasting, and microwave services and stations in the nearby. | MCA |
| | Health concerns related to: | BLM |

| | | |
|---|---|---|
| | ▪ noise nuisance<br>▪ sound emissions,<br>▪ lightning,<br>▪ vibro-acoustics,<br>▪ low frequency noise,<br>▪ vibrations<br>▪ shadow flicker.<br>▪ raw material and waste. | DEH<br>GP<br>BRF |
| | The projected site in Wied Rini proposes turbines within a few hundred metres of the residences of well over a hundred people and in the case of many residences even less than 300 metres. | BRF<br>GP |

### *2.6.2 EIA for the proposed onshore wind farm at Wied Rini*

In view of the above EIA requirement and the numerous concerns raised, Government published a service tender for an EIA to study the various impacts that the on-shore wind farm at Wied Rini may have, and propose mitigation measures to reduce any negative impacts to acceptable levels. The terms of reference (TOR) for the EIA (MRRA 2009)[160] requires the following studies related to impacts on land use:

4.1 Impacts on Land Uses

4.2 Effects on Ecology

4.3 Effects on Avifauna

4.4 Effects on Bats

4.5 Effects on Land Cover, Agricultural Quality and Produce

4.6 Effects on Archaeological Sites and Cultural/ Historical Features

4.7 Landscape and Visual Amenity Impact Assessment

4.8 Effects on Geology, Geomorphology, Palaeontology and Hydrology

4.9 Impacts of Noise

4.10 Impacts on Human Populations which shall also include the impacts on the farming community on site and within an area of influence, air disturbance, noise, vibration, loss of recreational and open space, electromagnetic radiation, stroboscopic effect, shadow flicker and lighting.

4.11 Secondary Impacts arising from the extraction and consumption of resources necessary to implement the project,

4.12 Other Environmental Effects

4.13 Cumulative Effects resulting from the interaction of separate effects listed above as well as any other relevant impacts; and the impacts of the project viewed in terms of other projects (i.e., not in isolation) within the area.

[160] CT2484/2009 (22 Dec 2009) http://www.contracts.gov.mt

It is salient to point out that the EIA does not specifically request a Social Impact Assessment (SIA). A **Social impact assessment** (SIA) includes the processes of analyzing and monitoring the intended and unintended social consequences, both positive and negative, of planned interventions (policies, programs, plans, projects) and any social change processes invoked by those interventions. Its primary purpose is to bring about a more sustainable and equitable biophysical and human environment. SIA is best understood as an umbrella or overarching framework that embodies the evaluation of all impacts on humans and on all the ways in which people and communities interact with their socio-cultural, economic and biophysical surroundings (IAIA 2003).[161]

Prima facie it is not clear to what extent the social impact will be assessed. Given the various concerns, the lack of a clear inclusion of the SIA raises questions and suggests that MEPA has potentially failed to appreciate the value of a well conducted SIA, which can be perceived as an attempt to limit public involvement to limited consultation with objectors . (Roberts 2003)[162]

[161] Social impact assessment. (2003) *International Principles*. Special Publication Series No. 2. International association for impact assessment (IAIA).
[162] Roberts (2003) *Involving the public*. in H. Becker and F. Vanclay (eds) *International Handbook of Social Impact Assessment*. Cheltenham: Edward Elgar: pp. 259-260).

# CHAPTER 3

# DATA AND METHODS

## 3.1: Introduction

Field research was conducted using Q methodology in order to systematically compare the patterns in stakeholder views related to wind farm projects in Malta. Q sorts from the identified stakeholders were obtained via in-person semi-structured interviews.

Data collection efforts targeted five stakeholder groups (Cassar 2006)[163] of the Maltese community who are likely to be most affected by the construction and operation of a wind farm in Wied Rini; namely:

(i) affected locals,
(ii) resource users,
(iii) government and other local agencies,
(iv) non-governmental organizations (NGOs), and
(v) the scientific community.

At a minimum, all five stakeholder groups were consulted in order to capture their thoughts on the effect of land-based wind on the environment (e.g., water quality, avian and marine life), tourism, aesthetics and the local economy, and their views on wind energy where finally correlated and analysed to ascertain environmental attitudes and behaviour.

## 3.2 Q Methodology to Reveal Social Perspectives in Environmental Research

Q methodology is a research method used in psychology and other social sciences to study people's "*subjectivity*" – or rather their viewpoint, opinion, beliefs, and attitude. (McKeown and Thomas 1988[164]; Brown 1980; 1993; Durning 1996)[165] An important initial assumption behind the Q method is that since subjectivity is communicated then it is observable, and that a limited number of distinct

[163] Cassar F. Louis (September 2006) *A landscape approach to conservation: Integrating ecological sciences & participatory*. Doctoral dissertation, University of Reading.
[164] McKeown, Bruce and Dan Thomas. (1988) *Q Methodology*. London: Sage Publications.
[165] Webler, T., Tuler, S. and Krueger, R. (2001) *What Is a Good Public Participation Process? Five Perspectives from the Public.* Environmental Management, 27(3), 435-450.

perspectives or viewpoints exist on any topic. Q methodology offers a quantitative technique for clarifying, evaluating and comparing human subjectivity (Robbins and Krueger, 2000)[166].
Q-methodology uses these subjective viewpoints in order to construct typologies of different perspectives (Webler et al. 2009)[167].

The name "Q" comes from the form of factor analysis that is used to analyze the data. Normal factor analysis, called "R method," involves finding correlations (strength and direction of a *linear* relationship between two random variables) between variables (say, height and age) across a sample of subjects. Q, on the other hand, is interested in using factor analysis to correlate people with the views they hold in order to reveal the multiple points of view that could prevail in any situation. (Brown 1996, 1993)[168] This reduces the many individual viewpoints of the respondents down to a few "factors," which represent shared ways of thinking thus eliciting similarities between groups of individuals based on their attitudes, opinions, feelings, cognitions and views (Schlinger 1969)[169] Since Q-methodology combines the openness of qualitative methods with the statistical rigour of quantitative methods, it has been used quite extensively to explore social discourses as they emerge in patterns of subjective views and attitudes (Addams and Proops 2000)[170].
This thesis made extensive use of a comprehensive study by Job van Exel (2005)[171] titled "*Q methodology: a sneak preview*" as its major methodological source and guidance.[172]

Performing a Q methodological study involves the following steps:

1) definition of the concourse;
2) development of the Q sample;
3) selection of the P set;
4) Q sorting; and
5) analysis and interpretation.

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[166] Robbins, P. and Krueger, R. (2000) *Beyond Bias? The Promise and Limits of Q Method in Human Geography*. *Professional Geographer, 52*(4), 636-648.
[167] Webler T, Danielson S., Tuler S. (2009) *Using Q Method to Reveal Social Perspectives in Environmental Research*. Social and Environmental Research Institute Accessed online 27/07/2010 http://www.seri-us.org/pubs/Qprimer.pdf
[168] Brown, S. R. (1993) *A primer on Q methodology*. Operant Subjectivity, 16, 91-138. (The original text for this is available at: http://facstaff.uww.edu/cottlec/QArchive/Primer1.html)
[169] Schlinger, M.J. (1969) *Cues on Q-technique.* Journal of Advertising Research 9(3):53-60.
[170] Addams, H., Proops J. (2000) *Social discourse and environmental policy: An application of Q methodology.* Northampton, MA: Edward Elgar Publishing.
[171] Van Exel Job (2005) *Q methodology: A sneak preview.* Erasmus MC, Institute for Medical Technology Assessment (iMTA). http://www.qmethodology.net/PDF/Q-methodology%20-%20A%20sneak%20preview.pdf
[172] Interested readers will find more information on the methodological background of Q in Stephenson (1953) and Brown (1980; 1986); a guide for Q technique in Brown (1980; 1986; 1993); and a recent discussion and review of applications in Smith (2001).

A comprehensive discussion of each step, as conducted in relation to this work, follows below.

## 3.3: Methods and techniques

### *3.3.1 Definition of the concourse*

In Q, the concourse refers to "*the flow of communicability surrounding any topic" in "the ordinary conversation, commentary, and discourse of everyday life*", and a collection of all the possible statements the respondents can make about the subject at hand (Brown 1993). A concourse may be obtained in a number of ways: interviewing people; participant observation; popular literature, like media reports, newspapers, magazines, novels; and scientific literature, like papers, essays, and books. Though any source may be used, *"the level of the discourse dictates the sophistication of the concourse*" (Brown 1993). Due to the limited time available for the compilation of this paper, this step was based on available literature as explained in the following section.

### *3.3.2 Development of the Q set*

The statements to be presented to the participants were drawn from the literature review and based on a similar and extensive study undertaken by Breukers (2007)[173], rather than directly from the concourse. Various changes were made to the statements in order to address the focus of this thesis and Malta.

A total of 49 statements were selected for the Q set. These statements represent opinions, not facts and concern the importance of economic considerations, spatial planning issues and environmental considerations in relation to policy-making, planning and implementation of wind power.

These statements were developed within a classification scheme identified in Cultural Theory (or 'grid-group theory') (Mamadouh, 1999[174]; Thompson et al, 1990[175]). Grid-group theory suggests that there are two fundamental variables that determine cultural types, namely:

- *Group* which signifies the extent to which an individual is incorporated into a bounded group. The greater the incorporation, the more individual choice is subject to group determination (Breukers 2007).

[173] Breukers Sylvia. (2007) *Changing institutional landscapes for implementing wind power. A geographical comparison of institutional capacity building: The Netherlands, England and North Rhine-Westphalia*. Universiteit van Amsterdam.
[174] Mamadouh, V. (1999) *Grid-group cultural theory: an introduction*. GeoJournal, 47(3), 395-409.
[175] Thompson, M., Ellis, R. and Wildavsky, A. (1990) *Cultural Theory.* Boulder: Westview Press.

- *Grid* which refers to the rules and prescriptions (institutions) by which individuals are constrained. The more one is bound by prescriptions, the less room remains for individual negotiation (Thompson et al, 1990).

Combinations of grid and group are referred to as cultures or cultural types and four types can be related to each other with respect to the degree of group involvement and the degree of social prescription. (See Table 2 below) (Breukers 2007)[176].

| | |
|---|---|
| **Fatalism**<br>Binding prescriptions in combination with weak group incorporation<br>*Social context:*<br>▪ Individuals are subject to binding prescriptions and excluded from group membership.<br>▪ Sphere of individual autonomy is restricted.<br>▪ Individuals are excluded from the group that makes decisions that rule their life | **Hierarchism**<br>Strong group boundaries and binding prescriptions<br>*Social relations:*<br>▪ Individuals subject to control by others and to socially imposed roles.<br>▪ Collective is more important than individuals<br>▪ Division of labour, differentiated roles, hierarchical social relations |
| **Individualism**<br>Weak group incorporation and weak regulation or role prescriptions<br>*Social context*:<br>▪ Individual neither bound by group incorporation, nor by prescribed roles.<br>▪ Individual is free to enter transactions with others, as on a market.<br>▪ Boundaries are subject to negotiation.<br>▪ Individuals are relatively free of control by others but controlling others is a measure of their position in the network | **Egalitarianism**<br>Strong group boundaries coupled with few regulations<br>*Social relations:*<br>▪ Group is maintained through intensive relations between group members<br>▪ Minimal internal role differentiation (low grid)<br>▪ No individual is granted authority over others |

***Table 2 - Four cultural types (Mamadouh, 1999; Thompson et al, 1990)***

The grid-group typology above distinguishes between what are referred to as hierarchical, individualistic, egalitarian and fatalistic positions vis-a-vis decision making (Thompson *et al*, 1990)[177]. The typology is claimed to be universal and applicable to all domains, and can determine specific views or opinions on nature and environmental management (Schwartz and Thompson, 1990)[178].

Finally, the statements were randomly assigned a number and printed on separate cards, referred to as the Q deck, and made available to the respondents for Q sorting.

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[176] Breukers Sylvia. (2007) *Changing institutional landscapes for implementing wind power. A geographical comparison of institutional capacity building: The Netherlands, England and North Rhine-Westphalia*. Universiteit van Amsterdam.
[177] Thompson, M., Ellis, R. and Wildavsky, A. (1990) Cultural Theory. Boulder: Westview Press.
[178] Schwarz, M. and Thompson, M. (1990) *Divided we stand. Redefining politics, technology and social choice.* New York: Harvester Wheatsheaf.

The resulting statements, randomly numbered, were tested both on people who are knowledgeable about wind energy and on those who are not. The statements were then adjusted to accommodate their comments. This study consists of 49 statements divided as follows and listed further below:

- 9 hierarchical statements,
- 9 egalitarian statements,
- 9 individualistic statements
- 9 fatalistic statements

and

- 6 statements on spatial planning issues,
- 7 on economic environmental and energy considerations or issues.

The statements are listed and grouped below, along with the random q reference number.

| | **Hierarchic** |
|---|---|
| 10 | The input from the public during a public participation process often shows a lack of expertise. |
| 31 | Professional and scientific expertise ought to play a decisive role in decision making on such infrastructure. |
| 39 | It is mainly local community groups that try to thwart the construction of wind farms. |
| 44 | It is mainly environmental organisations that frustrate the construction of wind turbines. |
| 8 | Opponents of wind farms are not willing to compromise so it is pointless to involve them in the decision-making process. |
| 22 | Government should be able to go ahead anyway when local authorities fail to co-operate with the construction of a wind farm. |
| 47 | More citizen participation leads to even more opposition toward wind farms. |
| 29 | Planning processes must be carried out rapidly in order to not scare away investors and meet the EU 2020 target. |
| 1 | It is usually individuals, like landowners, that block the construction of wind turbines. |

| | **Egalitarian:** |
|---|---|
| 16 | Decisions made with the approval of the local community are generally also better decisions. |
| 6 | Most of the time, stakeholders are insufficiently involved during the first phases of major projects. |
| 28 | The local community should be able to exert its influence in every phase and on all aspects of the decision-making process. |
| 19 | Involving potential opponents to a wind farm in a timely manner will increase its chances of getting built. |
| 2 | Although local opposition to wind projects is quite normal, the public benefit of wind energy is more important. |

| | |
|---|---|
| 12 | Local power companies have no understanding of public participation and are unaccustomed to dealing with stakeholders. |
| 23 | It is wrong to take decisions without giving neighboring residents a decisive influence. |
| 25 | Decisions on wind farms cannot be made by governments alone, but they must result from negotiations with all involved parties. |
| 30 | If good arguments exist for constructing a wind farm in a local community instead of another, than that community should agree to this for the public good. |

| | **Individualist** |
|---|---|
| 41 | Wind farms should go in built up areas where people live or places like Hal Far, not rural areas like Bahrija. |
| 26 | Every local authority would rather have wind farms built in another location. |
| 14 | Residents do not want to pay for the nation's energy problems by accepting a wind farm in their area. |
| 11 | Local opposition to a wind farm is nothing more than defending one's self-interest. |
| 33 | In the end, it is the cost of oil and electricity that will determine the success or failure of wind energy, not the public. |
| 32 | The problem with public input is that it is mainly based on emotions rather than rational thought. |
| 36 | Everyone prefers that new infrastructure like wind farms are not built too close to their homes. |
| 7 | It is not participation in decision making that is important for wind projects, but the compensation for the disturbance they cause. |
| 43 | Offering financial participation in wind projects or green energy to nearby residents is a good way to reduce opposition. |

| | **Fatalist** |
|---|---|
| 45 | Local government does not seem capable of properly handling the public participation necessary for wind energy. |
| 24 | Growing energy demand and increasing environmental problems cannot be solved by government alone. |
| 13 | Decision making surrounding wind energy is an unpredictable process that nobody can control. |
| 17 | It is useless to try and exert influence on the implementation of wind energy in Malta because the public is ignored. |
| 37 | We cannot do anything about climate change anyway, so it is pointless to build wind farms. |
| 20 | People are not fooled by public meetings, environmental impact studies, surveys or superficial public consultations. |
| 4 | Wind farms are noisy and visually unacceptable. |
| 12 | Local power companies have no understanding of public participation and are not interested in dealing with stakeholders. |
| 46 | Local interests are not taken into account at the national level, so it is understandable that there is local resistance to the wind farm plans. |

An additional two categories were added in order to obtain some insights on spatial planning issues, and energy vis-a-vis economic and environmental issues.

| | **Spatial Planning** |
|---|---|
| 40 | Local opposition to wind farms is mostly caused by the lack of information given to the public. |
| 3 | Public participation makes the decision making process more complicated and lengthy than necessary. |
| 15 | Slow implementation of wind energy is usually a result of unnecessarily arduous rounds of public participation. |
| 35 | Initiators of wind farm projects underestimate the value of the landscape when choosing locations. |
| 38 | Local support is important for the successful implementation of wind energy. |
| 48 | Public participation determines whether conflicts are solved and a wind farm is actually built. |
| 21 | The 12 wind turbines planned will look better than the 20 disused communication towers already in the planned area. |

| | **Energy/economy/environment** |
|---|---|
| 42 | Onshore wind energy plans should be abandoned in Malta. The future lies in offshore wind. |
| 34 | Financial support geared towards solar energy is better than financial support for investments in wind energy. |
| 5 | Incentives should be given to the wind industry (not the community) since they determine the successful introduction of renewables. |
| 49 | The small amount of clean energy that wind farms generate does not compensate for the negative impact they have on the landscape. |
| 18 | Before building wind farms all over the country, energy efficiency options should be investigated more thoroughly. |
| 27 | The compromise of the Bahrija landscape is a sacrifice that needs to be made in order to live more sustainable lives. |
| 9 | Government should give priority to the environment first and to energy supply second. |

### *3.3.3 Selection of the P set (stakeholders)*

As discussed before, a Q methodological study requires only a limited number of respondents:

> "*...all that is required are enough subjects to establish the existence of a factor for purposes of comparing one factor with another [...] P sets, as in the case of Q samples, provide breath and comprehensiveness so as to maximise confidence that the major factors at issue have been manifested using a particular set of persons and a particular set of Q statements*" (Brown 1980).

The P-set is a structured sample of respondents who are theoretically relevant to the problem under consideration; for instance, persons who are expected to have a clear and distinct viewpoint regarding

the problem and, in that quality, may define a factor (Brown 1980). Eventually, the number of persons associated with a factor is of less importance than who they are (Brown 1978).

For the purposes of this paper the following stakeholder groups are being considered (adapted from Cassar 2006).[179]

i. Affected locals, which included farmers (land-owners), ramblers, locals that frequent the sites for their scenic value and Maltese residents in Gozo;
ii. Resource users, which include bird shooters and trappers, hoteliers, restaurant and cafe owners, shop owners, quarry owners and the like;
iii. Government and other local agencies such as the Ministry for Rural Affairs and Environment, Local Councils, the Malta Environment & Planning Authority, Heritage Malta, etc.;
iv. Non-governmental organizations (NGOs), such as Nature Trust, BirdLife (Malta) and Din l'Art Helwa; and the
v. Scientific community, which includes individuals who have an academic interest in the wind farm project and the natural history of Bahrija, its landscapes and in its rural cultural heritage.

Every effort was made to ensure that the size of the sample was representative in terms of realities in Malta, related to group size and geographical extent, so as to engage the widest possible stakeholder coverage in the exercise. The Table below provides an indication of the number of respondents in each stakeholder group.

| | | |
|---|---|---|
| A | Group 1 - Affected locals | **10** |
| G | Group 3 -Government and other local agencies | **9** |
| N | Group 4 - Non-governmental organizations (NGOs), | **8** |
| R | Group 2 - Resource users | **5** |
| S | Group 5 - Scientific community | **8** |
| | **Totals** | **40** |

A list of reference numbers of entities or individuals that agreed to participate in the study can be found in ANNEX 5 – P Set (List of stakeholders). Actual names have been blanked out due to confidentiality concerns.

It is important to note that respondents from the Local Authorities, NGO's, and scientific community where selected purely on the basis of their prominent role in wind energy, or else were designated by the body when contacted. Resource users and affected locals were chosen simply on the basic

[179] Cassar F. Louis (September 2006) *A landscape approach to conservation: Integrating ecological sciences & participatory*. Doctoral dissertation, University of Reading.

requirement that they have an interest in the area, and their interest to participate via personal contacts, or because they have been vocal in print or media about their positions. While this has certain limitations, a very careful selection process was undertaken to ensure that the sample was as representative as possible.

### *3.3.4 Q sorting*

The next step was to present the statements printed on cards to the respondents during the interview. The respondents were invited to rank-order the statements, according to the importance they personally attached to each statement when considering wind power implementation, irrespective of the position of the organisation they represented when applicable.
They were then asked to read through all of the statements carefully. The respondent was then asked to begin with a rough sorting while reading, by dividing the statements into three piles:

1. statements he or she generally agrees with (or likes, finds important, et cetera),
2. those he or she disagrees with and
3. those about which he or she is neutral, doubtful or undecided.

The respondent was then asked to rank-order the statements from the three different piles across a 12 scale ranking in a quasi-normal distribution according to the importance they attached to each selected statement when considering wind power implementation, (from 'Opinions I disagree with most" to 'Opinions I agree with most). Rank ordered statements were then arranged on an A3 matrix sheet like Figure 12 - Q sorting sheet below. (Reproduced in full in the Appendices)

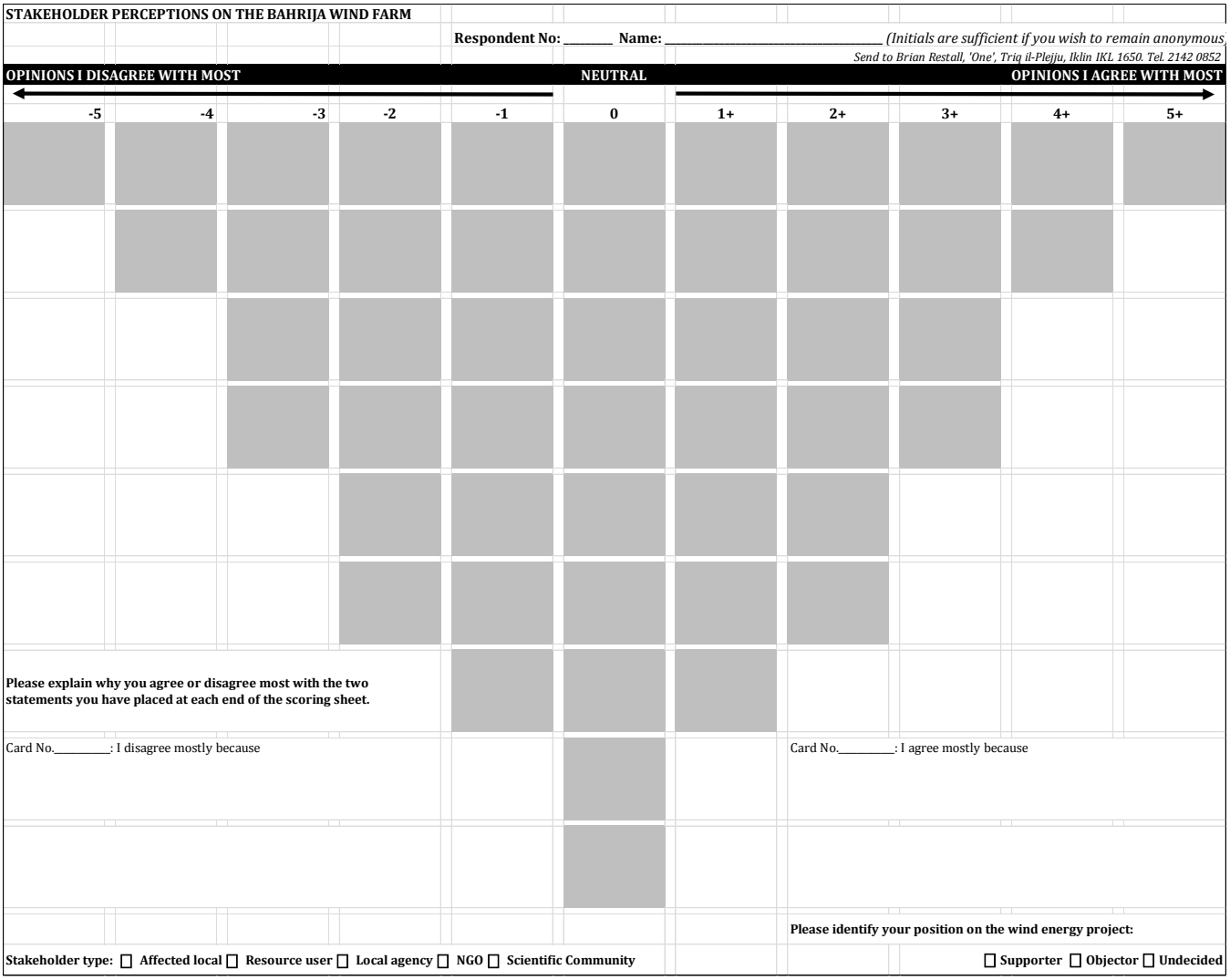


***Figure 12 - Q sorting sheet***

This process forces participants to limit the number of statements that they can allocate to each ranking, in this case only being allowed to 'most agree' or 'most disagree' with one statement each, while they had to allocate 9 statements to the neutral column (i.e. 0). This has the effect of forcing relative judgments on those statements at the extreme and which then facilitate more subtle understandings of the subjectivities applied in each case (Ellis et al. 2006)[180]. The resulting array of statements is known as a 'Q-sort'.

During this process, which took on average between 30 to 50 minutes, the respondents had enough time to review the final sort, and enough opportunity to further probe the significance of the sort. In the end all boxes in the sorting sheet contained one card. As part of this process, participants were requested to self-identify their position on the wind energy project, that is either as being supporters,

[180] Ellis, Barry and Robinson (2006) *Many ways to say "no" – different ways to say "yes": Applying q-methodology to understand public acceptance of wind farm proposals*. http://www.qub.ac.uk/research-centres/REDOWelcome/filestore/Filetoupload,40560,en.pdf

objectors or undecided. This information was helpful for the interpretation of factors discussed later on.

### *3.3.5 Analysis and interpretation*

The Q-sorts were then processed using PQMethod software[181], initially separately according to stakeholder groups and then finally all together. By using statistical correlation analysis of the Q sorts, the Q methodology identified clusters of participants ('factors' or discourses) who sorted the statements in similar or dissimilar ways.

Next, this correlation matrix was subjected to factor analysis in order to identify the number of natural groupings of Q sorts by virtue of being similar or dissimilar to one another, that is, to examine how many basically different Q sorts are in evidence (Brown 1980; 1993). People with similar views on the topic will share the same factor, or discourse. A factor loading is determined for each Q sort, expressing the extent to which each Q sort is associated with each factor.

The resulting statistical analysis was then interpreted by the author using the distinctive ranking (or 'loading') of particular statements for each factor, plus the notes of the post-sort interviews. The result is a profile of each factor or discourse, characterised by allocating each discourse a distinctive name.

Steps followed in PQMethod software were:

(i) Ran a factor analysis using the Principal Components Analysis (PCA) method.

(ii) Factor rotation was done using Varimax which is an automatic rotation of factors that minimizes the statistical variation in the data.

(iii) A number of factors that best represent the full set of Q sorts where chosen.

(iv) The PQROT program was used to automatically indicate all the sorts' "loadings" that is the degree to which they correlate with each factor. Loadings can theoretically range from 1.000 (complete agreement) through 0 (no agreement) to -1.000 (complete disagreement).

(v) QAnalyse was used to generate the necessary z-scores, comparisons between factors and outputs.

(vi) All data was tabulated and presented in summary form in Chapter 4 below. Raw data is being presented in Annex 6.

(vii) Factor scores and difference scores were used to point out the salient insights that deserved attention in describing and interpreting that discourse.

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[181] PQMethod is a statistical program tailored to the requirements of Q studies. Release 2.11 for Windows. http://www.lrz.de/~schmolck/qmethod/index.htm

(viii) Finally, the explanations Q sorters gave during the follow-up interview were used in the interpretation and verification of the factors.

## 3.4 Benefits and disadvantages associated with the Q method

### *3.4.1 Benefits of Q methodology*

Q methodology is a unique research method that investigates associations, feelings, opinions and ideas that an individual may have about a topic. Brouwer (1999)[182] argues that one of the important advantages of Q is that questions pertaining to one and the same domain are not analysed as separate items of information but rather in their mutual coherence for the respondent: *"subjective feelings and opinions are most fruitfully studied when respondents are encouraged to order a good sample of items from one and the same domain of subjective interest (instead of just replying to single questions)*".

Another advantage includes the fact that since statements are collected interactively from the participant's opinion and organised by the participant himself or herself, it provides greater insight into what an individual feels about a topic (Schlinger 1969). Because of the active involvement of respondents, responses are highly reliable since missing data, social desirability, undecided responses, or response sets are "*virtually nonexistent*". Furthermore since the Q sorting is done in the presence of the researcher, he or she becomes more familiar with the participants' feelings about the topic (Dennis 1986).[183]

Another benefit is its cost-effectiveness since fewer participants are required than in most other research methods, which make it less expensive (Dennis 1986). The key strengths of Q-Methodology are identified by Dryzek & Berejikian (1993)[184] as being '*explicit, publicly constrained by statistical results, and replicable in its reconstructions and measurement of subjects' orientations, thus affording less interpretative latitude to the analyst*".

### *3.4.2 Limitations of Q methodology*

As a research methodology, Q methodology also has various limitations. Main limitations include the fact that the Q sorting process is time-consuming (McKeown & Thomas 1988)[185], the method needs to be explained extensively to participants, especially those with limited education since validity can be

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[182] Brouwer M. (1999) *Q is accounting for tastes.* Journal of Advertising Research 1999;39(2): Pages 35-39
[183] Dennis, KE. (1986) *Q methodology: relevance and application to nursing research*. Advances in Nursing Science.
[184] Dryzek John S. and Berejikian Jeffrey (1993) *Reconstructive Democratic Theory*. American Political Science Review, 87: 48-60.
[185] McKeown, B. & Thomas, D. (1988) *Q Methodology*. Newbury Park: Sage Publications.

compromised if the participant's lack of comprehension leads to misrepresentation (Dennis 1986)[186]. While the time-consuming process of Q sorting can be minimised by using focus groups wherein participants arrange statements at the same time, this can make the results less effective since it will be difficult to capture individual reasoning behind the choices made in such a setting (Denzine 1998).[187] Q methodology has also been criticised because of the relatively smaller samples and because results cannot be generalised to the rest of the population (Schlinger 1969).[188]

## 3.5 Similar studies on social acceptance of wind farm projects using the Q method

### *3.5.1 Social Perspective of Wind Development in West Texas*

A paper by Jepson et al (2010)[189] studied the place-based local or regional factors that structure and inform acceptance of wind energy by key actors who negotiate with wind-energy firms by using Q-Method in Nolan County, Texas, a major site of wind-power development.

Findings identified five significant clusters of opinion, two of which shared strong support for wind energy on the basis of perceived positive economic impacts. Three clusters of opinion were less favorable to wind energy based upon opposition to tax abatements, support of tax abatements, and concerns over negative socio-economic impacts of wind energy. Consensus emerged over the idea that positive views toward wind-energy development were unrelated to broader commitments to renewable energy. The support of key actors in favor of wind energy is contingent upon direct financial benefits from wind-energy royalties, political views on taxes, notions of landscape aesthetics, and sense of community.

### *3.5.2 Many ways to say "no" – different ways to say "yes"*

A paper by Ellis et al. (2006)[190] explores the nature of public acceptance of wind farms by investigating the discourses of support and objection to a proposed offshore scheme. It undertook a case study of an offshore wind farm proposal in Northern Ireland and applied Q-Methodology to identify the dominant discourse of support and objection. It argues that this "*provides new insights into*

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[186] Dennis, KE. (1986). *Q methodology: relevance and application to nursing research*. Advances in Nursing Science, April: 6-17.

[187] Denzine, G M. (1998) *The use of Q-Methodology in Student Affairs Research and Practice*. Student Affairs Online Journal [O]. Available at: http://www.sajo.org [retrieved online 18/07/2010].

[188] Schlinger, M.J. (1969) *Cues on Q-technique*. Journal of Advertising Research 9(3):53-60.

[189] Brannstrom, C, Wendy Jepson, and Nicole Persons (2010) *Social Perspectives of Wind-Energy Development in West Texas.* Annals of the Association of American Geographers. http://geography.tamu.edu/profile/sub/389

[190] Ellis, Barry and Robinson (2006) *Many ways to say "no" – different ways to say "yes": Applying q-methodology to understand public acceptance of wind farm proposals.* http://www.qub.ac.uk/research-centres/REDOWelcome/filestore/Filetoupload,40560,en.pdf

*the nature of wind farm conflicts and can deliver the prerequisite knowledge for developing more deliberative responses that may deliver a settlement of differences to such disputes.*" It also points to a number or recommendations for policy functions as an example of how this methodology can act as a potential bridge between positivist and post-positivist approaches to policy analysis.

They later wrote a related paper titled "*Renewable energy and discourses of objection: Towards deliberative policy-making*.[191] This paper provides a summary of some of the key elements in the nature of objection to wind power in the UK. In particular, it takes the informed decision that "*peoples' values, rather than their opinions or attitudes, are the driving force behind environmental behaviour*". As an alternative, it adopts Q-methodology, to show that commonalities exist between those opposing and supporting the project.. It also shows that "*by objecting to certain developments at particular locations, objectors can be acting out of environmental stewardship whilst also being sceptical of the technologies and policies behind the proposal*".

### *3.5.3 Changing institutional landscapes for implementing wind power*

Breukers and Wolsink (2009)[192] have written what is probably one of the most comprehensive papers on this topic titled "*A geographical comparison of institutional capacity building: The Netherlands, England and North Rhine-Westphalia*". In order to understand diverging achievements in wind power implementation, the Netherlands, England, and the German state of North Rhine Westphalia were compared in a multiple cases study by focusing on the conditions that affect the local planning contexts, since that is the level at which conflicts are eventually played out and where a lack of social acceptance become clear. This comparison used Q-methodology in order to clarify diverging achievements in terms of implementation, and indicated that local "*social acceptance was problematic in all three cases. Policymakers and wind project developers did not sufficiently recognise the nature of tensions at the local level, and the study suggested that facilitating local ownership and institutionalising participation in project planning can help arrive at a better recognition and involvement of the multiple interests (environmental, economic and landscape) that are relevant at the local level of implementation."*

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[191] Ellis, Barry and Robinson (2006) *Renewable energy and discourses of objection: Towards deliberative policy-making summary of main research findings.* Queen's University, Belfast http://www.qub.ac.uk/research-centres/REDOWelcome/filestore/Filetoupload,40561,en.pdf

[192] Breukers Sylvia. (2007) *Changing institutional landscapes for implementing wind power. A geographical comparison of institutional capacity building: The Netherlands, England and North Rhine-Westphalia.* Universiteit van Amsterdam.

# CHAPTER 4

# RESULTS

## 4.1: Introduction

The following chapter presents the results of the interviews that were analysed using PQMethod software. In the first part results (Section 4.2) are presented for all the interviews by comparing the first four significant factor arrays. In the latter part of the chapter (Section 4.3), the various stakeholders are analysed in terms of the most significant factor array in order to shed some light on the 'cognitive map'[193] of the different stakeholders and to discuss some of the salient points raised during the discussions.

Most existing research on the social acceptance of wind farms has focused on why people tend to object to them and on the various ways in which support is achieved; however the value-basis behind support has hardly been given much attention. Such an understanding, which is being offered by this dissertation, can provide some insights into the values that spur supporters or objectors in various ways over time, and is crucial in order to develop participative processes which allow for differences to be explored and discussed constructively.

It is important to note that the positions and opinions obtained from the various respondents do not necessarily reflect the position or the opinion of the organisations or stakeholder groups they represent or work for. Individual results are confidential and presented in aggregate for that particular stakeholder group in order to avoid any misrepresentation of the feedback received. The author takes responsibility for the validity, integrity, and objectivity of the entire study and any inferences or observations that are made.

In all 40 Q interviews were conducted across the 5 different stakeholder groups. Overall results indicate that 70% of the people interviewed were supporters of a potential wind farm project, while 17.5% where undecided, and 12.5% were against with most of these being affected locals (see table and figures below).

[193] Also referred to as a mental map which refers to a person's personal point-of-view or perception of their own world. Although this kind of subject matter would seem most likely to be studied by fields in the social sciences, this particular subject is most often studied by modern day geographers in order to determine from the public such subjective qualities as personal preference and practical uses of geography like driving directions.

| Ref. | Stakeholder group | Supporters | Objectors | Undecided | |
|---|---|---|---|---|---|
| A | Affected locals | 4 | 4 | 2 | **10** |
| G | Local authorities | 6 | 0 | 2 | **8** |
| N | Non-governmental organisations | 5 | 0 | 0 | **5** |
| R | Resource users | 7 | 1 | 1 | **9** |
| S | Scientific community | 6 | 0 | 2 | **8** |
| | | **28** | **5** | **7** | **40** |
| | | **70%** | **12.5%** | **17.5%** | |

***Table 3 - Percentage statistics of respondents who were supporters, objectors or undecided on the Bahrija wind plans***


***Figure 13 – Bar chart of Q-interview results for each stakeholder group. (See Table 3 above)***

## 4.2 Results for all the respondents

Using PQMethod software, natural groupings of Q sorts that are similar or dissimilar to one another were identified. Each of the resulting final factors presented below represents a group of perspectives that are mutually highly correlated. Respondents with similar views loaded on the same factor and the resulting factors indicate patterns of subjectivities (perspectives) and consensus found across the individuals. It is important to keep in mind that results presented under this section are specifically for the respondents overall and not specific to the stakeholders identified. PQMethod outputs and statistical workings for all the dataset are presented in Annex 7.

More than half of the total variance (54 %) within the data of our 40 respondent-variables was explained by the first four factors. Another four factors explain 14% of the variants, however due to word count limitations only the first four factors with Eigen values above 2.0 will be discussed. This implies that the other 32 % of the variance did involve patterns that could be subsumed under other factors and discourses but since they explain very low percentages of variance they were left out for this dissertation.

The first four factors chosen represent different discourses or perspectives of 40 stakeholders in the Bahrija wind energy plans and each factor has been named as follows:

1. the Egalitarians' perspective,
2. the Skeptics' perspective,
3. the Rationalists' perspective
4. the Pragmatists' perspective

This chapter will first concentrate on discussing how the four proponents' perspectives differ from each other, after which the comparison is extended to discuss briefly how each stakeholder perceives the Bahrija project from their point of view.

All the factor arrays for all respondents are presented in *Table 4* below sorted by Q statement reference no. The same factor arrays are sorted by Factor priority in the later sub- sections.

| Factor Q-Sort Values for Each Statement | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | Factor Arrays | | | | | | | | |
| No. | Statement | No. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1 | It is usually individuals, like landowners, that block the c | 1 | -1 | 0 | -1 | 1 | 1 | 3 | -1 | 2 |
| 2 | Although local opposition to wind projects is quite normal, | 2 | 3 | -2 | 0 | 2 | 0 | -2 | 3 | 1 |
| 3 | Public participation makes the decision making process more | 3 | -2 | -3 | 2 | 1 | -1 | -2 | 0 | -2 |
| 4 | Wind farms are noisy and visually unacceptable. | 4 | -3 | 4 | -4 | -5 | 1 | 2 | 4 | -1 |
| 5 | Incentives should be given to the wind industry (not the com | 5 | -2 | -1 | 1 | 1 | 0 | -3 | 2 | 1 |
| 6 | Most of the time, stakeholders are insufficiently involved d | 6 | 5 | 3 | -1 | -2 | -5 | 1 | 2 | 1 |
| 7 | It is not participation in decision making that is important | 7 | -2 | -3 | 2 | 2 | 1 | -1 | -1 | -2 |
| 8 | Opponents of wind farms are not willing to compromise so it | 8 | -4 | -3 | 0 | -4 | -1 | -2 | -2 | -3 |
| 9 | Government should give priority to the environment first and | 9 | -1 | 1 | -2 | -1 | 3 | 0 | 1 | -1 |
| 10 | The input from the public during a public participation proc | 10 | 1 | 0 | 1 | 3 | -3 | 1 | -4 | -1 |
| 11 | Local opposition to a wind farm is nothing more than defendi | 11 | 0 | -4 | 0 | 0 | 1 | 0 | 0 | 0 |
| 12 | Local power companies have no understanding of public partic | 12 | 1 | 2 | -1 | -3 | 0 | 1 | 1 | 2 |
| 13 | Decision making surrounding wind energy is an unpredictable | 13 | -2 | 0 | -5 | -2 | -2 | 0 | 0 | 3 |
| 14 | Residents do not want to pay for the nation's energy problem | 14 | 0 | 0 | 2 | 0 | -1 | 3 | -1 | 1 |
| 15 | Slow implementation of wind energy is usually a result of un | 15 | -3 | -2 | 0 | 2 | -2 | -4 | -1 | 3 |
| 16 | Decisions made with the approval of the local community are | 16 | 2 | 2 | -2 | 5 | 5 | -1 | -2 | 0 |
| 17 | It is useless to try and exert influence on the implementati | 17 | -1 | 2 | 0 | -3 | 0 | -1 | 1 | 0 |
| 18 | Before building wind farms all over the country, energy effi | 18 | 4 | 4 | 4 | 4 | 4 | 5 | 1 | -4 |
| 19 | Involving potential opponents to a wind farm in a timely man | 19 | 3 | 0 | -2 | 2 | 3 | -1 | 0 | -1 |
| 20 | People are not fooled by public meetings, environmental impa | 20 | -1 | 1 | -2 | 0 | -3 | 0 | 1 | 0 |
| 21 | The 12 wind turbines planned will look better than the 20 di | 21 | 2 | -1 | 2 | 3 | 1 | -3 | -2 | 5 |
| 22 | Government should be able to go ahead anyway when local auth | 22 | -1 | -4 | 1 | -1 | -3 | -4 | -3 | -1 |
| 23 | It is wrong to take decisions without giving neighbouring re | 23 | 0 | 1 | -2 | 0 | 2 | 3 | -5 | 1 |
| 24 | Growing energy demand and increasing environmental problems | 24 | 2 | 1 | 4 | 3 | 2 | 0 | 3 | 1 |
| 25 | Decisions on wind farms cannot be made by governments alone, | 25 | 3 | 2 | 0 | 3 | 3 | 3 | 2 | -4 |
| 26 | Every local authority would rather have wind farms built in | 26 | 2 | -1 | -1 | -1 | -2 | 2 | 2 | -2 |
| 27 | The compromise of the Bahrija landscape is a sacrifice that | 27 | 2 | -5 | -3 | 1 | -1 | 0 | 0 | -2 |
| 28 | The local community should be able to exert its influence in | 28 | -1 | 1 | -1 | 2 | 1 | 1 | -4 | -3 |
| 29 | Planning processes must be carried out rapidly in order to n | 29 | 0 | -2 | 3 | -1 | 0 | -1 | -1 | -3 |
| 30 | If good arguments exist for constructing a wind farm in a lo | 30 | 0 | -2 | 1 | 1 | -3 | -1 | 0 | 2 |
| 31 | Professional and scientific expertise ought to play a decisi | 31 | 4 | 0 | 5 | 4 | 0 | 0 | -2 | -2 |
| 32 | The problem with public input is that it is mainly based on | 32 | 1 | -2 | 3 | 0 | 3 | 1 | -1 | 4 |
| 33 | In the end, it is the cost of oil and electricity that will | 33 | 0 | 0 | 3 | 0 | -2 | -2 | 5 | 2 |
| 34 | Financial support geared towards solar energy is better than | 34 | -1 | 3 | 2 | -2 | 2 | 0 | 2 | -1 |
| 35 | Initiators of wind farm projects underestimate the value of | 35 | -2 | 3 | 0 | 0 | -1 | 2 | 1 | 2 |
| 36 | Everyone prefers that new infrastructure like wind farms are | 36 | 0 | 1 | 1 | 2 | -4 | 4 | 3 | 3 |
| 37 | We cannot do anything about climate change anyway, so it is | 37 | -5 | 0 | -3 | -4 | -4 | -3 | 0 | 0 |
| 38 | Local support is important for the successful implementation | 38 | 1 | 0 | -1 | 1 | 2 | -2 | -2 | 0 |
| 39 | It is mainly local community groups that try to thwart the c | 39 | 0 | -1 | -1 | -2 | -1 | 2 | 0 | 3 |
| 40 | Local opposition to wind farms is mostly caused by the lack | 40 | 3 | -3 | 1 | 0 | 2 | -1 | -3 | 3 |
| 41 | Wind farms should go in built up areas where people live or | 41 | -2 | 1 | 0 | -3 | 4 | 0 | -3 | -3 |
| 42 | Onshore wind energy plans should be abandoned in Malta. The | 42 | -3 | 1 | -4 | -2 | 2 | 4 | 2 | 1 |
| 43 | Offering financial participation in wind projects or green e | 43 | 2 | -1 | 3 | 1 | 0 | -1 | -1 | 2 |
| 44 | It is mainly environmental organisations that frustrate the | 44 | 0 | -2 | -3 | -2 | -2 | -3 | -3 | 0 |
| 45 | Local government does not seem capable of properly handling | 45 | 1 | 3 | 2 | -1 | -2 | -2 | 1 | 0 |
| 46 | Local interests are not taken into account at the national l | 46 | 1 | 2 | 1 | -1 | 1 | 1 | 3 | -1 |
| 47 | More citizen participation leads to even more opposition tow | 47 | -4 | -1 | 0 | -1 | 0 | -5 | -2 | -5 |
| 48 | Public participation determines whether conflicts are solved | 48 | 1 | -1 | -3 | 0 | 0 | 2 | 4 | -2 |
| 49 | The small amount of clean energy that wind farms generate do | 49 | -3 | 5 | -2 | -3 | -1 | 1 | 0 | 0 |
| Variance = 5.061 St. Dev. = 2.250 | | | | | | | | | | |
| | Eigenvalues | | 12.24 | 4.692 | 2.328 | 2.244 | 1.662 | 1.494 | 1.332 | 1.192 |
| | % expl.Var. | | 31 | 12 | 6 | 6 | 4 | 4 | 3 | 3 |
| | Cum% expl.Var. | | 31 | 42 | 48 | 54 | 58 | 62 | 65 | 68 |

***Table 4 - Factor arrays, percentage explanation of variances for all respondents.***

For ease of comparison all four factors are being presented side by side in the following table but the full statements have been truncated due to presentation limitations; however each of the factors is presented in its entirety and discussed in detail, along with 'cognitive maps' of the discourse, in the following sub-sections.

| Factor 1 - The Egalitarians | | | Factor 2 -The Skeptics | | | Factor 3 - The Rationalists | | | Factor 4 - The Pragmatists | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Expl. of variance | 31% | | Expl. of variance | 12% | | Expl. of variance | 6% | | Expl. of variance | 6% | |
| Eigen value | 12.2 | | Eigen value | 4.69 | | Eigen value | 2.33 | | Eigen value | 2.24 | |
| **Statement** | **Ref.** | **Z-scores** | **Statement** | **Ref.** | **Z-scores** | **Statement** | **Ref.** | **Z-scores** | **Statement** | **Ref.** | **Z-scores** |
| Most of the time, stakeholders are insufficiently | 6 | 1.924 | The small amount of clean energy that wind farr | 49 | 2.022 | Professional and scientific expertise ought to pla | 31 | 2.519 | Decisions made with the approval of the local co | 16 | 2.021 |
| Professional and scientific expertise ought to pla | 31 | 1.786 | Before building wind farms all over the country, | 18 | 1.756 | Before building wind farms all over the country, | 18 | 2.310 | Professional and scientific expertise ought to pla | 31 | 1.757 |
| Before building wind farms all over the country, | 18 | 1.738 | Wind farms are noisy and visually unacceptable | 4 | 1.699 | Growing energy demand and increasing environ | 24 | 1.888 | Before building wind farms all over the country, | 18 | 1.592 |
| Local opposition to wind farms is mostly caused | 40 | 1.637 | Local government does not seem capable of proj | 45 | 1.171 | In the end, it is the cost of oil and electricity that | 33 | 1.455 | Growing energy demand and increasing environ | 24 | 1.557 |
| Decisions on wind farms cannot be made by gov | 25 | 1.427 | Most of the time, stakeholders are insufficiently | 6 | 1.103 | Offering financial participation in wind projects | 43 | 1.067 | Decisions on wind farms cannot be made by gov | 25 | 1.492 |
| Involving potential opponents to a wind farm in | 19 | 1.392 | Financial support geared towards solar energy is | 34 | 1.029 | The problem with public input is that it is mainl | 32 | 1.032 | The input from the public during a public partici | 10 | 1.369 |
| Although local opposition to wind projects is qu | 2 | 1.115 | Initiators of wind farm projects underestimate th | 35 | 1.012 | Planning processes must be carried out rapidly i | 29 | 0.997 | The 12 wind turbines planned will look better th | 21 | 1.334 |
| Decisions made with the approval of the local co | 16 | 0.933 | It is useless to try and exert influence on the imp | 17 | 1.010 | It is not participation in decision making that is | 7 | 0.823 | Involving potential opponents to a wind farm in | 19 | 1.273 |
| Offering financial participation in wind projects | 43 | 0.926 | Decisions on wind farms cannot be made by gov | 25 | 0.979 | Public participation makes the decision making | 3 | 0.754 | Slow implementation of wind energy is usually a | 15 | 1.111 |
| The 12 wind turbines planned will look better th | 21 | 0.919 | Local power companies have no understanding o | 12 | 0.922 | The 12 wind turbines planned will look better th | 21 | 0.752 | Although local opposition to wind projects is qu | 2 | 0.971 |
| Growing energy demand and increasing environ | 24 | 0.822 | Decisions made with the approval of the local co | 16 | 0.851 | Residents do not want to pay for the nation's ene | 14 | 0.700 | Everyone prefers that new infrastructure like wi | 36 | 0.966 |
| Every local authority would rather have wind fa | 26 | 0.716 | Local interests are not taken into account at the | 46 | 0.851 | Financial support geared towards solar energy is | 34 | 0.699 | The local community should be able to exert its | 28 | 0.594 |
| The compromise of the Bahrija landscape is a sa | 27 | 0.653 | It is wrong to take decisions without giving neig | 23 | 0.834 | Local government does not seem capable of proj | 45 | 0.610 | It is not participation in decision making that is | 7 | 0.537 |
| Local government does not seem capable of proj | 45 | 0.570 | Everyone prefers that new infrastructure like wi | 36 | 0.834 | If good arguments exist for constructing a wind f | 30 | 0.543 | If good arguments exist for constructing a wind f | 30 | 0.534 |
| Local interests are not taken into account at the | 46 | 0.529 | Growing energy demand and increasing environ | 24 | 0.760 | The input from the public during a public partici | 10 | 0.543 | Offering financial participation in wind projects | 43 | 0.469 |
| Public participation determines whether conflict | 48 | 0.474 | Onshore wind energy plans should be abandone | 42 | 0.753 | Local interests are not taken into account at the | 46 | 0.401 | The compromise of the Bahrija landscape is a sa | 27 | 0.452 |
| Local support is important for the successful im | 38 | 0.436 | The local community should be able to exert its | 28 | 0.637 | Incentives should be given to the wind industry | 5 | 0.334 | Local support is important for the successful im | 38 | 0.429 |
| The problem with public input is that it is mainl | 32 | 0.304 | People are not fooled by public meetings, enviro | 20 | 0.504 | Local opposition to wind farms is mostly caused | 40 | 0.245 | It is usually individuals, like landowners, that b | 1 | 0.231 |
| Local power companies have no understanding o | 12 | 0.291 | Wind farms should go in built up areas where pe | 41 | 0.427 | Government should be able to go ahead anyway | 22 | 0.177 | Public participation makes the decision making | 3 | 0.22 |
| The input from the public during a public partici | 10 | 0.234 | Government should give priority to the environr | 9 | 0.361 | Everyone prefers that new infrastructure like wi | 36 | 0.158 | Incentives should be given to the wind industry | 5 | 0.185 |
| In the end, it is the cost of oil and electricity that | 33 | 0.198 | Residents do not want to pay for the nation's ene | 14 | 0.345 | Wind farms should go in built up areas where pe | 41 | 0.122 | Local opposition to a wind farm is nothing more | 11 | 0.156 |
| It is wrong to take decisions without giving neig | 23 | 0.121 | Local support is important for the successful im | 38 | 0.181 | Although local opposition to wind projects is qu | 2 | 0.088 | It is wrong to take decisions without giving neig | 23 | 0.145 |
| If good arguments exist for constructing a wind f | 30 | 0.073 | The input from the public during a public partici | 10 | 0.164 | More citizen participation leads to even more op | 47 | 0.086 | People are not fooled by public meetings, enviro | 20 | 0.037 |
| It is mainly local community groups that try to t | 39 | 0.045 | In the end, it is the cost of oil and electricity that | 33 | 0.093 | Opponents of wind farms are not willing to com | 8 | 0.052 | Residents do not want to pay for the nation's ene | 14 | 0 |
| Everyone prefers that new infrastructure like wi | 36 | 0.039 | Professional and scientific expertise ought to pla | 31 | 0.000 | Slow implementation of wind energy is usually a | 15 | 0.018 | The problem with public input is that it is mainl | 32 | -0.09 |
| Planning processes must be carried out rapidly i | 29 | -0.133 | Involving potential opponents to a wind farm in | 19 | 0.000 | Local opposition to a wind farm is nothing more | 11 | 0.001 | Local opposition to wind farms is mostly caused | 40 | -0.127 |
| Local opposition to a wind farm is nothing more | 11 | -0.173 | We cannot do anything about climate change an | 37 | -0.074 | Decisions on wind farms cannot be made by gov | 25 | -0.088 | In the end, it is the cost of oil and electricity that | 33 | -0.198 |
| Residents do not want to pay for the nation's ene | 14 | -0.175 | It is usually individuals, like landowners, that b | 1 | -0.09 | Initiators of wind farm projects underestimate th | 35 | -0.176 | Initiators of wind farm projects underestimate th | 35 | -0.212 |
| It is mainly environmental organisations that fru | 44 | -0.212 | Decision making surrounding wind energy is an | 13 | -0.107 | It is useless to try and exert influence on the imp | 17 | -0.244 | Public participation determines whether conflict | 48 | -0.238 |
| It is usually individuals, like landowners, that b | 1 | -0.288 | It is mainly local community groups that try to t | 39 | -0.161 | Every local authority would rather have wind fa | 26 | -0.333 | Government should give priority to the environr | 9 | -0.259 |
| Financial support geared towards solar energy is | 34 | -0.299 | The 12 wind turbines planned will look better th | 21 | -0.314 | Local support is important for the successful im | 38 | -0.333 | Every local authority would rather have wind fa | 26 | -0.264 |
| Government should give priority to the environr | 9 | -0.305 | Offering financial participation in wind projects | 43 | -0.432 | Local power companies have no understanding o | 12 | -0.366 | Local government does not seem capable of proj | 45 | -0.318 |
| It is useless to try and exert influence on the imp | 17 | -0.362 | Incentives should be given to the wind industry | 5 | -0.596 | Most of the time, stakeholders are insufficiently | 6 | -0.370 | More citizen participation leads to even more op | 47 | -0.367 |
| People are not fooled by public meetings, enviro | 20 | -0.388 | Public participation determines whether conflict | 48 | -0.668 | The local community should be able to exert its | 28 | -0.420 | Government should give priority to the environr | 22 | -0.429 |
| The local community should be able to exert its | 28 | -0.409 | More citizen participation leads to even more op | 47 | -0.755 | It is mainly local community groups that try to t | 39 | -0.455 | Local interests are not taken into account at the | 46 | -0.44 |
| Government should be able to go ahead anyway | 22 | -0.557 | Every local authority would rather have wind fa | 26 | -0.758 | It is usually individuals, like landowners, that b | 1 | -0.456 | Planning processes must be carried out rapidly i | 29 | -0.575 |
| Initiators of wind farm projects underestimate th | 35 | -0.569 | It is mainly environmental organisations that fru | 44 | -0.760 | Involving potential opponents to a wind farm in | 19 | -0.490 | It is mainly local community groups that try to t | 39 | -0.579 |
| Wind farms should go in built up areas where pe | 41 | -0.639 | Planning processes must be carried out rapidly i | 29 | -0.760 | Decisions made with the approval of the local co | 16 | -0.507 | It is mainly environmental organisations that fru | 44 | -0.73 |
| Decision making surrounding wind energy is an | 13 | -0.669 | The problem with public input is that it is mainl | 32 | -0.919 | People are not fooled by public meetings, enviro | 20 | -0.509 | Onshore wind energy plans should be abandone | 42 | -0.761 |
| It is not participation in decision making that is | 7 | -0.914 | Although local opposition to wind projects is qu | 2 | -0.922 | It is wrong to take decisions without giving neig | 23 | -0.542 | Decision making surrounding wind energy is an | 13 | -0.815 |
| Incentives should be given to the wind industry | 5 | -1.012 | Slow implementation of wind energy is usually a | 15 | -0.925 | Government should give priority to the environr | 9 | -0.544 | Financial support geared towards solar energy is | 34 | -0.947 |
| Public participation makes the decision making | 3 | -1.022 | If good arguments exist for constructing a wind f | 30 | -1.010 | The small amount of clean energy that wind farr | 49 | -0.855 | Most of the time, stakeholders are insufficiently | 6 | -1.061 |
| Onshore wind energy plans should be abandone | 42 | -1.153 | Local opposition to wind farms is mostly caused | 40 | -1.086 | Public participation determines whether conflict | 48 | -1.277 | Local power companies have no understanding o | 12 | -1.243 |
| Wind farms are noisy and visually unacceptable | 4 | -1.178 | Opponents of wind farms are not willing to com | 8 | -1.267 | The compromise of the Bahrija landscape is a sa | 27 | -1.364 | It is useless to try and exert influence on the imp | 17 | -1.244 |
| Slow implementation of wind energy is usually a | 15 | -1.211 | It is not participation in decision making that is | 7 | -1.445 | It is mainly environmental organisations that fru | 44 | -1.611 | The small amount of clean energy that wind farr | 49 | -1.297 |
| The small amount of clean energy that wind farr | 49 | -1.478 | Public participation makes the decision making | 3 | -1.521 | We cannot do anything about climate change an | 37 | -1.644 | Wind farms should go in built up areas where pe | 41 | -1.492 |
| Opponents of wind farms are not willing to com | 8 | -1.578 | Local opposition to a wind farm is nothing more | 11 | -1.606 | Onshore wind energy plans should be abandone | 42 | -1.820 | Opponents of wind farms are not willing to com | 8 | -1.617 |
| More citizen participation leads to even more op | 47 | -2.053 | Government should be able to go ahead anyway | 22 | -1.918 | Wind farms are noisy and visually unacceptable | 4 | -1.907 | We cannot do anything about climate change an | 37 | -1.949 |
| We cannot do anything about climate change an | 37 | -2.526 | The compromise of the Bahrija landscape is a sa | 27 | -2.202 | Decision making surrounding wind energy is an | 13 | -2.065 | Wind farms are noisy and visually unacceptable | 4 | -2.178 |

***Table 5 - Comparison of all four factors for all Q interviews combined***

### *4.2.1 Factor Array 1 – The Egalitarians' perspective*

The first factor, referred to here as the **Egalitarians' discourse** or perspective**,** explains 31 % of the variance and is significantly higher than all the other factors. The normalised factor scores for Factor 1 are presented in the table below.

| **Factor 1 - The Egalitarians** | | |
|---|---|---|
| Expl. of variance | 31% | |
| Eigen value | 12.2 | |
| **Statement** | **Ref.** | **Z-scores** |
| | | |
| Most of the time, stakeholders are insufficiently involved during the first phases of major projects. | 6 | 1.924 |
| Professional and scientific expertise ought to play a decisive role in decision making on such infrastructure. | 31 | 1.786 |
| Before building wind farms all over the country, energy efficiency options should be investigated more thoroughly. | 18 | 1.738 |
| Local opposition to wind farms is mostly caused by the lack of information given to the public. | 40 | 1.637 |
| Decisions on wind farms cannot be made by governments alone, but they must result from negotiations with all involved parties. | 25 | 1.427 |
| Involving potential opponents to a wind farm in a timely manner will increase its chances of getting built. | 19 | 1.392 |
| Although local opposition to wind projects is quite normal, the public benefit of wind energy is more important. | 2 | 1.115 |
| Decisions made with the approval of the local community are generally also better decisions. | 16 | 0.933 |
| Offering financial participation in wind projects or green energy to nearby residents is a good way to reduce opposition. | 43 | 0.926 |
| The 12 wind turbines planned will look better than the 20 disused communication towers already in the planned area. | 21 | 0.919 |
| Growing energy demand and increasing environmental problems cannot be solved by government alone. | 24 | 0.822 |
| Every local authority would rather have wind farms built in another location. | 26 | 0.716 |
| The compromise of the Bahrija landscape is a sacrifice that needs to be made in order to live more sustainable lives. | 27 | 0.653 |
| Local government does not seem capable of properly handling the public participation necessary for wind energy. | 45 | 0.570 |
| Local interests are not taken into account at the national level, so it is understandable that there is local resistance to the wind farm plans. | 46 | 0.529 |
| Public participation determines whether conflicts are solved and a wind farm is actually built. | 48 | 0.474 |
| Local support is important for the successful implementation of wind energy. | 38 | 0.436 |
| The problem with public input is that it is mainly based on emotions rather than rational thought. | 32 | 0.304 |
| Local power companies have no understanding of public participation and are unaccustomed to dealing with stakeholders. | 12 | 0.291 |
| The input from the public during a public participation process often shows a lack of expertise. | 10 | 0.234 |
| In the end, it is the cost of oil and electricity that will determine the success or failure of wind energy, not the public. | 33 | 0.198 |
| It is wrong to take decisions without giving neighbouring residents a decisive influence. | 23 | 0.121 |
| If good arguments exist for constructing a wind farm in a local community instead of another, than that community should agree to this for the public good. | 30 | 0.073 |
| It is mainly local community groups that try to thwart the construction of wind farms. | 39 | 0.045 |
| Everyone prefers that new infrastructure like wind farms are not built too close to their homes. | 36 | 0.039 |
| Planning processes must be carried out rapidly in order to not scare away investors and meet the EU 2020 target. | 29 | -0.133 |
| Local opposition to a wind farm is nothing more than defending one's self-interest. | 11 | -0.173 |
| Residents do not want to pay for the nation's energy problems by accepting a wind farm in their area. | 14 | -0.175 |
| It is mainly environmental organisations that frustrate the construction of wind turbines. | 44 | -0.212 |
| It is usually individuals, like landowners, that block the construction of wind turbines. | 1 | -0.288 |
| Financial support geared towards solar energy is better than financial support for investments in wind energy. | 34 | -0.299 |
| Government should give priority to the environment first and to energy supply second. | 9 | -0.305 |
| It is useless to try and exert influence on the implementation of wind energy in Malta because the public is ignored. | 17 | -0.362 |
| People are not fooled by public meetings, environmental impact studies, surveys or superficial public consultations. | 20 | -0.388 |
| The local community should be able to exert its influence in every phase and on all aspects of the decision-making process. | 28 | -0.409 |
| Government should be able to go ahead anyway when local authorities fail to co-operate with the construction of a wind farm. | 22 | -0.557 |
| Initiators of wind farm projects underestimate the value of the landscape when choosing locations. | 35 | -0.569 |
| Wind farms should go in built up areas where people live or places like Hal Far, not rural areas like Bahrija. | 41 | -0.639 |
| Decision making surrounding wind energy is an unpredictable process that nobody can control. | 13 | -0.669 |
| It is not participation in decision making that is important for wind projects, but the compensation for the disturbance they cause. | 7 | -0.914 |
| Incentives should be given to the wind industry (not the community) since they determine the successful introduction of renewables. | 5 | -1.012 |
| Public participation makes the decision making process more complicated and lengthy than necessary. | 3 | -1.022 |
| Onshore wind energy plans should be abandoned in Malta. The future lies in offshore wind. | 42 | -1.153 |
| Wind farms are noisy and visually unacceptable. | 4 | -1.178 |
| Slow implementation of wind energy is usually a result of unnecessarily arduous rounds of public participation. | 15 | -1.211 |
| The small amount of clean energy that wind farms generate does not compensate for the negative impact they have on the landscape. | 49 | -1.478 |
| Opponents of wind farms are not willing to compromise so it is pointless to involve them in the decision-making process. | 8 | -1.578 |
| More citizen participation leads to even more opposition toward wind farms. | 47 | -2.053 |
| We cannot do anything about climate change anyway, so it is pointless to build wind farms. | 37 | -2.526 |

***Table 6 - Normalised Factor Scores for Factor 1, the Egalitarians***

| Distinguishing Statements for Factor 1 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| (P <.05 ; Asterisk (*) Indicates Significance at P <.01) | | | | | | | | | |
| Both the Factor Q-Sort Value and the Normalized Score are Shown. | | | | | | | | | |
| **Factors** | | **1** | | **2** | | **3** | | **4** | |
| **Statement** | **No.** | **RNK** | **SCORE** | **RNK** | **SCORE** | **RNK** | **SCORE** | **RNK** | **SCORE** |
| Most of the time, stakeholders are insufficiently involved during the first phases of major projects. | **6** | 5 | 1.92 | 3 | 1.1 | -1 | -0.37 | -2 | -1.06 |

This discourse is characterised by its high level of concern with public participation issues (6) and believes in a cautious approach based on scientific input (31) that is respectful of social needs/concerns. It also rates information campaign issues (40) much higher than the other discourses, believing strongly that one of the most powerful things you can do is involve people adequately and in a timely way to get them on board (19). It is concerned about climate change and accepts that we all need to do something about it (25) and if good arguments are made for the location of a wind farm in a particular community, then the compromise of the Bahrija landscape is worthwhile for the public good (27). In fact, it appears to put social and participative issues above almost every other issue (12, 6) and suggests a more egalitarian approach to engaging in Malta's first energy plans.

The discourse is clearly an advocate for the concept of public participation, while offering support for compensation or financial participation to those that are directly affected by such a development (43). Indeed, the discourse does not seem to be too concerned about the potential impacts of such a farm like noise or its visual impact (4) but is almost cognisant of the fact that the turbines will look better than the disused antennas in the area (21). It also seems to be disinterested in the debates related to whether the public's arguments are based on emotion or whether they are just defending their own interests, but rather seems to be primarily interested in the wider and correct application of the public involvement process (19, 2, 16). It also suggests a high level of criticism in the way local authorities tend to approach public participation, and indicates that perhaps public engagement as a first and obvious step has been largely neglected (6, 40, 19).

**ALL GROUPS' PERCEPTIONS ON THE BAHRIJA WIND FARM**

**Factor 1** Explains **31%** of variance. **Eigen values** 12.2377

| OPINIONS I DISAGREE WITH MOST | | | | | NEUTRAL | | | | | OPINIONS I AGREE WITH MOST |
|---|---|---|---|---|---|---|---|---|---|---|
| **-5** | **-4** | **-3** | **-2** | **-1** | **0** | **1+** | **2+** | **3+** | **4+** | **5+** |
| 37 We cannot do anything about climate change anyway, so it is pointless to build wind farms. | 8 Opponents of wind farms are not willing to compromise so it is pointless to involve them in the decision-making process. | 4 Wind farms are noisy and visually unacceptable. | 3 Public participation makes the decision making process more complicated and lengthy than necessary. | 1 It is usually individuals, like landowners, that block the construction of wind turbines. | 11 Local opposition to a wind farm is nothing more than defending one's self-interest. | 10 The input from the public during a public participation process often shows a lack of expertise. | 16 Decisions made with the approval of the local community are generally also better decisions. | 2 Although local opposition to wind projects is quite normal, the public benefit of wind energy is more important. | 18 Before building wind farms all over the country, energy efficiency options should be investigated more thoroughly. | 6 Most of the time, stakeholders are insufficiently involved during the first phases of major projects. |
| | 47 More citizen participation leads to even more opposition toward wind farms. | 15 Slow implementation of wind energy is usually a result of unnecessarily arduous rounds of public participation. | 5 Incentives should be given to the wind industry (not the community) since they determine the successful introduction of renewables. | 9 Government should give priority to the environment first and to energy supply second. | 14 Residents do not want to pay for the nation's energy problems by accepting a wind farm in their area. | 12 Local power companies have no understanding of public participation and are unaccustomed to dealing with stakeholders. | 21 The 12 wind turbines planned will look better than the 20 disused communication towers already in the planned area. | 19 Involving potential opponents to a wind farm in a timely manner will increase its chances of getting built. | 31 Professional and scientific expertise ought to play a decisive role in decision making on such infrastructure. | |
| | | 42 Onshore wind energy plans should be abandoned in Malta. The future lies in offshore wind. | 7 It is not participation in decision making that is important for wind projects, but the compensation for the disturbance they cause. | 17 It is useless to try and exert influence on the implementation of wind energy in Malta because the public is ignored. | 23 It is wrong to take decisions without giving neighbouring residents a decisive influence. | 32 The problem with public input is that it is mainly based on emotions rather than rational thought. | 24 Growing energy demand and increasing environmental problems cannot be solved by government alone. | 25 Decisions on wind farms cannot be made by governments alone, but they must result from negotiations with all involved parties. | | |
| | | 49 The small amount of clean energy that wind farms generate does not compensate for the negative impact they have on the landscape. | 13 Decision making surrounding wind energy is an unpredictable process that nobody can control. | 20 People are not fooled by public meetings, environmental impact studies, surveys or superficial public consultations. | 29 Planning processes must be carried out rapidly in order to not scare away investors and meet the EU 2020 target. | 38 Local support is important for the successful implementation of wind energy. | 26 Every local authority would rather have wind farms built in another location. | 40 Local opposition to wind farms is mostly caused by the lack of information given to the public. | | |
| | | | 35 Initiators of wind farm projects underestimate the value of the landscape when choosing locations. | 22 Government should be able to go ahead anyway when local authorities fail to co-operate with the construction of a wind farm. | 30 If good arguments exist for constructing a wind farm in a local community instead of another, than that community should agree to this for the public good. | 45 Local government does not seem capable of properly handling the public participation necessary for wind energy. | 27 The compromise of the Bahrija landscape is a sacrifice that needs to be made in order to live more sustainable lives. | | | |
| | | | 41 Wind farms should go in built up areas where people live or places like Hal Far, not rural areas like Bahrija. | 28 The local community should be able to exert its influence in every phase and on all aspects of the decision-making process. | 33 In the end, it is the cost of oil and electricity that will determine the success or failure of wind energy, not the public. | 46 Local interests are not taken into account at the national level, so it is understandable that there is local resistance to the wind farm plans. | 43 Offering financial participation in wind projects or green energy to nearby residents is a good way to reduce opposition. | | | |
| | | | | 34 Financial support geared towards solar energy is better than financial support for investments in wind energy. | 36 Everyone prefers that new infrastructure like wind farms are not built too close to their homes. | 48 Public participation determines whether conflicts are solved and a wind farm is actually built. | | | | |
| | | | | | 39 It is mainly local community groups that try to thwart the construction of wind farms. | | | | | |
| | | | | | 44 It is mainly environmental organisations that frustrate the construction of wind turbines. | | | | | |

***Figure 14 - Cognitive map for Factor 1***

### *4.2.2 Factor Array 2 – The Skeptics' perspective*

The second factor, referred to here as the **Skeptics' discourse** or perspective, explains 12 % of the variance. The normalised factor scores for Factor 2 are presented in the table below.

| **Factor 2 -The Skeptics** | | |
|---|---|---|
| Expl. of variance | 12% | |
| Eigen value | 4.69 | |
| **Statement** | **Ref.** | **Z-scores** |
| | | |
| The small amount of clean energy that wind farms generate does not compensate for the negative impact they have on the landscape. | 49 | 2.022 |
| Before building wind farms all over the country, energy efficiency options should be investigated more thoroughly. | 18 | 1.756 |
| Wind farms are noisy and visually unacceptable. | 4 | 1.699 |
| Local government does not seem capable of properly handling the public participation necessary for wind energy. | 45 | 1.171 |
| Most of the time, stakeholders are insufficiently involved during the first phases of major projects. | 6 | 1.103 |
| Financial support geared towards solar energy is better than financial support for investments in wind energy. | 34 | 1.029 |
| Initiators of wind farm projects underestimate the value of the landscape when choosing locations. | 35 | 1.012 |
| It is useless to try and exert influence on the implementation of wind energy in Malta because the public is ignored. | 17 | 1.010 |
| Decisions on wind farms cannot be made by governments alone, but they must result from negotiations with all involved parties. | 25 | 0.979 |
| Local power companies have no understanding of public participation and are unaccustomed to dealing with stakeholders. | 12 | 0.922 |
| Decisions made with the approval of the local community are generally also better decisions. | 16 | 0.851 |
| Local interests are not taken into account at the national level, so it is understandable that there is local resistance to the wind farm plans. | 46 | 0.851 |
| It is wrong to take decisions without giving neighbouring residents a decisive influence. | 23 | 0.834 |
| Everyone prefers that new infrastructure like wind farms are not built too close to their homes. | 36 | 0.834 |
| Growing energy demand and increasing environmental problems cannot be solved by government alone. | 24 | 0.760 |
| Onshore wind energy plans should be abandoned in Malta. The future lies in offshore wind. | 42 | 0.753 |
| The local community should be able to exert its influence in every phase and on all aspects of the decision-making process. | 28 | 0.637 |
| People are not fooled by public meetings, environmental impact studies, surveys or superficial public consultations. | 20 | 0.504 |
| Wind farms should go in built up areas where people live or places like Hal Far, not rural areas like Bahrija. | 41 | 0.427 |
| Government should give priority to the environment first and to energy supply second. | 9 | 0.361 |
| Residents do not want to pay for the nation's energy problems by accepting a wind farm in their area. | 14 | 0.345 |
| Local support is important for the successful implementation of wind energy. | 38 | 0.181 |
| The input from the public during a public participation process often shows a lack of expertise. | 10 | 0.164 |
| In the end, it is the cost of oil and electricity that will determine the success or failure of wind energy, not the public. | 33 | 0.093 |
| Professional and scientific expertise ought to play a decisive role in decision making on such infrastructure. | 31 | 0.000 |
| Involving potential opponents to a wind farm in a timely manner will increase its chances of getting built. | 19 | 0.000 |
| We cannot do anything about climate change anyway, so it is pointless to build wind farms. | 37 | -0.074 |
| It is usually individuals, like landowners, that block the construction of wind turbines. | 1 | -0.09 |
| Decision making surrounding wind energy is an unpredictable process that nobody can control. | 13 | -0.107 |
| It is mainly local community groups that try to thwart the construction of wind farms. | 39 | -0.161 |
| The 12 wind turbines planned will look better than the 20 disused communication towers already in the planned area. | 21 | -0.314 |
| Offering financial participation in wind projects or green energy to nearby residents is a good way to reduce opposition. | 43 | -0.432 |
| Incentives should be given to the wind industry (not the community) since they determine the successful introduction of renewables. | 5 | -0.596 |
| Public participation determines whether conflicts are solved and a wind farm is actually built. | 48 | -0.668 |
| More citizen participation leads to even more opposition toward wind farms. | 47 | -0.755 |
| Every local authority would rather have wind farms built in another location. | 26 | -0.758 |
| It is mainly environmental organisations that frustrate the construction of wind turbines. | 44 | -0.760 |
| Planning processes must be carried out rapidly in order to not scare away investors and meet the EU 2020 target. | 29 | -0.760 |
| The problem with public input is that it is mainly based on emotions rather than rational thought. | 32 | -0.919 |
| Although local opposition to wind projects is quite normal, the public benefit of wind energy is more important. | 2 | -0.922 |
| Slow implementation of wind energy is usually a result of unnecessarily arduous rounds of public participation. | 15 | -0.925 |
| If good arguments exist for constructing a wind farm in a local community instead of another, than that community should agree to this for the public good. | 30 | -1.010 |
| Local opposition to wind farms is mostly caused by the lack of information given to the public. | 40 | -1.086 |
| Opponents of wind farms are not willing to compromise so it is pointless to involve them in the decision-making process. | 8 | -1.267 |
| It is not participation in decision making that is important for wind projects, but the compensation for the disturbance they cause. | 7 | -1.445 |
| Public participation makes the decision making process more complicated and lengthy than necessary. | 3 | -1.521 |
| Local opposition to a wind farm is nothing more than defending one's self-interest. | 11 | -1.606 |
| Government should be able to go ahead anyway when local authorities fail to co-operate with the construction of a wind farm. | 22 | -1.918 |
| The compromise of the Bahrija landscape is a sacrifice that needs to be made in order to live more sustainable lives. | 27 | -2.202 |

***Table 7 - Normalised Factor Scores for factor 2, the Skeptics***

**Distinguishing Statements for Factor 2**

(P <.05 ; Asterisk (*) Indicates Significance at P <.01)
Both the Factor Q-Sort Value and the Normalized Score are Shown.

| Factors | | 1 | | 2 | | 3 | | 4 | |
|---|---|---|---|---|---|---|---|---|---|
| **Statement** | **No.** | **RNK** | **SCORE** | **RNK** | **SCORE** | **RNK** | **SCORE** | **RNK** | **SCORE** |
| The small amount of clean energy that wind farms generate does not compensate for the negative impact they have on the landscape. | **49** | -3 | -1.48 | 5 | 2.02 | -2 | -0.85 | -3 | -1.3 |
| Local opposition to wind farms is mostly caused by the lack of information given to the public. | **11** | 0 | -0.17 | -4 | -1.61 | 0 | 0 | 0 | 0.16 |
| The compromise of the Bahrija landscape is a sacrifice that needs to be made in order to live more sustainable lives. | **27** | 2 | 0.65 | -5 | -2.2 | -3 | -1.36 | 1 | 0.45 |

This discourse indicates clearly a major concern with the economic feasibility and the cost benefit of such a wind farm (49) without any direct fiscal or financial incentives from the government, and questions whether it is worth the Bahrija sacrifice in view of the 'little' electricity that will be produced (27). It also places a lot of emphasis on ensuring efficiency of wind energy (18) and provides corresponding support for more investment in solar energy instead of wind (34). This discourse seems to indicate a high element of skepticism and offers harsh criticism towards the Bahrija wind energy plans. It suggests concerns over the potential impacts on the Bahrija area (49,4), and is highly critical of the Government's approach towards public participation (45, 6) and information campaign (11). It also gives very little weight to scientific expertise (31) which was rated highly in other competing discourses. The above are possibly due to a rather traditional outlook towards local needs, and a traditionally strong level of skepticism over the intention of government authorities.

This factor expresses very different views from the other discourses, and hardly shares the awareness and obligations to do something about climate change (37, 14, 30) as in other discourses, is skeptical about the economic implications of wind farms (49) and also disagrees strongly that opposition could be due to defending one's own self-interest. It is also the only supporter discourse that thinks wind farms are noisy and visually unacceptable (4), and does not think it appropriate to trade the Bahrija area for a wind farm (27).

Like other objector discourses, this discourse views government with mistrust on whether its concerns are actually considered (17) and harbors a belief that local opinion has been sidelined in many ways (45, 6, 17).

**ALL GROUPS' PERCEPTIONS ON THE BAHRIJA WIND FARM**

**Factor 2** Explains **12%** of variance. **Eigen values** 4.6916

| OPINIONS I DISAGREE WITH MOST | | | | | NEUTRAL | | | | | OPINIONS I AGREE WITH MOST |
|---|---|---|---|---|---|---|---|---|---|---|
| **-5** | **-4** | **-3** | **-2** | **-1** | **0** | **1+** | **2+** | **3+** | **4+** | **5+** |
| 27 The compromise of the Bahrija landscape is a sacrifice that needs to be made in order to live more sustainable lives. | 22 Government should be able to go ahead anyway when local authorities fail to co-operate with the construction of a wind farm. | 8 Opponents of wind farms are not willing to compromise so it is pointless to involve them in the decision-making process. | 15 Slow implementation of wind energy is usually a result of unnecessarily arduous rounds of public participation. | 47 More citizen participation leads to even more opposition toward wind farms. | 37 We cannot do anything about climate change anyway, so it is pointless to build wind farms. | 42 Onshore wind energy plans should be abandoned in Malta. The future lies in offshore wind. | 24 Growing energy demand and increasing environmental problems cannot be solved by government alone. | 35 Initiators of wind farm projects underestimate the value of the landscape when choosing locations. | 4 Wind farms are noisy and visually unacceptable. | 49 The small amount of clean energy that wind farms generate does not compensate for the negative impact they have on the landscape. |
| | 11 Local opposition to a wind farm is nothing more than defending one's self-interest. | 3 Public participation makes the decision making process more complicated and lengthy than necessary. | 29 Planning processes must be carried out rapidly in order to not scare away investors and meet the EU 2020 target. | 5 Incentives should be given to the wind industry (not the community) since they determine the successful introduction of renewables. | 13 Decision making surrounding wind energy is an unpredictable process that nobody can control. | 41 Wind farms should go in built up areas where people live or places like Hal Far, not rural areas like Bahrija. | 17 It is useless to try and exert influence on the implementation of wind energy in Malta because the public is ignored. | 34 Financial support geared towards solar energy is better than financial support for investments in wind energy. | 18 Before building wind farms all over the country, energy efficiency options should be investigated more thoroughly. | |
| | | 7 It is not participation in decision making that is important for wind projects, but the compensation for the disturbance they cause. | 30 If good arguments exist for constructing a wind farm in a local community instead of another, than that community should agree to this for the public good. | 39 It is mainly local community groups that try to thwart the construction of wind farms. | 1 It is usually individuals, like landowners, that block the construction of wind turbines. | 9 Government should give priority to the environment first and to energy supply second. | 12 Local power companies have no understanding of public participation and are unaccustomed to dealing with stakeholders. | 45 Local government does not seem capable of properly handling the public participation necessary for wind energy. | | |
| | | 40 Local opposition to wind farms is mostly caused by the lack of information given to the public. | 44 It is mainly environmental organisations that frustrate the construction of wind turbines. | 48 Public participation determines whether conflicts are solved and a wind farm is actually built. | 14 Residents do not want to pay for the nation's energy problems by accepting a wind farm in their area. | 20 People are not fooled by public meetings, environmental impact studies, surveys or superficial public consultations. | 46 Local interests are not taken into account at the national level, so it is understandable that there is local resistance to the wind farm plans. | 6 Most of the time, stakeholders are insufficiently involved during the first phases of major projects. | | |
| | | | 32 The problem with public input is that it is mainly based on emotions rather than rational thought. | 21 The 12 wind turbines planned will look better than the 20 disused communication towers already in the planned area. | 33 In the end, it is the cost of oil and electricity that will determine the success or failure of wind energy, not the public. | 28 The local community should be able to exert its influence in every phase and on all aspects of the decision-making process. | 16 Decisions made with the approval of the local community are generally also better decisions. | | | |
| | | | 2 Although local opposition to wind projects is quite normal, the public benefit of wind energy is more important. | 26 Every local authority would rather have wind farms built in another location. | 10 The input from the public during a public participation process often shows a lack of expertise. | 23 It is wrong to take decisions without giving neighbouring residents a decisive influence. | 25 Decisions on wind farms cannot be made by governments alone, but they must result from negotiations with all involved parties. | | | |
| | | | | 43 Offering financial participation in wind projects or green energy to nearby residents is a good way to reduce opposition. | 38 Local support is important for the successful implementation of wind energy. | 36 Everyone prefers that new infrastructure like wind farms are not built too close to their homes. | | | | |
| | | | | | 19 Involving potential opponents to a wind farm in a timely manner will increase its chances of getting built. | | | | | |
| | | | | | 31 Professional and scientific expertise ought to play a decisive role in decision making on such infrastructure. | | | | | |

***Figure 15 - Cognitive map for Factor 2***

### *4.2.3 Factor Array 3 – The Rationalists' perspective*

The third factor, referred to here as the **Rationalists' discourse** or perspective, explains 6% of the variance. The normalised factor scores for Factor 3 are presented in the table below.

| **Factor 3 - The Rationalists** | | |
|---|---|---|
| Expl. of variance | 6% | |
| Eigen value | 2.33 | |
| **Statement** | **Ref.** | **Z-scores** |
| | | |
| Professional and scientific expertise ought to play a decisive role in decision making on such infrastructure. | 31 | 2.519 |
| Before building wind farms all over the country, energy efficiency options should be investigated more thoroughly. | 18 | 2.310 |
| Growing energy demand and increasing environmental problems cannot be solved by government alone. | 24 | 1.888 |
| In the end, it is the cost of oil and electricity that will determine the success or failure of wind energy, not the public. | 33 | 1.455 |
| Offering financial participation in wind projects or green energy to nearby residents is a good way to reduce opposition. | 43 | 1.067 |
| The problem with public input is that it is mainly based on emotions rather than rational thought. | 32 | 1.032 |
| Planning processes must be carried out rapidly in order to not scare away investors and meet the EU 2020 target. | 29 | 0.997 |
| It is not participation in decision making that is important for wind projects, but the compensation for the disturbance they cause. | 7 | 0.823 |
| Public participation makes the decision making process more complicated and lengthy than necessary. | 3 | 0.754 |
| The 12 wind turbines planned will look better than the 20 disused communication towers already in the planned area. | 21 | 0.752 |
| Residents do not want to pay for the nation's energy problems by accepting a wind farm in their area. | 14 | 0.700 |
| Financial support geared towards solar energy is better than financial support for investments in wind energy. | 34 | 0.699 |
| Local government does not seem capable of properly handling the public participation necessary for wind energy. | 45 | 0.610 |
| If good arguments exist for constructing a wind farm in a local community instead of another, than that community should agree to this for the public good. | 30 | 0.543 |
| The input from the public during a public participation process often shows a lack of expertise. | 10 | 0.543 |
| Local interests are not taken into account at the national level, so it is understandable that there is local resistance to the wind farm plans. | 46 | 0.401 |
| Incentives should be given to the wind industry (not the community) since they determine the successful introduction of renewables. | 5 | 0.334 |
| Local opposition to wind farms is mostly caused by the lack of information given to the public. | 40 | 0.245 |
| Government should be able to go ahead anyway when local authorities fail to co-operate with the construction of a wind farm. | 22 | 0.177 |
| Everyone prefers that new infrastructure like wind farms are not built too close to their homes. | 36 | 0.158 |
| Wind farms should go in built up areas where people live or places like Hal Far, not rural areas like Bahrija. | 41 | 0.122 |
| Although local opposition to wind projects is quite normal, the public benefit of wind energy is more important. | 2 | 0.088 |
| More citizen participation leads to even more opposition toward wind farms. | 47 | 0.086 |
| Opponents of wind farms are not willing to compromise so it is pointless to involve them in the decision-making process. | 8 | 0.052 |
| Slow implementation of wind energy is usually a result of unnecessarily arduous rounds of public participation. | 15 | 0.018 |
| Local opposition to a wind farm is nothing more than defending one's self-interest. | 11 | 0.001 |
| Decisions on wind farms cannot be made by governments alone, but they must result from negotiations with all involved parties. | 25 | -0.088 |
| Initiators of wind farm projects underestimate the value of the landscape when choosing locations. | 35 | -0.176 |
| It is useless to try and exert influence on the implementation of wind energy in Malta because the public is ignored. | 17 | -0.244 |
| Every local authority would rather have wind farms built in another location. | 26 | -0.333 |
| Local support is important for the successful implementation of wind energy. | 38 | -0.333 |
| Local power companies have no understanding of public participation and are unaccustomed to dealing with stakeholders. | 12 | -0.366 |
| Most of the time, stakeholders are insufficiently involved during the first phases of major projects. | 6 | -0.370 |
| The local community should be able to exert its influence in every phase and on all aspects of the decision-making process. | 28 | -0.420 |
| It is mainly local community groups that try to thwart the construction of wind farms. | 39 | -0.455 |
| It is usually individuals, like landowners, that block the construction of wind turbines. | 1 | -0.456 |
| Involving potential opponents to a wind farm in a timely manner will increase its chances of getting built. | 19 | -0.490 |
| Decisions made with the approval of the local community are generally also better decisions. | 16 | -0.507 |
| People are not fooled by public meetings, environmental impact studies, surveys or superficial public consultations. | 20 | -0.509 |
| It is wrong to take decisions without giving neighbouring residents a decisive influence. | 23 | -0.542 |
| Government should give priority to the environment first and to energy supply second. | 9 | -0.544 |
| The small amount of clean energy that wind farms generate does not compensate for the negative impact they have on the landscape. | 49 | -0.855 |
| Public participation determines whether conflicts are solved and a wind farm is actually built. | 48 | -1.277 |
| The compromise of the Bahrija landscape is a sacrifice that needs to be made in order to live more sustainable lives. | 27 | -1.364 |
| It is mainly environmental organisations that frustrate the construction of wind turbines. | 44 | -1.611 |
| We cannot do anything about climate change anyway, so it is pointless to build wind farms. | 37 | -1.644 |
| Onshore wind energy plans should be abandoned in Malta. The future lies in offshore wind. | 42 | -1.820 |
| Wind farms are noisy and visually unacceptable. | 4 | -1.907 |
| Decision making surrounding wind energy is an unpredictable process that nobody can control. | 13 | -2.065 |

***Table 8 - Normalised Factor Scores for factor 3, the Rationalists.***

| Distinguishing Statements for Factor 3 | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | |
| (P <.05 ; Asterisk (*) Indicates Significance at P <.01) | | | | | | | | | |
| Both the Factor Q-Sort Value and the Normalized Score are Shown. | | | | | | | | | |
| | | | | | | | | | |
| **Factors** | | **1** | | **2** | | **3** | | **4** | |
| **Statement** | **No.** | **RNK** | **SCORE** | **RNK** | **SCORE** | **RNK** | **SCORE** | **RNK** | **SCORE** |
| Professional and scientific expertise ought to play a decisive role in decision making on such infrastructure. | **31** | 4 | 1.79 | 0 | 0 | 5 | 2.52 | 4 | 1.76 |
| It is wrong to take decisions without giving neighbouring residents a decisive influence. | **23** | 0 | 0.12 | 1 | 0.83 | -2 | -0.54 | 0 | 0.14 |
| Onshore wind energy plans should be abandoned in Malta. The future lies in offshore wind. | **42** | -3 | -1.15 | 1 | 0.75 | -4 | -1.82 | -2 | -0.76 |
| Decision making surrounding wind energy is an unpredictable process that nobody can control. | **13** | -2 | -0.67 | 0 | -0.11 | -5 | -2.07 | -2 | -0.82 |

This discourse is characterised by a belief that scientific rationality should play a decisive role in addressing the challenge of Malta's wind energy plans (31) and while it recognises that energy efficiency options should be pursued before considering wind farms (18), it accepts that ultimately it is the cost of oil and electricity that will dictate the viability of such a project (33), and the community as well needs to take steps to address growing energy demands and environmental problems (24).

This discourse seems to perceive the reality of climate change and the necessary action/sacrifices that need to be tackled, and is highly cognizant of the fact that urgent action needs to be taken to meet targets (29). It also seems primarily motivated by the need to tackle climate change, rather than other strategic issues such as social and land issues alone as in other factors like 1 (the Egalitarians). It suggests a more scientific understanding of environment and society, while it recognises that there may be social or spatial costs arising from the Bahrija wind farm (26, 9), these may be acceptable in light of climate change, and if the site is better than others the project should go ahead for the public benefit, whether the local community agrees or not (30, 3) since it deems that they are too emotionally engaged (32). One could also infer that this discourse views objectors as a minority focused on short-term issues and acting contrary to the public interest (5, 40, 22).

Nonetheless it does appreciate that affected locals should be compensated adequately (32, 7).

Despite this position, the discourse places little emphasis on the general benefits of adequate public participation and awareness campaigns or issues of process (38, 12, 6, 29) presumably seeing the end result justifying any means (29).

On the other end it takes exception (far more than other discourses) to the suggestion that wind farms are noisy and visually unacceptable and that decision making surrounding wind energy is an unpredictable process (4,13).

**ALL GROUPS' PERCEPTIONS ON THE BAHRIJA WIND FARM**

**Factor 3** Explains **6%** of variance. **Eigen values** 2.3279

| OPINIONS I DISAGREE WITH MOST | | | | | NEUTRAL | | | | | OPINIONS I AGREE WITH MOST |
|---|---|---|---|---|---|---|---|---|---|---|
| **-5** | **-4** | **-3** | **-2** | **-1** | **0** | **1+** | **2+** | **3+** | **4+** | **5+** |
| 13 Decision making surrounding wind energy is an unpredictable process that nobody can control. | 42 Onshore wind energy plans should be abandoned in Malta. The future lies in offshore wind. | 27 The compromise of the Bahrija landscape is a sacrifice that needs to be made in order to live more sustainable lives. | 19 Involving potential opponents to a wind farm in a timely manner will increase its chances of getting built. | 39 It is mainly local community groups that try to thwart the construction of wind farms. | 11 Local opposition to a wind farm is nothing more than defending one's self-interest. | 22 Government should be able to go ahead anyway when local authorities fail to co-operate with the construction of a wind farm. | 3 Public participation makes the decision making process more complicated and lengthy than necessary. | 29 Planning processes must be carried out rapidly in order to not scare away investors and meet the EU 2020 target. | 24 Growing energy demand and increasing environmental problems cannot be solved by government alone. | 31 Professional and scientific expertise ought to play a decisive role in decision making on such infrastructure. |
| | 4 Wind farms are noisy and visually unacceptable. | 44 It is mainly environmental organisations that frustrate the construction of wind turbines. | 9 Government should give priority to the environment first and to energy supply second. | 26 Every local authority would rather have wind farms built in another location. | 8 Opponents of wind farms are not willing to compromise so it is pointless to involve them in the decision-making process. | 40 Local opposition to wind farms is mostly caused by the lack of information given to the public. | 7 It is not participation in decision making that is important for wind projects, but the compensation for the disturbance they cause. | 32 The problem with public input is that it is mainly based on emotions rather than rational thought. | 18 Before building wind farms all over the country, energy efficiency options should be investigated more thoroughly. | |
| | | 48 Public participation determines whether conflicts are solved and a wind farm is actually built. | 20 People are not fooled by public meetings, environmental impact studies, surveys or superficial public consultations. | 1 It is usually individuals, like landowners, that block the construction of wind turbines. | 15 Slow implementation of wind energy is usually a result of unnecessarily arduous rounds of public participation. | 30 If good arguments exist for constructing a wind farm in a local community instead of another, than that community should agree to this for the public good. | 21 The 12 wind turbines planned will look better than the 20 disused communication towers already in the planned area. | 43 Offering financial participation in wind projects or green energy to nearby residents is a good way to reduce opposition. | | |
| | | 37 We cannot do anything about climate change anyway, so it is pointless to build wind farms. | 23 It is wrong to take decisions without giving neighbouring residents a decisive influence. | 38 Local support is important for the successful implementation of wind energy. | 2 Although local opposition to wind projects is quite normal, the public benefit of wind energy is more important. | 5 Incentives should be given to the wind industry (not the community) since they determine the successful introduction of renewables. | 14 Residents do not want to pay for the nation's energy problems by accepting a wind farm in their area. | 33 In the end, it is the cost of oil and electricity that will determine the success or failure of wind energy, not the public. | | |
| | | | 16 Decisions made with the approval of the local community are generally also better decisions. | 28 The local community should be able to exert its influence in every phase and on all aspects of the decision-making process. | 47 More citizen participation leads to even more opposition toward wind farms. | 10 The input from the public during a public participation process often shows a lack of expertise. | 34 Financial support geared towards solar energy is better than financial support for investments in wind energy. | | | |
| | | | 49 The small amount of clean energy that wind farms generate does not compensate for the negative impact they have on the landscape. | 12 Local power companies have no understanding of public participation and are unaccustomed to dealing with stakeholders. | 41 Wind farms should go in built up areas where people live or places like Hal Far, not rural areas like Bahrija. | 36 Everyone prefers that new infrastructure like wind farms are not built too close to their homes. | 45 Local government does not seem capable of properly handling the public participation necessary for wind energy. | | | |
| | | | | 6 Most of the time, stakeholders are insufficiently involved during the first phases of major projects. | 17 It is useless to try and exert influence on the implementation of wind energy in Malta because the public is ignored. | 46 Local interests are not taken into account at the national level, so it is understandable that there is local resistance to the wind farm plans. | | | | |
| | | | | | 25 Decisions on wind farms cannot be made by governments alone, but they must result from negotiations with all involved parties. | | | | | |
| | | | | | 35 Initiators of wind farm projects underestimate the value of the landscape when choosing locations. | | | | | |

***Figure 16- Cognitive map for Factor 3***

### *4.2.4 Factor Array 4 – The Pragmatists' perspective*

The fourth factor, referred to here as the **Pragmatists's** discourse or perspective**,** explains 6 % of the variance. The normalised factor scores for Factor 1 are presented below.

| **Factor 4 - The Pragmatists** | | |
|---|---|---|
| Expl. of variance | 6% | |
| Eigen value | 2.24 | |
| **Statement** | **Ref.** | **Z-scores** |
| | | |
| Decisions made with the approval of the local community are generally also better decisions. | 16 | 2.021 |
| Professional and scientific expertise ought to play a decisive role in decision making on such infrastructure. | 31 | 1.757 |
| Before building wind farms all over the country, energy efficiency options should be investigated more thoroughly. | 18 | 1.592 |
| Growing energy demand and increasing environmental problems cannot be solved by government alone. | 24 | 1.557 |
| Decisions on wind farms cannot be made by governments alone, but they must result from negotiations with all involved parties. | 25 | 1.492 |
| The input from the public during a public participation process often shows a lack of expertise. | 10 | 1.369 |
| The 12 wind turbines planned will look better than the 20 disused communication towers already in the planned area. | 21 | 1.334 |
| Involving potential opponents to a wind farm in a timely manner will increase its chances of getting built. | 19 | 1.273 |
| Slow implementation of wind energy is usually a result of unnecessarily arduous rounds of public participation. | 15 | 1.111 |
| Although local opposition to wind projects is quite normal, the public benefit of wind energy is more important. | 2 | 0.971 |
| Everyone prefers that new infrastructure like wind farms are not built too close to their homes. | 36 | 0.966 |
| The local community should be able to exert its influence in every phase and on all aspects of the decision-making process. | 28 | 0.594 |
| It is not participation in decision making that is important for wind projects, but the compensation for the disturbance they cause. | 7 | 0.537 |
| If good arguments exist for constructing a wind farm in a local community instead of another, than that community should agree to this for the public good. | 30 | 0.534 |
| Offering financial participation in wind projects or green energy to nearby residents is a good way to reduce opposition. | 43 | 0.469 |
| The compromise of the Bahrija landscape is a sacrifice that needs to be made in order to live more sustainable lives. | 27 | 0.452 |
| Local support is important for the successful implementation of wind energy. | 38 | 0.429 |
| It is usually individuals, like landowners, that block the construction of wind turbines. construction of wind turbines. | 1 | 0.231 |
| Public participation makes the decision making process more complicated and lengthy than necessary. | 3 | 0.22 |
| Incentives should be given to the wind industry (not the community) since they determine the successful introduction of renewables. | 5 | 0.185 |
| Local opposition to a wind farm is nothing more than defending one's self-interest. | 11 | 0.156 |
| It is wrong to take decisions without giving neighbouring residents a decisive influence. | 23 | 0.145 |
| People are not fooled by public meetings, environmental impact studies, surveys or superficial public consultations. | 20 | 0.037 |
| Residents do not want to pay for the nation's energy problems by accepting a wind farm in their area. | 14 | 0 |
| The problem with public input is that it is mainly based on emotions rather than rational thought. | 32 | -0.09 |
| Local opposition to wind farms is mostly caused by the lack of information given to the public. | 40 | -0.127 |
| In the end, it is the cost of oil and electricity that will determine the success or failure of wind energy, not the public. | 33 | -0.198 |
| Initiators of wind farm projects underestimate the value of the landscape when choosing locations. | 35 | -0.212 |
| Public participation determines whether conflicts are solved and a wind farm is actually built. | 48 | -0.238 |
| Government should give priority to the environment first and to energy supply second. | 9 | -0.259 |
| Every local authority would rather have wind farms built in another location. | 26 | -0.264 |
| Local government does not seem capable of properly handling the public participation necessary for wind energy. | 45 | -0.318 |
| More citizen participation leads to even more opposition toward wind farms. | 47 | -0.367 |
| Government should give priority to the environment first and to energy supply second. | 22 | -0.429 |
| Local interests are not taken into account at the national level, so it is understandable that there is local resistance to the wind farm plans. | 46 | -0.44 |
| Planning processes must be carried out rapidly in order to not scare away investors and meet the EU 2020 target. | 29 | -0.575 |
| It is mainly local community groups that try to thwart the construction of wind farms. | 39 | -0.579 |
| It is mainly environmental organisations that frustrate the construction of wind turbines. | 44 | -0.73 |
| Onshore wind energy plans should be abandoned in Malta. The future lies in offshore wind. | 42 | -0.761 |
| Decision making surrounding wind energy is an unpredictable process that nobody can control. | 13 | -0.815 |
| Financial support geared towards solar energy is better than financial support for investments in wind energy. | 34 | -0.947 |
| Most of the time, stakeholders are insufficiently involved during the first phases of major projects. d | 6 | -1.061 |
| Local power companies have no understanding of public participation and are unaccustomed to dealing with stakeholders. | 12 | -1.243 |
| It is useless to try and exert influence on the implementation of wind energy in Malta because the public is ignored. | 17 | -1.244 |
| The small amount of clean energy that wind farms generate does not compensate for the negative impact they have on the landscape. | 49 | -1.297 |
| Wind farms should go in built up areas where people live or places like Hal Far, not rural areas like Bahrija. | 41 | -1.492 |
| Opponents of wind farms are not willing to compromise so it is pointless to involve them in the decision-making process. | 8 | -1.617 |
| We cannot do anything about climate change anyway, so it is pointless to build wind farms. | 37 | -1.949 |
| Wind farms are noisy and visually unacceptable. | 4 | -2.178 |

***Table 9 - Normalised Factor Scores for factor 4, the Pragmatists.***

**Distinguishing Statements for Factor 4**

(P <.05 ; Asterisk (*) Indicates Significance at P <.01)
Both the Factor Q-Sort Value and the Normalized Score are Shown.

| Factors | | 1 | | 2 | | 3 | | 4 | |
|---|---|---|---|---|---|---|---|---|---|
| **Statement** | **No.** | **RNK** | **SCORE** | **RNK** | **SCORE** | **RNK** | **SCORE** | **RNK** | **SCORE** |
| The input from the public during a public participation process often shows a lack of expertise. | **10** | 1 | 0.23 | 0 | 0.16 | 1 | 0.54 | 3 | 1.37 |
| Most of the time, stakeholders are insufficiently involved during the first phases of major projects. | **6** | 5 | 1.92 | 3 | 1.1 | -1 | -0.37 | -2 | -1.06 |
| Local power companies have no understanding of public participation and are unaccustomed to dealing with stakeholders. | **12** | 1 | 0.29 | 2 | 0.92 | -1 | -0.37 | -3 | -1.24 |

It is important to note that this factor is very similar in perception to Factor 1, or rather the Egalitarian's perspective, with the difference that the most distinguishing statement for the Pragmatists' *discourse* was that decisions made with the participation of the public are generally also better decisions (16); while acknowledging that input from the public often shows lack of expertise (10). Otherwise it also agrees that scientific expertise should play an important role in decision making, and that energy efficiency options should be investigated more thoroughly before building windmills all over the country (18) and the burden ought to be shared by all (24).

This discourse stands out on its own due to its ranking of approval with the current modus operandi of public participation (46) and is not as concerned with lack of consultation in the first phases (6) nor does it question power companies' interaction with stakeholders, and believes that the government is not ignored (17). This shows some congruence with the discourse of Factor 3.

Other differences to Factor 1 include a strong disapproval with the statement that wind farms are noisy and visually acceptable (4) and the discourse takes umbrage with the statement that there is no space for compromise when dealing with objectors of wind farms (8). This discourse also discards strongest any arguments that wind farms are noisy and visually unacceptable (4), and that the turbines would improve the current landscape (21); implying an overall high level of support to the Bahrija wind if the public is consulted adequately.

**ALL GROUPS' PERCEPTIONS ON THE BAHRIJA WIND FARM**

**Factor 4** Explains **6%** of variance. **Eigen values** 2.2437

| OPINIONS I DISAGREE WITH MOST | | | | | NEUTRAL | | | | | OPINIONS I AGREE WITH MOST |
|---|---|---|---|---|---|---|---|---|---|---|
| **-5** | **-4** | **-3** | **-2** | **-1** | **0** | **1+** | **2+** | **3+** | **4+** | **5+** |
| 4 Wind farms are noisy and visually unacceptable. | 37 We cannot do anything about climate change anyway, so it is pointless to build wind farms. | 49 The small amount of clean energy that wind farms generate does not compensate for the negative impact they have on the landscape. | 13 Decision making surrounding wind energy is an unpredictable process that nobody can control. | 9 Government should give priority to the environment first and to energy supply second. | 48 Public participation determines whether conflicts are solved and a wind farm is actually built. | 27 The compromise of the Bahrija landscape is a sacrifice that needs to be made in order to live more sustainable lives. | 19 Involving potential opponents to a wind farm in a timely manner will increase its chances of getting built. | 25 Decisions on wind farms cannot be made by governments alone, but they must result from negotiations with all involved parties. | 18 Before building wind farms all over the country, energy efficiency options should be investigated more thoroughly. | 16 Decisions made with the approval of the local community are generally also better decisions. |
| | 8 Opponents of wind farms are not willing to compromise so it is pointless to involve them in the decision-making process. | 12 Local power companies have no understanding of public participation and are unaccustomed to dealing with stakeholders. | 42 Onshore wind energy plans should be abandoned in Malta. The future lies in offshore wind. | 26 Every local authority would rather have wind farms built in another location. | 20 People are not fooled by public meetings, environmental impact studies, surveys or superficial public consultations. | 1 It is usually individuals, like landowners, that block the construction of wind turbines. | 28 The local community should be able to exert its influence in every phase and on all aspects of the decision-making process. | 10 The input from the public during a public participation process often shows a lack of expertise. | 31 Professional and scientific expertise ought to play a decisive role in decision making on such infrastructure. | |
| | | 41 Wind farms should go in built up areas where people live or places like Hal Far, not rural areas like Bahrija. | 44 It is mainly environmental organisations that frustrate the construction of wind turbines. | 47 More citizen participation leads to even more opposition toward wind farms. | 23 It is wrong to take decisions without giving neighbouring residents a decisive influence. | 38 Local support is important for the successful implementation of wind energy. | 15 Slow implementation of wind energy is usually a result of unnecessarily arduous rounds of public participation. | 21 The 12 wind turbines planned will look better than the 20 disused communication towers already in the planned area. | | |
| | | 17 It is useless to try and exert influence on the implementation of wind energy in Malta because the public is ignored. | 39 It is mainly local community groups that try to thwart the construction of wind farms. | 22 Government should be able to go ahead anyway when local authorities fail to co-operate with the construction of a wind farm. | 11 Local opposition to a wind farm is nothing more than defending one's self-interest. | 30 If good arguments exist for constructing a wind farm in a local community instead of another, than that community should agree to this for the public good. | 2 Although local opposition to wind projects is quite normal, the public benefit of wind energy is more important. | 24 Growing energy demand and increasing environmental problems cannot be solved by government alone. | | |
| | | | 6 Most of the time, stakeholders are insufficiently involved during the first phases of major projects. | 46 Local interests are not taken into account at the national level, so it is understandable that there is local resistance to the wind farm plans. | 35 Initiators of wind farm projects underestimate the value of the landscape when choosing locations. | 5 Incentives should be given to the wind industry (not the community) since they determine the successful introduction of renewables. | 36 Everyone prefers that new infrastructure like wind farms are not built too close to their homes. | | | |
| | | | 34 Financial support geared towards solar energy is better than financial support for investments in wind energy. | 45 Local government does not seem capable of properly handling the public participation necessary for wind energy. | 40 Local opposition to wind farms is mostly caused by the lack of information given to the public. | 3 Public participation makes the decision making process more complicated and lengthy than necessary. | 7 It is not participation in decision making that is important for wind projects, but the compensation for the disturbance they cause. | | | |
| | | | | 29 Planning processes must be carried out rapidly in order to not scare away investors and meet the EU 2020 target. | 14 Residents do not want to pay for the nation's energy problems by accepting a wind farm in their area. | 43 Offering financial participation in wind projects or green energy to nearby residents is a good way to reduce opposition. | | | | |
| | | | | | 32 The problem with public input is that it is mainly based on emotions rather than rational thought. | | | | | |
| | | | | | 33 In the end, it is the cost of oil and electricity that will determine the success or failure of wind energy, not the public. | | | | | |

***Figure 17 - Cognitive map for Factor 4***

## 4.3 Results for the various stakeholder groups

In this sub-section, results for the individual stakeholder groups are being presented, along with reflections and analysis of the comments received during the numerous meetings with respondents. It is important to note that there are some limitations when assessing the individual stakeholder groups with such small sample sizes using Q methodology with 40 Q statements. Consequently results are far from representative but still significant, and worth discussing. Also it should be noted that only the most significant factors or discourse for each stakeholder grouping are being presented due to length limitations.

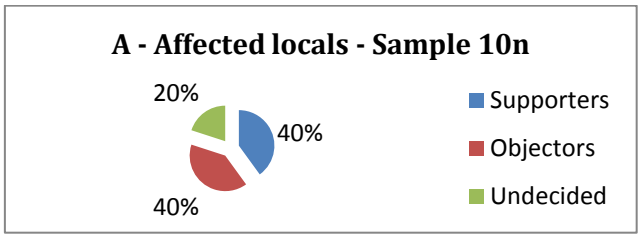
For ease of comparison all five factors, one from each stakeholder grouping, are being presented side by side in the following table but the full statements have been truncated due to presentation limitations, however each of the factors are presented in their entirety and discussed in detail, along with 'cognitive maps' of the discourse, in the following sub-sections.

| Affected locals (Factor 1) | | | NGOs (Factor 1) | | | Resource Users (Factor 1 ) | | | Local Authorities (Factor 1) | | | Scientific community (Factor 1) | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Expl. of variance | 28% | | Expl. of variance | 61% | | Expl. of variance | 34% | | Expl. of variance | 51% | | Expl. of variance | 47% | |
| Eigen value | 2.48 | | Eigen value | 3.03 | | Eigen value | 3.03 | | Eigen value | 3.07 | | Eigen value | 3.73 | |
| **Statement** | **No.** | **Z-scores** | **Statement** | **No.** | **Z-scores** | **Statement** | **No.** | **Z-scores** | **Statement** | **No.** | **Z-scores** | **Statement** | **No.** | **Z-scores** |
| Wind farms are noisy and visually unaccepta | 4 | 2.2 | Professional and scientific expertise ought to | 31 | 2.200 | Local opposition to wind farms is mostly cau | 40 | 2.200 | Most of the time, stakeholders are insufficier | 6 | 2.2 | Professional and scientific expertise ought to | 31 | 2.2 |
| Government should give priority to the envir | 9 | 1.76 | Before building wind farms all over the coun | 18 | 1.760 | Most of the time, stakeholders are insufficier | 6 | 1.760 | Decisions made with the approval of the loca | 16 | 1.76 | Although local opposition to wind projects is | 2 | 1.76 |
| Financial support geared towards solar energ | 34 | 1.76 | Local government does not seem capable of p | 45 | 1.760 | Local government does not seem capable of p | 45 | 1.760 | Local interests are not taken into account at t | 46 | 1.76 | Decisions made with the approval of the loca | 16 | 1.76 |
| Most of the time, stakeholders are insufficier | 6 | 1.32 | Most of the time, stakeholders are insufficier | 6 | 1.320 | Before building wind farms all over the coun | 18 | 1.320 | Involving potential opponents to a wind farm | 19 | 1.32 | Involving potential opponents to a wind farm | 19 | 1.32 |
| Decisions made with the approval of the loca | 16 | 1.32 | Government should give priority to the envir | 9 | 1.320 | Involving potential opponents to a wind farm | 19 | 1.320 | Professional and scientific expertise ought to | 31 | 1.32 | Decisions on wind farms cannot be made by | 25 | 1.32 |
| Local interests are not taken into account at t | 46 | 1.32 | Although local opposition to wind projects is | 2 | 1.320 | Professional and scientific expertise ought to | 31 | 1.320 | The problem with public input is that it is ma | 32 | 1.32 | Local opposition to wind farms is mostly cau | 40 | 1.32 |
| The small amount of clean energy that wind f | 49 | 1.32 | Involving potential opponents to a wind farm | 19 | 1.320 | Offering financial participation in wind proje | 43 | 1.320 | Public participation determines whether con | 48 | 1.32 | Offering financial participation in wind proje | 43 | 1.32 |
| Residents do not want to pay for the nation's | 14 | 0.88 | The input from the public during a public par | 10 | 0.880 | The 12 wind turbines planned will look bette | 21 | 0.880 | Local power companies have no understandi | 12 | 0.88 | It is wrong to take decisions without giving r | 23 | 0.88 |
| Before building wind farms all over the coun | 18 | 0.88 | Growing energy demand and increasing envir | 24 | 0.880 | Every local authority would rather have wind | 26 | 0.880 | Before building wind farms all over the coun | 18 | 0.88 | It is usually individuals, like landowners, tha | 1 | 0.88 |
| Growing energy demand and increasing envir | 24 | 0.88 | It is usually individuals, like landowners, tha | 1 | 0.880 | The compromise of the Bahrija landscape is a | 27 | 0.880 | It is wrong to take decisions without giving r | 23 | 0.88 | In the end, it is the cost of oil and electricity t | 33 | 0.88 |
| In the end, it is the cost of oil and electricity t | 33 | 0.88 | Local support is important for the successful | 38 | 0.880 | Although local opposition to wind projects is | 2 | 0.880 | Growing energy demand and increasing envir | 24 | 0.88 | Everyone prefers that new infrastructure like | 36 | 0.88 |
| Initiators of wind farm projects underestimat | 35 | 0.88 | Local opposition to wind farms is mostly cau | 40 | 0.880 | The problem with public input is that it is ma | 32 | 0.880 | Decisions on wind farms cannot be made by | 25 | 0.88 | Local support is important for the successful | 38 | 0.88 |
| Local support is important for the successful | 38 | 0.88 | Offering financial participation in wind proje | 43 | 0.880 | Public participation determines whether con | 48 | 0.880 | Local opposition to wind farms is mostly cau | 40 | 0.88 | Local interests are not taken into account at t | 46 | 0.88 |
| It is useless to try and exert influence on the | 17 | 0.44 | Residents do not want to pay for the nation's | 14 | 0.440 | Government should be able to go ahead anyw | 22 | 0.440 | The input from the public during a public par | 10 | 0.44 | Slow implementation of wind energy is usua | 15 | 0.44 |
| The 12 wind turbines planned will look bette | 21 | 0.44 | Decisions made with the approval of the loca | 16 | 0.440 | Decisions on wind farms cannot be made by | 25 | 0.440 | The compromise of the Bahrija landscape is a | 27 | 0.44 | People are not fooled by public meetings, env | 20 | 0.44 |
| It is wrong to take decisions without giving r | 23 | 0.44 | People are not fooled by public meetings, env | 20 | 0.440 | The input from the public during a public par | 10 | 0.440 | Incentives should be given to the wind indus | 5 | 0.44 | Growing energy demand and increasing envir | 24 | 0.44 |
| Local power companies have no understandi | 12 | 0.44 | The 12 wind turbines planned will look bette | 21 | 0.440 | Planning processes must be carried out rapid | 29 | 0.440 | In the end, it is the cost of oil and electricity t | 33 | 0.44 | Every local authority would rather have wind | 26 | 0.44 |
| Everyone prefers that new infrastructure like | 36 | 0.44 | Decisions on wind farms cannot be made by | 25 | 0.440 | If good arguments exist for constructing a wi | 30 | 0.440 | Local support is important for the successful | 38 | 0.44 | The compromise of the Bahrija landscape is a | 27 | 0.44 |
| We cannot do anything about climate change | 37 | 0.44 | The local community should be able to exert | 28 | 0.440 | In the end, it is the cost of oil and electricity t | 33 | 0.440 | Onshore wind energy plans should be abande | 42 | 0.44 | The problem with public input is that it is ma | 32 | 0.44 |
| It is mainly local community groups that try | 39 | 0.44 | If good arguments exist for constructing a wi | 30 | 0.440 | Public participation makes the decision mak | 3 | 0.440 | It is mainly environmental organisations tha | 44 | 0.44 | It is not participation in decision making that | 7 | 0.44 |
| The input from the public during a public par | 10 | 0 | It is useless to try and exert influence on the | 17 | 0.000 | Government should give priority to the envir | 9 | 0.000 | The 12 wind turbines planned will look bette | 21 | 0 | Government should give priority to the envir | 22 | 0 |
| Professional and scientific expertise ought to | 31 | 0 | It is wrong to take decisions without giving r | 23 | 0.000 | Decisions made with the approval of the loca | 16 | 0.000 | Residents do not want to pay for the nation's | 14 | 0 | Planning processes must be carried out rapid | 29 | 0 |
| The problem with public input is that it is ma | 32 | 0 | The compromise of the Bahrija landscape is a | 27 | 0.000 | Local opposition to a wind farm is nothing m | 11 | 0.000 | Every local authority would rather have wind | 26 | 0 | If good arguments exist for constructing a wi | 30 | 0 |
| Involving potential opponents to a wind farm | 19 | 0 | The problem with public input is that it is ma | 32 | 0.000 | Local power companies have no understandi | 12 | 0.000 | Planning processes must be carried out rapid | 29 | 0 | Government should give priority to the envir | 9 | 0 |
| People are not fooled by public meetings, env | 20 | 0 | In the end, it is the cost of oil and electricity t | 33 | 0.000 | Initiators of wind farm projects underestimat | 35 | 0.000 | It is usually individuals, like landowners, tha | 1 | 0 | Local opposition to a wind farm is nothing m | 11 | 0 |
| Wind farms should go in built up areas where | 41 | 0 | Everyone prefers that new infrastructure like | 36 | 0.000 | It is mainly local community groups that try | 39 | 0.000 | Financial support geared towards solar energ | 34 | 0 | It is mainly local community groups that try | 39 | 0 |
| Local government does not seem capable of p | 45 | 0 | Local opposition to a wind farm is nothing m | 11 | 0.000 | Wind farms should go in built up areas where | 41 | 0.000 | Everyone prefers that new infrastructure like | 36 | 0 | Most of the time, stakeholders are insufficier | 6 | 0 |
| More citizen participation leads to even more | 47 | 0 | It is mainly local community groups that try | 39 | 0.000 | It is mainly environmental organisations tha | 44 | 0.000 | It is mainly local community groups that try | 39 | 0 | Residents do not want to pay for the nation's | 14 | 0 |
| Public participation determines whether con | 48 | 0 | Decision making surrounding wind energy is | 13 | 0.000 | Local interests are not taken into account at t | 46 | 0.000 | Offering financial participation in wind proje | 43 | 0 | Public participation determines whether con | 48 | 0 |
| If good arguments exist for constructing a wi | 30 | -0.44 | Slow implementation of wind energy is usual | 15 | -0.440 | Wind farms are noisy and visually unacceptа | 4 | -0.440 | Although local opposition to wind projects is | 2 | -0.44 | Public participation makes the decision mak | 3 | -0.44 |
| Government should be able to go ahead anyw | 22 | -0.44 | Incentives should be given to the wind indus | 5 | -0.440 | It is wrong to take decisions without giving r | 23 | -0.440 | It is useless to try and exert influence on the | 17 | -0.44 | It is useless to try and exert influence on the | 17 | -0.44 |
| Although local opposition to wind projects is | 2 | -0.44 | Financial support geared towards solar energ | 34 | -0.440 | Growing energy demand and increasing envir | 24 | -0.440 | Government should give priority to the envir | 22 | -0.44 | Wind farms should go in built up areas where | 41 | -0.44 |
| Local opposition to wind farms is mostly cau | 40 | -0.44 | Every local authority would rather have wind | 26 | -0.440 | Local support is important for the successful | 38 | -0.440 | Initiators of wind farm projects underestimat | 35 | -0.44 | The local community should be able to exert | 28 | -0.44 |
| Every local authority would rather have wind | 26 | -0.44 | Local power companies have no understandi | 12 | -0.440 | Residents do not want to pay for the nation's | 14 | -0.440 | Government should give priority to the envir | 9 | -0.44 | It is mainly environmental organisations tha | 44 | -0.44 |
| Onshore wind energy plans should be abande | 42 | -0.44 | Public participation makes the decision mak | 3 | -0.440 | People are not fooled by public meetings, env | 20 | -0.440 | The local community should be able to exert | 28 | -0.44 | Decision making surrounding wind energy is | 13 | -0.44 |
| It is usually individuals, like landowners, tha | 1 | -0.44 | Public participation determines whether con | 48 | -0.440 | Decision making surrounding wind energy is | 13 | -0.440 | Wind farms are noisy and visually unacceptа | 4 | -0.44 | The 12 wind turbines planned will look bette | 21 | -0.44 |
| Slow implementation of wind energy is usual | 15 | -0.88 | Wind farms should go in built up areas where | 41 | -0.880 | Incentives should be given to the wind indus | 5 | -0.880 | Decision making surrounding wind energy is | 13 | -0.88 | Local power companies have no understandi | 12 | -0.88 |
| Decisions on wind farms cannot be made by | 25 | -0.88 | Onshore wind energy plans should be abande | 42 | -0.880 | It is usually individuals, like landowners, tha | 1 | -0.880 | Wind farms should go in built up areas where | 41 | -0.88 | Before building wind farms all over the coun | 18 | -0.88 |
| Offering financial participation in wind proje | 43 | -0.88 | It is mainly environmental organisations tha | 44 | -0.880 | Onshore wind energy plans should be abande | 42 | -0.880 | Local opposition to a wind farm is nothing m | 11 | -0.88 | The input from the public during a public par | 10 | -0.88 |
| It is mainly environmental organisations tha | 44 | -0.88 | Initiators of wind farm projects underestimat | 35 | -0.880 | It is not participation in decision making that | 7 | -0.880 | People are not fooled by public meetings, env | 20 | -0.88 | Financial support geared towards solar energ | 34 | -0.88 |
| Incentives should be given to the wind indus | 5 | -0.88 | Local interests are not taken into account at t | 46 | -0.880 | It is useless to try and exert influence on the | 17 | -0.880 | Local government does not seem capable of p | 45 | -0.88 | Local government does not seem capable of p | 45 | -0.88 |
| Planning processes must be carried out rapid | 29 | -0.88 | More citizen participation leads to even more | 47 | -0.880 | Everyone prefers that new infrastructure like | 36 | -0.880 | The small amount of clean energy that wind f | 49 | -0.88 | More citizen participation leads to even more | 47 | -0.88 |
| Decision making surrounding wind energy is | 13 | -1.32 | Planning processes must be carried out rapid | 29 | -1.320 | We cannot do anything about climate change | 37 | -1.320 | If good arguments exist for constructing a wi | 30 | -1.32 | Wind farms are noisy and visually unacceptа | 4 | -1.32 |
| Local opposition to a wind farm is nothing m | 11 | -1.32 | It is not participation in decision making that | 7 | -1.320 | Slow implementation of wind energy is usua | 15 | -1.320 | Public participation makes the decision mak | 3 | -1.32 | Initiators of wind farm projects underestimat | 35 | -1.32 |
| The local community should be able to exert | 28 | -1.32 | Opponents of wind farms are not willing to c | 8 | -1.320 | Financial support geared towards solar energ | 34 | -1.320 | It is not participation in decision making that | 7 | -1.32 | Incentives should be given to the wind indus | 5 | -1.32 |
| Opponents of wind farms are not willing to c | 8 | -1.32 | Government should be able to go ahead anyw | 22 | -1.320 | The small amount of clean energy that wind f | 49 | -1.320 | Slow implementation of wind energy is usua | 15 | -1.32 | The small amount of clean energy that wind f | 49 | -1.32 |
| Public participation makes the decision mak | 3 | -1.76 | Wind farms are noisy and visually unacceptа | 4 | -1.760 | More citizen participation leads to even more | 47 | -1.760 | More citizen participation leads to even more | 47 | -1.76 | Onshore wind energy plans should be abande | 42 | -1.76 |
| It is not participation in decision making that | 7 | -1.76 | The small amount of clean energy that wind f | 49 | -1.760 | Opponents of wind farms are not willing to c | 8 | -1.760 | Opponents of wind farms are not willing to c | 8 | -1.76 | Opponents of wind farms are not willing to c | 8 | -1.76 |
| The compromise of the Bahrija landscape is a | 27 | -2.2 | We cannot do anything about climate change | 37 | -2.200 | The local community should be able to exert | 28 | -2.200 | We cannot do anything about climate change | 37 | -2.2 | We cannot do anything about climate change | 37 | -2.2 |

***Table 10 - Comparison of most significant factors for all 5 stakeholder groups***

*4.3.1 Affected locals*

In all 10 Q interviews were conducted across the affected locals (AL) stakeholder group. Overall results indicate that 40% of the people interviewed were objectors of a potential wind farm project, while 40% where supporters, and 20% where undecided. (see figure below)




The first factor of the affected locals group explains 28% of the variance and is not significantly higher than all the other eight factors. The normalised factor scores for Factor 1 are presented in below.

| **Affected locals (Factor 1)** | | |
|---|---|---|
| Expl. of variance | 28% | |
| Eigen value | 2.48 | |
| **Statement** | **No.** | **Z-scores** |
| | | |
| Wind farms are noisy and visually unacceptable. | 4 | 2.2 |
| Government should give priority to the environment first and to energy supply second. | 9 | 1.76 |
| Financial support geared towards solar energy is better than financial support for investments in wind energy. | 34 | 1.76 |
| Most of the time, stakeholders are insufficiently involved during the first phases of major projects. d | 6 | 1.32 |
| Decisions made with the approval of the local community are generally also better decisions. | 16 | 1.32 |
| Local interests are not taken into account at the national level, so it is understandable that there is local resistance to the wind farm plans. | 46 | 1.32 |
| The small amount of clean energy that wind farms generate does not compensate for the negative impact they have on the landscape. | 49 | 1.32 |
| Residents do not want to pay for the nation's energy problems by accepting a wind farm in their area. | 14 | 0.88 |
| Before building wind farms all over the country, energy efficiency options should be investigated more thoroughly. | 18 | 0.88 |
| Growing energy demand and increasing environmental problems cannot be solved by government alone. | 24 | 0.88 |
| In the end, it is the cost of oil and electricity that will determine the success or failure of wind energy, not the public. | 33 | 0.88 |
| Initiators of wind farm projects underestimate the value of the landscape when choosing locations. | 35 | 0.88 |
| Local support is important for the successful implementation of wind energy. | 38 | 0.88 |
| It is useless to try and exert influence on the implementation of wind energy in Malta because the public is ignored. | 17 | 0.44 |
| The 12 wind turbines planned will look better than the 20 disused communication towers already in the planned area. | 21 | 0.44 |
| It is wrong to take decisions without giving neighbouring residents a decisive influence. | 23 | 0.44 |
| Local power companies have no understanding of public participation and are unaccustomed to dealing with stakeholders. | 12 | 0.44 |
| Everyone prefers that new infrastructure like wind farms are not built too close to their homes. | 36 | 0.44 |
| We cannot do anything about climate change anyway, so it is pointless to build wind farms. | 37 | 0.44 |
| It is mainly local community groups that try to thwart the construction of wind farms. | 39 | 0.44 |
| The input from the public during a public participation process often shows a lack of expertise. | 10 | 0 |
| Professional and scientific expertise ought to play a decisive role in decision making on such infrastructure. | 31 | 0 |
| The problem with public input is that it is mainly based on emotions rather than rational thought. | 32 | 0 |
| Involving potential opponents to a wind farm in a timely manner will increase its chances of getting built. | 19 | 0 |
| People are not fooled by public meetings, environmental impact studies, surveys or superficial public consultations. | 20 | 0 |
| Wind farms should go in built up areas where people live or places like Hal Far, not rural areas like Bahrija. | 41 | 0 |
| Local government does not seem capable of properly handling the public participation necessary for wind energy. | 45 | 0 |
| More citizen participation leads to even more opposition toward wind farms. | 47 | 0 |
| Public participation determines whether conflicts are solved and a wind farm is actually built. | 48 | 0 |
| If good arguments exist for constructing a wind farm in a local community instead of another, than that community should agree to this for the public good. | 30 | -0.44 |
| Government should be able to go ahead anyway when local authorities fail to co-operate with the construction of a wind farm. | 22 | -0.44 |
| Although local opposition to wind projects is quite normal, the public benefit of wind energy is more important. | 2 | -0.44 |
| Local opposition to wind farms is mostly caused by the lack of information given to the public. | 40 | -0.44 |
| Every local authority would rather have wind farms built in another location. | 26 | -0.44 |
| Onshore wind energy plans should be abandoned in Malta. The future lies in offshore wind. | 42 | -0.44 |
| It is usually individuals, like landowners, that block the construction of wind turbines. construction of wind turbines. | 1 | -0.44 |
| Slow implementation of wind energy is usually a result of unnecessarily arduous rounds of public participation. | 15 | -0.88 |
| Decisions on wind farms cannot be made by governments alone, but they must result from negotiations with all involved parties. | 25 | -0.88 |
| Offering financial participation in wind projects or green energy to nearby residents is a good way to reduce opposition. | 43 | -0.88 |
| It is mainly environmental organisations that frustrate the construction of wind turbines. | 44 | -0.88 |
| Incentives should be given to the wind industry (not the community) since they determine the successful introduction of renewables. | 5 | -0.88 |
| Planning processes must be carried out rapidly in order to not scare away investors and meet the EU 2020 target. | 29 | -0.88 |
| Decision making surrounding wind energy is an unpredictable process that nobody can control. | 13 | -1.32 |
| Local opposition to a wind farm is nothing more than defending one's self-interest. | 11 | -1.32 |
| The local community should be able to exert its influence in every phase and on all aspects of the decision-making process. | 28 | -1.32 |
| Opponents of wind farms are not willing to compromise so it is pointless to involve them in the decision-making process. | 8 | -1.32 |
| Public participation makes the decision making process more complicated and lengthy than necessary. | 3 | -1.76 |
| It is not participation in decision making that is important for wind projects, but the compensation for the disturbance they cause. | 7 | -1.76 |
| The compromise of the Bahrija landscape is a sacrifice that needs to be made in order to live more sustainable lives. | 27 | -2.2 |

***Table 11 - Normalised Factor Scores for Factor 1 of the Affected Locals***

**AFFECTED LOCALS' PERCEPTIONS ON THE BAHRIJA WIND FARM**

**Factor 1** Explains **28%** of variance. **Eigen values** 2.4849

| OPINIONS I DISAGREE WITH MOST | | | | | NEUTRAL | | | | | OPINIONS I AGREE WITH MOST |
|---|---|---|---|---|---|---|---|---|---|---|
| **-5** | **-4** | **-3** | **-2** | **-1** | **0** | **1+** | **2+** | **3+** | **4+** | **5+** |
| 27 The compromise of the Bahrija landscape is a sacrifice that needs to be made in order to live more sustainable lives. | 3 Public participation makes the decision making process more complicated and lengthy than necessary. | 8 Opponents of wind farms are not willing to compromise so it is pointless to involve them in the decision-making process. | 5 Incentives should be given to the wind industry (not the community) since they determine the successful introduction of renewables. | 1 It is usually individuals, like landowners, that block the construction of wind turbines. | 10 The input from the public during a public participation process often shows a lack of expertise. | 12 Local power companies have no understanding of public participation and are unaccustomed to dealing with stakeholders. | 14 Residents do not want to pay for the nation's energy problems by accepting a wind farm in their area. | 6 Most of the time, stakeholders are insufficiently involved during the first phases of major projects. | 9 Government should give priority to the environment first and to energy supply second. | 4 Wind farms are noisy and visually unacceptable. |
| | 7 It is not participation in decision making that is important for wind projects, but the compensation for the disturbance they cause. | 11 Local opposition to a wind farm is nothing more than defending one's self-interest. | 15 Slow implementation of wind energy is usually a result of unnecessarily arduous rounds of public participation. | 2 Although local opposition to wind projects is quite normal, the public benefit of wind energy is more important. | 19 Involving potential opponents to a wind farm in a timely manner will increase its chances of getting built. | 17 It is useless to try and exert influence on the implementation of wind energy in Malta because the public is ignored. | 18 Before building wind farms all over the country, energy efficiency options should be investigated more thoroughly. | 16 Decisions made with the approval of the local community are generally also better decisions. | 34 Financial support geared towards solar energy is better than financial support for investments in wind energy. | |
| | | 13 Decision making surrounding wind energy is an unpredictable process that nobody can control. | 25 Decisions on wind farms cannot be made by governments alone, but they must result from negotiations with all involved parties. | 22 Government should be able to go ahead anyway when local authorities fail to co-operate with the construction of a wind farm. | 20 People are not fooled by public meetings, environmental impact studies, surveys or superficial public consultations. | 21 The 12 wind turbines planned will look better than the 20 disused communication towers already in the planned area. | 24 Growing energy demand and increasing environmental problems cannot be solved by government alone. | 46 Local interests are not taken into account at the national level, so it is understandable that there is local resistance to the wind farm plans. | | |
| | | 28 The local community should be able to exert its influence in every phase and on all aspects of the decision-making process. | 29 Planning processes must be carried out rapidly in order to not scare away investors and meet the EU 2020 target. | 26 Every local authority would rather have wind farms built in another location. | 31 Professional and scientific expertise ought to play a decisive role in decision making on such infrastructure. | 23 It is wrong to take decisions without giving neighbouring residents a decisive influence. | 33 In the end, it is the cost of oil and electricity that will determine the success or failure of wind energy, not the public. | 49 The small amount of clean energy that wind farms generate does not compensate for the negative impact they have on the landscape. | | |
| | | | 43 Offering financial participation in wind projects or green energy to nearby residents is a good way to reduce opposition. | 30 If good arguments exist for constructing a wind farm in a local community instead of another, than that community should agree to this for the public good. | 32 The problem with public input is that it is mainly based on emotions rather than rational thought. | 36 Everyone prefers that new infrastructure like wind farms are not built too close to their homes. | 35 Initiators of wind farm projects underestimate the value of the landscape when choosing locations. | | | |
| | | | 44 It is mainly environmental organisations that frustrate the construction of wind turbines. | 40 Local opposition to wind farms is mostly caused by the lack of information given to the public. | 41 Wind farms should go in built up areas where people live or places like Hal Far, not rural areas like Bahrija. | 37 We cannot do anything about climate change anyway, so it is pointless to build wind farms. | 38 Local support is important for the successful implementation of wind energy. | | | |
| | | | | 42 Onshore wind energy plans should be abandoned in Malta. The future lies in offshore wind. | 45 Local government does not seem capable of properly handling the public participation necessary for wind energy. | 39 It is mainly local community groups that try to thwart the construction of wind farms. | | | | |
| | | | | | 47 More citizen participation leads to even more opposition toward wind farms. | | | | | |
| | | | | | 48 Public participation determines whether conflicts are solved and a wind farm is actually built. | | | | | |

***Figure 18 - Cognitive map for Factor 1 of Affected Locals***

As predicted, this stakeholder group had the highest number of objectors, and further analysis of the discourse and notes taken from the live interviews revealed several reasons for local opposition. Primarily many local residents objected to the wind project due to concerns about its impact on their quality of life (4) and possibly threats to their sense of place and social identity (27). Some went further in arguing about the importance of preserving what they deem to be one of Malta's most pristine and important rural heritage sites (9, 49).

Opponents were also concerned about their property values, potential agricultural impairments on their land, the project's potential threat to their health and safety, and the potential impact on birds. Noise remains the major concern to the local affected users, some of whom actually live in relative proximity to the proposed site. Additional impacts cannot be discussed in detail because specific information concerning the wind farm design and/or findings of the EIA was not available at the time of writing. Also comments were noted on the potential impact to agriculture, which indicate that certain pre-conceptions already exist ahead of EIA reports/conclusions on the area's agricultural utility of the land and any potential impacts.

The findings of this thesis however reveal even more fundamental reasons for opposition. These reasons seem based on the lack of adequate information about wind energy and the complete neglect of providing any information on how the community will benefit from such an infrastructure. More importantly, locals report the lack of adequate public involvement in the decision-making process (6, 46) and the concern with overall energy efficiency raised by all four discourses. Clearly to most locals, Government has not engaged with the community and discussed how it can stand to benefit, directly or indirectly, from such an intimidating infrastructural development, and from the local affected users point of view dialogue seems one sided (6,16,46). Unfortunately most of the locals thought that neither the Minister's personal 'public information meeting' nor MEPA's scoping feedback mechanism were conducive to involving the community in a collaborative way, or appease these concerns, and seems to have strengthened the prevalent sentiment of mistrust in government's environmental interventions of late (38, 17).

It was interesting to note that one of the major and possibly most significant concerns raised by the local affected user group relates to the real feasibility of the wind farm in view of the wind speeds in the area. Their argument rests on the fact that they doubt that there is sufficient wind in the area, and it hardly justifies such a scar in the Bahrija landscape for producing the estimated 1.15% of Malta's electricity. Unfortunately the only research wind speed measurements available to-date are those by

Farrugia (2005)[194] which indicate the following mean wind speeds and power densities at Bahrija (table below) based upon measured records at 10 m and 45 m above ground level. It is salient to remark that other measurements besides the 10 and 45 m, were extrapolated mathematically using a standard air density and distribution, which still raises some doubts amongst the objectors in the absence of actual data.

| Height Above Ground Level [m] | Mean Wind Speed [m/s] | Average Power Density |
|---|---|---|
| 10 | 5.0-5.5 | 150-200 |
| 30 | 6.5-7.0 | 300-350 |
| 45 | 7.0-7.5 | 350-400 |
| 50 | 7.0-7.5 | 400-450 |

***Table 12 - Mean wind speeds and power densities for different heights at Bahrija.***

The same paper proposes that the theoretical monthly average energy yield for a typical medium-size wind turbine subject to site-specific wind conditions at *Bahrija* over a 12-month time frame, makes the electricity generation potential of wind turbines at Bahrija somewhat feasible, as illustrated in Figure 19 below.

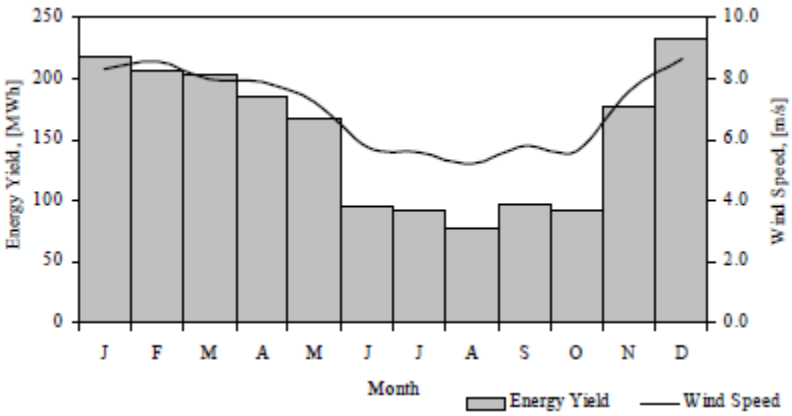



***Figure 19 - Mean monthly wind speeds and mean monthly theoretical energy yield for a medium-size wind turbine at Bahrija, 45 m above ground level.***

[194] Farrugia R.N, Fsadni M., Yousif C., Mallia E.A. (2005) *The Renewable Energy Potential of the Maltese Islands.* Xjenza 2005; *10 p. 32-42* http://www.ambjentahjar.org/library/10_032_farrugia.pdf

Farrugia et al. (2005) quotes other research (Manwell et al. 2003)[195] that suggests sites having average power densities of 300 to 400 W/m2 at 50 m above ground level with turbines having high towers (e.g. 50 m hub height), and average power densities ranging between 400 to 500 W/m2 or more are deemed suitable for wind turbine development.

The wind viability issue also has implications on the carbon footprint recovery of the wind farm. Research (POST 2006)[196] indicates that electricity generated from wind energy has one of the lowest cumulative environmental impacts through all the stages of its life, or 'carbon footprint'. In fact nearly all the emissions occur during the manufacturing and construction phases due to the production of steel for the tower, concrete for the foundations and epoxy/fiberglass for the rotor blades, which in all account for 98% of the total life cycle CO2 emissions. The other 2% is due to emissions generated during operation for routine maintenance inspection trips, and the use of lubricants and transport. As an indication, the carbon footprint of onshore wind generation for the UK is of circa (4.64gCO2eq/kWh) however the offsetting of that same carbon footprint is highly dependent on the wind speed of the area and the energy that is actually generated.

In conclusion, only a proper economic cost-benefit analysis will shed irrefutable evidence on the feasibility of the site (49), or whether private investment in the farm's development will be attracted and whether the 'Bahrija sacrifice' (27) is worthwhile.

Affected farmers and locals in the area are also quite concerned that existing tracks may have to be widened or altered, and new tracks built in order to improve access for turbine delivery and installation, with all the incumbent inconvenience and nuisances which such construction activities will involve. While this is certainly a valid concern, this could also improve access for landowners themselves without any cost to them, while creating potentially better access across public paths to other resource users like the biking and walking community. However many landowners may well prefer to keep the current tracks as they are, which dissuade people from using the area or trespassing on their lands. Nonetheless should such tracks be deemed essential and agreed upon, even then a suitable strategy needs to be put in place in order to minimise environmental damage the catchment areas, underlying soil/garigue and surrounding agricultural holdings. Potential options could include using floating track construction wherein the track is laid straight on top of the garigue or soil by laying a geotextile mat first, followed by a geogrid, followed by graded rock placed over it

[195] Manwell J.F., McGowan J.G., Rogers A.L. (2003) *Wind Energy Explained - Theory, Design and Application,* John Wiley & Sons Ltd., U.K.

[196] Parliamentary Office of Science and Technology (October 2006) *Carbon footprint of electricity generation.* Post Note 268. http://www.parliament.uk/documents/post/postpn268.pdf

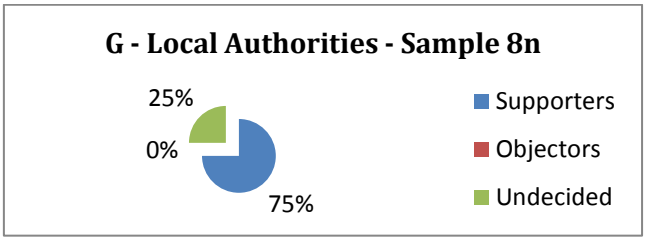
and sized to fit through the holes in the geogrid which locks it in place. This is rolled, and 200mm of crushed rock is laid over a second geogrid to form the surface.[197]

Another major concern was related to the impacts related to electricity distribution and pylon construction; however electricity cables can be easily run underground and exported offsite to the nearest substation. Clearly this could involve substantial trenching works and collateral environmental damage.

It is important to point out that while 40% are seriously against the project; these were people who live or work in close proximity to the suggested site. The other 6 respondents, who were also from the Bahrija area, but from the village a few miles away, seemed somewhat more positive though also somewhat apprehensive. Comments received were in general more optimistic but cautious.

### *4.3.2 Local Authorities*

In all 8 Q interviews were conducted across the affected locals (AL) stakeholder group. Overall results indicate that 75% of the people interviewed were supporters of a potential wind farm project, while 25% where undecided, and none of them objected the project. (See figure below)




[197] Lane Thomas. (2008) *Whitelee wind farm: Putting the wind up.* Issue 14. Retrieved online 28/09/2010. http://www.building.co.uk/whitelee-wind-farm-putting-the-wind-up/3110650.article

The first factor of the Local Authorities group explains 51 % of the variance and is significantly higher than all the other six factors. The normalised factor scores for Factor 1 are presented below.

| **Local Authorities (Factor 1)** | | |
|---|---|---|
| Expl. of variance | 51% | |
| Eigen value | 3.07 | |
| **Statement** | **No.** | **Z-scores** |
| | | |
| Most of the time, stakeholders are insufficiently involved during the first phases of major projects. d | 6 | 2.2 |
| Decisions made with the approval of the local community are generally also better decisions. | 16 | 1.76 |
| Local interests are not taken into account at the national level, so it is understandable that there is local resistance to the wind farm plans. | 46 | 1.76 |
| Involving potential opponents to a wind farm in a timely manner will increase its chances of getting built. | 19 | 1.32 |
| Professional and scientific expertise ought to play a decisive role in decision making on such infrastructure. | 31 | 1.32 |
| The problem with public input is that it is mainly based on emotions rather than rational thought. | 32 | 1.32 |
| Public participation determines whether conflicts are solved and a wind farm is actually built. | 48 | 1.32 |
| Local power companies have no understanding of public participation and are unaccustomed to dealing with stakeholders. | 12 | 0.88 |
| Before building wind farms all over the country, energy efficiency options should be investigated more thoroughly. | 18 | 0.88 |
| It is wrong to take decisions without giving neighbouring residents a decisive influence. | 23 | 0.88 |
| Growing energy demand and increasing environmental problems cannot be solved by government alone. | 24 | 0.88 |
| Decisions on wind farms cannot be made by governments alone, but they must result from negotiations with all involved parties. | 25 | 0.88 |
| Local opposition to wind farms is mostly caused by the lack of information given to the public. | 40 | 0.88 |
| The input from the public during a public participation process often shows a lack of expertise. | 10 | 0.44 |
| The compromise of the Bahrija landscape is a sacrifice that needs to be made in order to live more sustainable lives. | 27 | 0.44 |
| Incentives should be given to the wind industry (not the community) since they determine the successful introduction of renewables. | 5 | 0.44 |
| In the end, it is the cost of oil and electricity that will determine the success or failure of wind energy, not the public. | 33 | 0.44 |
| Local support is important for the successful implementation of wind energy. | 38 | 0.44 |
| Onshore wind energy plans should be abandoned in Malta. The future lies in offshore wind. | 42 | 0.44 |
| It is mainly environmental organisations that frustrate the construction of wind turbines. | 44 | 0.44 |
| The 12 wind turbines planned will look better than the 20 disused communication towers already in the planned area. | 21 | 0 |
| Residents do not want to pay for the nation's energy problems by accepting a wind farm in their area. | 14 | 0 |
| Every local authority would rather have wind farms built in another location. | 26 | 0 |
| Planning processes must be carried out rapidly in order to not scare away investors and meet the EU 2020 target. | 29 | 0 |
| It is usually individuals, like landowners, that block the construction of wind turbines. construction of wind turbines. | 1 | 0 |
| Financial support geared towards solar energy is better than financial support for investments in wind energy. | 34 | 0 |
| Everyone prefers that new infrastructure like wind farms are not built too close to their homes. | 36 | 0 |
| It is mainly local community groups that try to thwart the construction of wind farms. | 39 | 0 |
| Offering financial participation in wind projects or green energy to nearby residents is a good way to reduce opposition. | 43 | 0 |
| Although local opposition to wind projects is quite normal, the public benefit of wind energy is more important. | 2 | -0.44 |
| It is useless to try and exert influence on the implementation of wind energy in Malta because the public is ignored. | 17 | -0.44 |
| Government should give priority to the environment first and to energy supply second. | 22 | -0.44 |
| Initiators of wind farm projects underestimate the value of the landscape when choosing locations. | 35 | -0.44 |
| Government should give priority to the environment first and to energy supply second. | 9 | -0.44 |
| The local community should be able to exert its influence in every phase and on all aspects of the decision-making process. | 28 | -0.44 |
| Wind farms are noisy and visually unacceptable. | 4 | -0.44 |
| Decision making surrounding wind energy is an unpredictable process that nobody can control. | 13 | -0.88 |
| Wind farms should go in built up areas where people live or places like Hal Far, not rural areas like Bahrija. | 41 | -0.88 |
| Local opposition to a wind farm is nothing more than defending one's self-interest. | 11 | -0.88 |
| People are not fooled by public meetings, environmental impact studies, surveys or superficial public consultations. | 20 | -0.88 |
| Local government does not seem capable of properly handling the public participation necessary for wind energy. | 45 | -0.88 |
| The small amount of clean energy that wind farms generate does not compensate for the negative impact they have on the landscape. | 49 | -0.88 |
| If good arguments exist for constructing a wind farm in a local community instead of another, than that community should agree to this for the public good. | 30 | -1.32 |
| Public participation makes the decision making process more complicated and lengthy than necessary. | 3 | -1.32 |
| It is not participation in decision making that is important for wind projects, but the compensation for the disturbance they cause. | 7 | -1.32 |
| Slow implementation of wind energy is usually a result of unnecessarily arduous rounds of public participation. | 15 | -1.32 |
| More citizen participation leads to even more opposition toward wind farms. | 47 | -1.76 |
| Opponents of wind farms are not willing to compromise so it is pointless to involve them in the decision-making process. | 8 | -1.76 |
| We cannot do anything about climate change anyway, so it is pointless to build wind farms. | 37 | -2.2 |

***Table 13 - Normalised Factor Scores for Factor 1 of the Local Authorities***

The local authority grouping included respondents that are directly active in the decision making for the wind farm plans, and others that are simply observers of the process who are duty bound to

defend the interests of the community or sectors they represent or manage. In all cases, efforts were made to ensure the confidentiality of their responses in order not to embarrass the authority they represented. It was also interesting to note that there was high consensus on the inadequacy of stakeholder involvement and that local interests are not taken into account adequately (6, 46, 19). They also recognise that scientific expertise is crucial in the decision making process (31), and that public input is mostly based on emotions rather than rationality (32). They also recognised that opposition is actually a good thing that could contribute towards making better decisions (16, 19, 48).

Other remarks of interest during the interviews that deserve mention include the Rabat Local Council's willingness to discuss the proposal in further detail, as against simply rejecting it, but at the same time having limited resources or expertise to undertake its own investigations into the technical merits of the proposal and its impacts.

Other interesting comments were noted by most public officials who remarked on the difficulty of dealing with emotive people and trying to appease all their constituents, and explaining the technical intricacies and compromises that country needs to face in order to reach sustainability targets.

**LOCAL AUTHORITIES' PERCEPTIONS ON THE BAHRIJA WIND FARM**

**Factor 1** Explains **51%** of variance. **Eigen values** 3.074

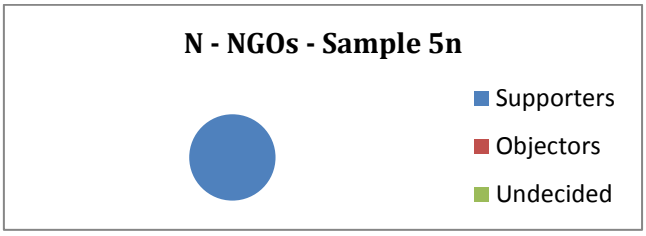
**OPINIONS I DISAGREE WITH MOST** ← **NEUTRAL** → **OPINIONS I AGREE WITH MOST**

| -5 | -4 | -3 | -2 | -1 | 0 | 1+ | 2+ | 3+ | 4+ | 5+ |
|---|---|---|---|---|---|---|---|---|---|---|
| 37 We cannot do anything about climate change anyway, so it is pointless to build wind farms. | 8 Opponents of wind farms are not willing to compromise so it is pointless to involve them in the decision-making process. | 3 Public participation makes the decision making process more complicated and lengthy than necessary. | 11 Local opposition to a wind farm is nothing more than defending one's self-interest. | 2 Although local opposition to wind projects is quite normal, the public benefit of wind energy is more important. | 1 It is usually individuals, like landowners, that block the construction of wind turbines. | 5 Incentives should be given to the wind industry (not the community) since they determine the successful introduction of renewables. | 12 Local power companies have no understanding of public participation and are unaccustomed to dealing with stakeholders. | 19 Involving potential opponents to a wind farm in a timely manner will increase its chances of getting built. | 16 Decisions made with the approval of the local community are generally also better decisions. | 6 Most of the time, stakeholders are insufficiently involved during the first phases of major projects. |
| | 47 More citizen participation leads to even more opposition toward wind farms. | 7 It is not participation in decision making that is important for wind projects, but the compensation for the disturbance they cause. | 13 Decision making surrounding wind energy is an unpredictable process that nobody can control. | 4 Wind farms are noisy and visually unacceptable. | 14 Residents do not want to pay for the nation's energy problems by accepting a wind farm in their area. | 10 The input from the public during a public participation process often shows a lack of expertise. | 18 Before building wind farms all over the country, energy efficiency options should be investigated more thoroughly. | 31 Professional and scientific expertise ought to play a decisive role in decision making on such infrastructure. | 46 Local interests are not taken into account at the national level, so it is understandable that there is local resistance to the wind farm plans. | |
| | | 15 Slow implementation of wind energy is usually a result of unnecessarily arduous rounds of public participation. | 20 People are not fooled by public meetings, environmental impact studies, surveys or superficial public consultations. | 9 Government should give priority to the environment first and to energy supply second. | 21 The 12 wind turbines planned will look better than the 20 disused communication towers already in the planned area. | 27 The compromise of the Bahrija landscape is a sacrifice that needs to be made in order to live more sustainable lives. | 23 It is wrong to take decisions without giving neighbouring residents a decisive influence. | 32 The problem with public input is that it is mainly based on emotions rather than rational thought. | | |
| | | 30 If good arguments exist for constructing a wind farm in a local community instead of another, than that community should agree to this for the public good. | 41 Wind farms should go in built up areas where people live or places like Hal Far, not rural areas like Bahrija. | 17 It is useless to try and exert influence on the implementation of wind energy in Malta because the public is ignored. | 26 Every local authority would rather have wind farms built in another location. | 33 In the end, it is the cost of oil and electricity that will determine the success or failure of wind energy, not the public. | 24 Growing energy demand and increasing environmental problems cannot be solved by government alone. | 48 Public participation determines whether conflicts are solved and a wind farm is actually built. | | |
| | | | 45 Local government does not seem capable of properly handling the public participation necessary for wind energy. | 22 Government should be able to go ahead anyway when local authorities fail to co-operate with the construction of a wind farm. | 29 Planning processes must be carried out rapidly in order to not scare away investors and meet the EU 2020 target. | 38 Local support is important for the successful implementation of wind energy. | 25 Decisions on wind farms cannot be made by governments alone, but they must result from negotiations with all involved parties. | | | |
| | | | 49 The small amount of clean energy that wind farms generate does not compensate for the negative impact they have on the landscape. | 28 The local community should be able to exert its influence in every phase and on all aspects of the decision-making process. | 34 Financial support geared towards solar energy is better than financial support for investments in wind energy. | 42 Onshore wind energy plans should be abandoned in Malta. The future lies in offshore wind. | 40 Local opposition to wind farms is mostly caused by the lack of information given to the public. | | | |
| | | | | 35 Initiators of wind farm projects underestimate the value of the landscape when choosing locations. | 36 Everyone prefers that new infrastructure like wind farms are not built too close to their homes. | 44 It is mainly environmental organisations that frustrate the construction of wind turbines. | | | | |
| | | | | | 39 It is mainly local community groups that try to thwart the construction of wind farms. | | | | | |
| | | | | | 43 Offering financial participation in wind projects or green energy to nearby residents is a good way to reduce opposition. | | | | | |

***Figure 20 - Cognitive map for Factor 1 of Local Authorities***

### *4.3.3 Non-Governmental Organisations*

In all 5 Q interviews were conducted across the affected locals (AL) stakeholder group due to the restricted number of NGOs that have a specific interest in the Bahrija area or wind energy/avifauna domain. Overall results indicate that 100% of the people interviewed were supporters of a potential wind farm project but most noted a level of caution in this optimism (see figure below).




The first factor of the NGO group explains 61 % of the variance and is significantly higher than all the other five factors. The normalised factor scores for Factor 1 are presented below.

| **NGOs (Factor 1)** | | |
|---|---|---|
| Expl. of variance | 61% | |
| Eigen value | 3.03 | |
| **Statement** | **No.** | **Z-scores** |
| | | |
| Professional and scientific expertise ought to play a decisive role in decision making on such infrastructure. | 31 | 2.200 |
| Before building wind farms all over the country, energy efficiency options should be investigated more thoroughly. | 18 | 1.760 |
| Local government does not seem capable of properly handling the public participation necessary for wind energy. | 45 | 1.760 |
| Most of the time, stakeholders are insufficiently involved during the first phases of major projects. | 6 | 1.320 |
| Government should give priority to the environment first and to energy supply second. | 9 | 1.320 |
| Although local opposition to wind projects is quite normal, the public benefit of wind energy is more important. | 2 | 1.320 |
| Involving potential opponents to a wind farm in a timely manner will increase its chances of getting built. | 19 | 1.320 |
| The input from the public during a public participation process often shows a lack of expertise. | 10 | 0.880 |
| Growing energy demand and increasing environmental problems cannot be solved by government alone. | 24 | 0.880 |
| It is usually individuals, like landowners, that block the construction of wind turbines. | 1 | 0.880 |
| Local support is important for the successful implementation of wind energy. | 38 | 0.880 |
| Local opposition to wind farms is mostly caused by the lack of information given to the public. | 40 | 0.880 |
| Offering financial participation in wind projects or green energy to nearby residents is a good way to reduce opposition. | 43 | 0.880 |
| Residents do not want to pay for the nation's energy problems by accepting a wind farm in their area. | 14 | 0.440 |
| Decisions made with the approval of the local community are generally also better decisions. | 16 | 0.440 |
| People are not fooled by public meetings, environmental impact studies, surveys or superficial public consultations. | 20 | 0.440 |
| The 12 wind turbines planned will look better than the 20 disused communication towers already in the planned area. | 21 | 0.440 |
| Decisions on wind farms cannot be made by governments alone, but they must result from negotiations with all involved parties. | 25 | 0.440 |
| The local community should be able to exert its influence in every phase and on all aspects of the decision-making process. | 28 | 0.440 |
| If good arguments exist for constructing a wind farm in a local community instead of another, than that community should agree to this for the public good. | 30 | 0.440 |
| It is useless to try and exert influence on the implementation of wind energy in Malta because the public is ignored. | 17 | 0.000 |
| It is wrong to take decisions without giving neighbouring residents a decisive influence. | 23 | 0.000 |
| The compromise of the Bahrija landscape is a sacrifice that needs to be made in order to live more sustainable lives. | 27 | 0.000 |
| The problem with public input is that it is mainly based on emotions rather than rational thought. | 32 | 0.000 |
| In the end, it is the cost of oil and electricity that will determine the success or failure of wind energy, not the public. | 33 | 0.000 |
| Everyone prefers that new infrastructure like wind farms are not built too close to their homes. | 36 | 0.000 |
| Local opposition to a wind farm is nothing more than defending one's self-interest. | 11 | 0.000 |
| It is mainly local community groups that try to thwart the construction of wind farms. | 39 | 0.000 |
| Decision making surrounding wind energy is an unpredictable process that nobody can control. | 13 | 0.000 |
| Slow implementation of wind energy is usually a result of unnecessarily arduous rounds of public participation. | 15 | -0.440 |
| Incentives should be given to the wind industry (not the community) since they determine the successful introduction of renewables. | 5 | -0.440 |
| Financial support geared towards solar energy is better than financial support for investments in wind energy. | 34 | -0.440 |
| Every local authority would rather have wind farms built in another location. | 26 | -0.440 |
| Local power companies have no understanding of public participation and are unaccustomed to dealing with stakeholders. | 12 | -0.440 |
| Public participation makes the decision making process more complicated and lengthy than necessary. | 3 | -0.440 |
| Public participation determines whether conflicts are solved and a wind farm is actually built. | 48 | -0.440 |
| Wind farms should go in built up areas where people live or places like Hal Far, not rural areas like Bahrija. | 41 | -0.880 |
| Onshore wind energy plans should be abandoned in Malta. The future lies in offshore wind. | 42 | -0.880 |
| It is mainly environmental organisations that frustrate the construction of wind turbines. | 44 | -0.880 |
| Initiators of wind farm projects underestimate the value of the landscape when choosing locations. | 35 | -0.880 |
| Local interests are not taken into account at the national level, so it is understandable that there is local resistance to the wind farm plans. | 46 | -0.880 |
| More citizen participation leads to even more opposition toward wind farms. | 47 | -0.880 |
| Planning processes must be carried out rapidly in order to not scare away investors and meet the EU 2020 target. | 29 | -1.320 |
| It is not participation in decision making that is important for wind projects, but the compensation for the disturbance they cause. | 7 | -1.320 |
| Opponents of wind farms are not willing to compromise so it is pointless to involve them in the decision-making process. | 8 | -1.320 |
| Government should be able to go ahead anyway when local authorities fail to co-operate with the construction of a wind farm. | 22 | -1.320 |
| Wind farms are noisy and visually unacceptable. | 4 | -1.760 |
| The small amount of clean energy that wind farms generate does not compensate for the negative impact they have on the landscape. | 49 | -1.760 |
| We cannot do anything about climate change anyway, so it is pointless to build wind farms. | 37 | -2.200 |

***Table 14 - Normalised Factor Scores for Factor 1 of the NGOs***

NGOs interviewed were optimistic about the Bahrija wind farm plans, but still cautious and looking forward to having the opportunity to examine the EIA once it was published. Even NGOs like Birdlife Malta where open-minded about the project, and hoped that they would also be consulted on the methodology that would be used in the EIA to measure bird impacts.

This discourse rates scientific expertise highest (31), and believes strongly that energy efficiency options should be investigated more thoroughly before taking such a step (18). It also seems to have consensus on chastising local government's inadequate handling of the public participation effort necessary for this wind energy plan so far, and that most of the time stakeholders are insufficiently consulted (6). Understandably for this grouping the environment is deemed to be more important than the country's energy concerns (9).

**NON GOVERNMENTAL ORGANISATIONS' PERCEPTIONS ON THE BAHRIJA WIND FARM**

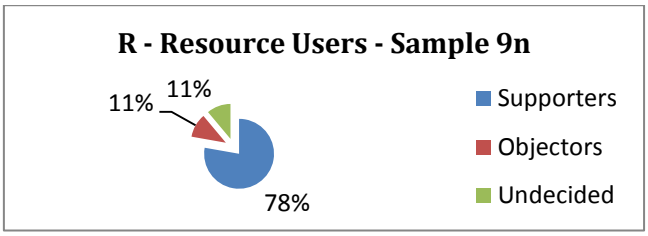
**Factor 1** Explains **61%** of variance. **Eigen Values** 3.0255

| OPINIONS I DISAGREE WITH MOST | | | | | NEUTRAL | | | | | OPINIONS I AGREE WITH MOST |
|---|---|---|---|---|---|---|---|---|---|---|
| **-5** | **-4** | **-3** | **-2** | **-1** | **0** | **1+** | **2+** | **3+** | **4+** | **5+** |
| 37 We cannot do anything about climate change anyway, so it is pointless to build wind farms. | 4 Wind farms are noisy and visually unacceptable. | 7 It is not participation in decision making that is important for wind projects, but the compensation for the disturbance they cause. | 35 Initiators of wind farm projects underestimate the value of the landscape when choosing locations. | 3 Public participation makes the decision making process more complicated and lengthy than necessary. | 11 Local opposition to a wind farm is nothing more than defending one's self-interest. | 14 Residents do not want to pay for the nation's energy problems by accepting a wind farm in their area. | 1 It is usually individuals, like landowners, that block the construction of wind turbines. | 2 Although local opposition to wind projects is quite normal, the public benefit of wind energy is more important. | 18 Before building wind farms all over the country, energy efficiency options should be investigated more thoroughly. | 31 Professional and scientific expertise ought to play a decisive role in decision making on such infrastructure. |
| | 49 The small amount of clean energy that wind farms generate does not compensate for the negative impact they have on the landscape. | 8 Opponents of wind farms are not willing to compromise so it is pointless to involve them in the decision-making process. | 41 Wind farms should go in built up areas where people live or places like Hal Far, not rural areas like Bahrija. | 5 Incentives should be given to the wind industry (not the community) since they determine the successful introduction of renewables. | 13 Decision making surrounding wind energy is an unpredictable process that nobody can control. | 16 Decisions made with the approval of the local community are generally also better decisions. | 10 The input from the public during a public participation process often shows a lack of expertise. | 6 Most of the time, stakeholders are insufficiently involved during the first phases of major projects. | 45 Local government does not seem capable of properly handling the public participation necessary for wind energy. | |
| | | 22 Government should be able to go ahead anyway when local authorities fail to co-operate with the construction of a wind farm. | 42 Onshore wind energy plans should be abandoned in Malta. The future lies in offshore wind. | 12 Local power companies have no understanding of public participation and are unaccustomed to dealing with stakeholders. | 17 It is useless to try and exert influence on the implementation of wind energy in Malta because the public is ignored. | 20 People are not fooled by public meetings, environmental impact studies, surveys or superficial public consultations. | 24 Growing energy demand and increasing environmental problems cannot be solved by government alone. | 9 Government should give priority to the environment first and to energy supply second. | | |
| | | 29 Planning processes must be carried out rapidly in order to not scare away investors and meet the EU 2020 target. | 44 It is mainly environmental organisations that frustrate the construction of wind turbines. | 15 Slow implementation of wind energy is usually a result of unnecessarily arduous rounds of public participation. | 23 It is wrong to take decisions without giving neighbouring residents a decisive influence. | 21 The 12 wind turbines planned will look better than the 20 disused communication towers already in the planned area. | 38 Local support is important for the successful implementation of wind energy. | 19 Involving potential opponents to a wind farm in a timely manner will increase its chances of getting built. | | |
| | | | 46 Local interests are not taken into account at the national level, so it is understandable that there is local resistance to the wind farm plans. | 26 Every local authority would rather have wind farms built in another location. | 27 The compromise of the Bahrija landscape is a sacrifice that needs to be made in order to live more sustainable lives. | 25 Decisions on wind farms cannot be made by governments alone, but they must result from negotiations with all involved parties. | 40 Local opposition to wind farms is mostly caused by the lack of information given to the public. | | | |
| | | | 47 More citizen participation leads to even more opposition toward wind farms. | 34 Financial support geared towards solar energy is better than financial support for investments in wind energy. | 32 The problem with public input is that it is mainly based on emotions rather than rational thought. | 28 The local community should be able to exert its influence in every phase and on all aspects of the decision-making process. | 43 Offering financial participation in wind projects or green energy to nearby residents is a good way to reduce opposition. | | | |
| | | | | 48 Public participation determines whether conflicts are solved and a wind farm is actually built. | 33 In the end, it is the cost of oil and electricity that will determine the success or failure of wind energy, not the public. | 30 If good arguments exist for constructing a wind farm in a local community instead of another, than that community should agree to this for the public good. | | | | |
| | | | | | 36 Everyone prefers that new infrastructure like wind farms are not built too close to their homes. | | | | | |
| | | | | | 39 It is mainly local community groups that try to thwart the construction of wind farms. | | | | | |

***Figure 21 - Cognitive map for Factor 1 of the NGOs***

*4.3.4 Resource Users*

In all 9 Q interviews were conducted across the Resource User stakeholder group. Overall results indicate that 78% of the people interviewed were supporters of a potential wind farm project, 11% were objectors and a similar amount undecided. (See figure below)




The first factor of the Resource User group explains 34 % of the variance and is significantly higher than all the other eight factors. The normalised factor scores for Factor 1 are presented below.

| **Resource Users (Factor 1 )** | | |
|---|---|---|
| Expl. of variance | 34% | |
| Eigen value | 3.03 | |
| **Statement** | **No.** | **Z-scores** |
| | | |
| Local opposition to wind farms is mostly caused by the lack of information given to the public. | 40 | 2.200 |
| Most of the time, stakeholders are insufficiently involved during the first phases of major projects. d | 6 | 1.760 |
| Local government does not seem capable of properly handling the public participation necessary for wind energy. | 45 | 1.760 |
| Before building wind farms all over the country, energy efficiency options should be investigated more thoroughly. | 18 | 1.320 |
| Involving potential opponents to a wind farm in a timely manner will increase its chances of getting built. | 19 | 1.320 |
| Professional and scientific expertise ought to play a decisive role in decision making on such infrastructure. | 31 | 1.320 |
| Offering financial participation in wind projects or green energy to nearby residents is a good way to reduce opposition. | 43 | 1.320 |
| The 12 wind turbines planned will look better than the 20 disused communication towers already in the planned area. | 21 | 0.880 |
| Every local authority would rather have wind farms built in another location. | 26 | 0.880 |
| The compromise of the Bahrija landscape is a sacrifice that needs to be made in order to live more sustainable lives. | 27 | 0.880 |
| Although local opposition to wind projects is quite normal, the public benefit of wind energy is more important. | 2 | 0.880 |
| The problem with public input is that it is mainly based on emotions rather than rational thought. | 32 | 0.880 |
| Public participation determines whether conflicts are solved and a wind farm is actually built. | 48 | 0.880 |
| Government should be able to go ahead anyway when local authorities fail to co-operate with the construction of a wind farm. | 22 | 0.440 |
| Decisions on wind farms cannot be made by governments alone, but they must result from negotiations with all involved parties. | 25 | 0.440 |
| The input from the public during a public participation process often shows a lack of expertise. | 10 | 0.440 |
| Planning processes must be carried out rapidly in order to not scare away investors and meet the EU 2020 target. | 29 | 0.440 |
| If good arguments exist for constructing a wind farm in a local community instead of another, than that community should agree to this for the public good. | 30 | 0.440 |
| In the end, it is the cost of oil and electricity that will determine the success or failure of wind energy, not the public. | 33 | 0.440 |
| Public participation makes the decision making process more complicated and lengthy than necessary. | 3 | 0.440 |
| Government should give priority to the environment first and to energy supply second. | 9 | 0.000 |
| Decisions made with the approval of the local community are generally also better decisions. | 16 | 0.000 |
| Local opposition to a wind farm is nothing more than defending one's self-interest. | 11 | 0.000 |
| Local power companies have no understanding of public participation and are unaccustomed to dealing with stakeholders. | 12 | 0.000 |
| Initiators of wind farm projects underestimate the value of the landscape when choosing locations. | 35 | 0.000 |
| It is mainly local community groups that try to thwart the construction of wind farms. | 39 | 0.000 |
| Wind farms should go in built up areas where people live or places like Hal Far, not rural areas like Bahrija. | 41 | 0.000 |
| It is mainly environmental organisations that frustrate the construction of wind turbines. | 44 | 0.000 |
| Local interests are not taken into account at the national level, so it is understandable that there is local resistance to the wind farm plans. | 46 | 0.000 |
| Wind farms are noisy and visually unacceptable. | 4 | -0.440 |
| It is wrong to take decisions without giving neighbouring residents a decisive influence. | 23 | -0.440 |
| Growing energy demand and increasing environmental problems cannot be solved by government alone. | 24 | -0.440 |
| Local support is important for the successful implementation of wind energy. | 38 | -0.440 |
| Residents do not want to pay for the nation's energy problems by accepting a wind farm in their area. | 14 | -0.440 |
| People are not fooled by public meetings, environmental impact studies, surveys or superficial public consultations. | 20 | -0.440 |
| Decision making surrounding wind energy is an unpredictable process that nobody can control. | 13 | -0.440 |
| Incentives should be given to the wind industry (not the community) since they determine the successful introduction of renewables. | 5 | -0.880 |
| It is usually individuals, like landowners, that block the construction of wind turbines. construction of wind turbines. | 1 | -0.880 |
| Onshore wind energy plans should be abandoned in Malta. The future lies in offshore wind. | 42 | -0.880 |
| It is not participation in decision making that is important for wind projects, but the compensation for the disturbance they cause. | 7 | -0.880 |
| It is useless to try and exert influence on the implementation of wind energy in Malta because the public is ignored. | 17 | -0.880 |
| Everyone prefers that new infrastructure like wind farms are not built too close to their homes. | 36 | -0.880 |
| We cannot do anything about climate change anyway, so it is pointless to build wind farms. | 37 | -1.320 |
| Slow implementation of wind energy is usually a result of unnecessarily arduous rounds of public participation. | 15 | -1.320 |
| Financial support geared towards solar energy is better than financial support for investments in wind energy. | 34 | -1.320 |
| The small amount of clean energy that wind farms generate does not compensate for the negative impact they have on the landscape. | 49 | -1.320 |
| More citizen participation leads to even more opposition toward wind farms. | 47 | -1.760 |
| Opponents of wind farms are not willing to compromise so it is pointless to involve them in the decision-making process. | 8 | -1.760 |
| The local community should be able to exert its influence in every phase and on all aspects of the decision-making process. | 28 | -2.200 |

***Table 15 - Normalised Factor Scores for Factor 1 of the Resource Users***

This discourse is very similar to the NGO perspective in their complaints that stakeholders are insufficiently consulted (6) and that local government is not capable of engaging in proper public participation (45). In fact its highest ranking statement is that local opposition is mostly caused by the lack of information given to the public.

Comments noted during discussions with the respondents seem to suggest that they would like to see a proper rehabilitation of the area and better access roads provided for walkers or bikers, and agreement was that the turbines would look better than the disused antennae (21).

Possibly one of the main users of the area is the hunting community which was very 'active' during the months of August and September, and present during various visits to the area made by the author during the day and night. Discussions with hunters were attempted when possible but only achieved with difficulty since in most cases they were apprehensive on being approached given that they were engaged in hunting activities outside the legal hunting season.[198] Illegal hunting in Bahrija has in fact been a recurrent bone of contention in Malta.[199] The Q methodology could not be undertaken with the hunting community due to the circumstances. Clearly all 5 hunters the author spoke to where completely against the wind farm project since they are aware that the area would not permit hunting in the vicinity, and expected that the turbines would displace birds and the indigenous wild grey rabbit of Malta, known as Tax-xiber (*Oryctolagus cuniculus)*[200] in the area. It is of interest to note that only one of the five hunters approached were actually from the Bahrija area. During two visits while the open hunting was open (in 2010 started on the 15th October), shooting was incessant and apparently indiscrimate all throughout the Bahrija area; making any concerns about bird collisions with proposed turbines almost seem a moot point.

On the other hand, discussions with residents in the area indicated a sense of reticence towards the hunting (mostly illegal) that takes place all year round, and considered them to be a nuisance, and on some occasions a peril. However the prevailing sentiment is to let sleeping dogs lie and close a blind eye as much as possible.

Similar arguments were made about the numerous illegal developments and dumping on the garigue areas in questions. Various enforcement actions are in fact being undertaken by MEPA according to their map server for the area in relation to illegal dumping of inert material and soil on garigue to form fields without permit. Visits to the area indicate that illegal dumping is in fact much more widespread than indicated on the MapServer. In one instance (Case Number: EC/00352/09) one notes

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[198] The hunting of birds on land is permitted between the 1st September 2010 and the 31st January 2011, between two hours before sunrise and two hours after sunset on any day between Monday and Saturday, and between two hours before sunrise and 1 o' clock in the afternoon (1.00p.m) on Sundays and Public Holidays. L.N. 355 of 2010, Conservation of Wild Birds (Declaration of the periods for Hunting and Taking for 2010) Regulations, 2010; Environment Protection Act (CAP. 435); http://www.doi.gov.mt/en/legalnotices/2010/07/LN%20355.pdf

[199] FKNK (2009) "*Protesta gol bahrija*" http://forum.huntinginmalta.org.mt/YaBB.pl?num=1244901740/9
*CABS film shooting down of birds of prey*. 10TH September 2010. GozoNews.com.
http://gozonews.com/10650/cabs-film-shooting-down-of-birds-of-prey/
*CABS reports illegal bird trapping, police seize nets and live bird decoys*. (17 September 2010) MaltaToday. http://www.maltatoday.com.mt/news/hunting/cabs-reports-illegal-bird-trapping-police-seize-nets-and-live-bird-decoys

[200] Gauci Maistre J. (Undated) "*Tax - Xiber" - The indigenous rabbit of Malta*.
http://ressources.ciheam.org/om/pdf/c41/99600122.pdf

a substantial infringement related to the change use of land from original state to car model racing track, deposit and levelling of material, and construction of room and franka[201] wall.

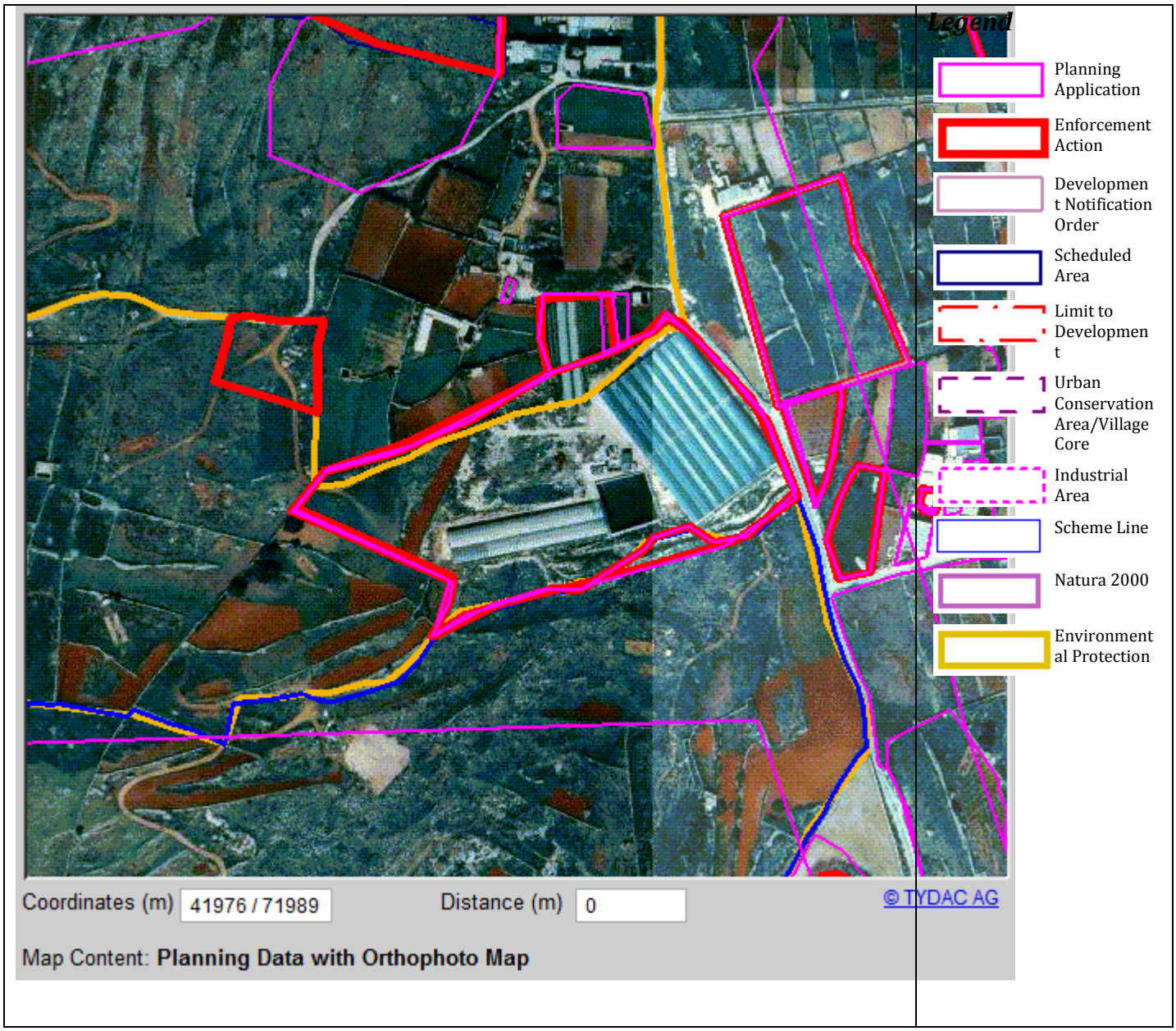



***Figure 22 - Snapshot of the Bahrija footprint from MapServer (29/09/2010 MEPA)***

(The area highlighted in pink indicates the proposed planning application boundaries of the wind farm.)

[201] Natural stone (Globigerina limestone blocks - "franka

**RESOURCE USERS PERCEPTIONS ON THE BAHRIJA WIND FARM**

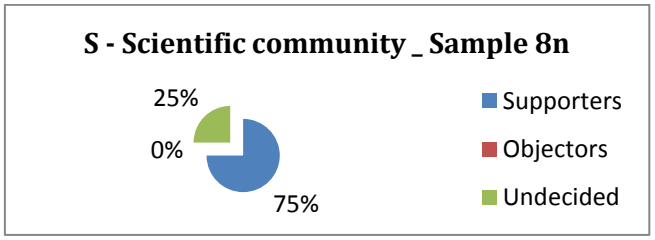
**Factor 1** Explains **34%** of variance. **Eigen Values** 3.0344

| OPINIONS I DISAGREE WITH MOST | | | | | NEUTRAL | | | | | OPINIONS I AGREE WITH MOST |
|---|---|---|---|---|---|---|---|---|---|---|
| **-5** | **-4** | **-3** | **-2** | **-1** | **0** | **1+** | **2+** | **3+** | **4+** | **5+** |
| 28 The local community should be able to exert its influence in every phase and on all aspects of the decision-making process. | 8 Opponents of wind farms are not willing to compromise so it is pointless to involve them in the decision-making process. | 15 Slow implementation of wind energy is usually a result of unnecessarily arduous rounds of public participation. | 1 It is usually individuals, like landowners, that block the construction of wind turbines. | 4 Wind farms are noisy and visually unacceptable. | 9 Government should give priority to the environment first and to energy supply second. | 3 Public participation makes the decision making process more complicated and lengthy than necessary. | 2 Although local opposition to wind projects is quite normal, the public benefit of wind energy is more important. | 18 Before building wind farms all over the country, energy efficiency options should be investigated more thoroughly. | 6 Most of the time, stakeholders are insufficiently involved during the first phases of major projects. | 40 Local opposition to wind farms is mostly caused by the lack of information given to the public. |
| | 47 More citizen participation leads to even more opposition toward wind farms. | 34 Financial support geared towards solar energy is better than financial support for investments in wind energy. | 5 Incentives should be given to the wind industry (not the community) since they determine the successful introduction of renewables. | 13 Decision making surrounding wind energy is an unpredictable process that nobody can control. | 11 Local opposition to a wind farm is nothing more than defending one's self-interest. | 10 The input from the public during a public participation process often shows a lack of expertise. | 21 The 12 wind turbines planned will look better than the 20 disused communication towers already in the planned area. | 19 Involving potential opponents to a wind farm in a timely manner will increase its chances of getting built. | 45 Local government does not seem capable of properly handling the public participation necessary for wind energy. | |
| | | 37 We cannot do anything about climate change anyway, so it is pointless to build wind farms. | 7 It is not participation in decision making that is important for wind projects, but the compensation for the disturbance they cause. | 14 Residents do not want to pay for the nation's energy problems by accepting a wind farm in their area. | 12 Local power companies have no understanding of public participation and are unaccustomed to dealing with stakeholders. | 22 Government should be able to go ahead anyway when local authorities fail to co-operate with the construction of a wind farm. | 26 Every local authority would rather have wind farms built in another location. | 31 Professional and scientific expertise ought to play a decisive role in decision making on such infrastructure. | | |
| | | 49 The small amount of clean energy that wind farms generate does not compensate for the negative impact they have on the landscape. | 17 It is useless to try and exert influence on the implementation of wind energy in Malta because the public is ignored. | 20 People are not fooled by public meetings, environmental impact studies, surveys or superficial public consultations. | 16 Decisions made with the approval of the local community are generally also better decisions. | 25 Decisions on wind farms cannot be made by governments alone, but they must result from negotiations with all involved parties. | 27 The compromise of the Bahrija landscape is a sacrifice that needs to be made in order to live more sustainable lives. | 43 Offering financial participation in wind projects or green energy to nearby residents is a good way to reduce opposition. | | |
| | | | 36 Everyone prefers that new infrastructure like wind farms are not built too close to their homes. | 23 It is wrong to take decisions without giving neighbouring residents a decisive influence. | 35 Initiators of wind farm projects underestimate the value of the landscape when choosing locations. | 29 Planning processes must be carried out rapidly in order to not scare away investors and meet the EU 2020 target. | 32 The problem with public input is that it is mainly based on emotions rather than rational thought. | | | |
| | | | 42 Onshore wind energy plans should be abandoned in Malta. The future lies in offshore wind. | 24 Growing energy demand and increasing environmental problems cannot be solved by government alone. | 39 It is mainly local community groups that try to thwart the construction of wind farms. | 30 If good arguments exist for constructing a wind farm in a local community instead of another, than that community should agree to this for the public good. | 48 Public participation determines whether conflicts are solved and a wind farm is actually built. | | | |
| | | | | 38 Local support is important for the successful implementation of wind energy. | 41 Wind farms should go in built up areas where people live or places like Hal Far, not rural areas like Bahrija. | 33 In the end, it is the cost of oil and electricity that will determine the success or failure of wind energy, not the public. | | | | |
| | | | | | 44 It is mainly environmental organisations that frustrate the construction of wind turbines. | | | | | |
| | | | | | 46 Local interests are not taken into account at the national level, so it is understandable that there is local resistance to the wind farm plans. | | | | | |

***Figure 23 - Cognitive map for Factor 1 of Resource Users***

*4.3.5 Scientific Community*

In all 8 Q interviews were conducted across the Scientific Community stakeholder group. Overall results indicate that 75% of the people interviewed were supporters of a potential wind farm project and 25% preferred to take an undecided stance until the EIA results were made public in order to make a more informed decision. (See figure below)




The first factor of the Scientific Community group explains 34 % of the variance and is significantly higher than all the other eight factors. The normalised factor scores for Factor 1 are presented below.

| **Scientific community (Factor 1)** | | |
|---|---|---|
| Expl. of variance | 47% | |
| Eigen value | 3.73 | |
| **Statement** | **No.** | **Z-scores** |
| | | |
| Professional and scientific expertise ought to play a decisive role in decision making on such infrastructure. | 31 | 2.2 |
| Although local opposition to wind projects is quite normal, the public benefit of wind energy is more important. | 2 | 1.76 |
| Decisions made with the approval of the local community are generally also better decisions. | 16 | 1.76 |
| Involving potential opponents to a wind farm in a timely manner will increase its chances of getting built. | 19 | 1.32 |
| Decisions on wind farms cannot be made by governments alone, but they must result from negotiations with all involved parties. | 25 | 1.32 |
| Local opposition to wind farms is mostly caused by the lack of information given to the public. | 40 | 1.32 |
| Offering financial participation in wind projects or green energy to nearby residents is a good way to reduce opposition. | 43 | 1.32 |
| It is wrong to take decisions without giving neighbouring residents a decisive influence. | 23 | 0.88 |
| It is usually individuals, like landowners, that block the construction of wind turbines. construction of wind turbines. | 1 | 0.88 |
| In the end, it is the cost of oil and electricity that will determine the success or failure of wind energy, not the public. | 33 | 0.88 |
| Everyone prefers that new infrastructure like wind farms are not built too close to their homes. | 36 | 0.88 |
| Local support is important for the successful implementation of wind energy. | 38 | 0.88 |
| Local interests are not taken into account at the national level, so it is understandable that there is local resistance to the wind farm plans. | 46 | 0.88 |
| Slow implementation of wind energy is usually a result of unnecessarily arduous rounds of public participation. | 15 | 0.44 |
| People are not fooled by public meetings, environmental impact studies, surveys or superficial public consultations. | 20 | 0.44 |
| Growing energy demand and increasing environmental problems cannot be solved by government alone. | 24 | 0.44 |
| Every local authority would rather have wind farms built in another location. | 26 | 0.44 |
| The compromise of the Bahrija landscape is a sacrifice that needs to be made in order to live more sustainable lives. | 27 | 0.44 |
| The problem with public input is that it is mainly based on emotions rather than rational thought. | 32 | 0.44 |
| It is not participation in decision making that is important for wind projects, but the compensation for the disturbance they cause. | 7 | 0.44 |
| Government should give priority to the environment first and to energy supply second. | 22 | 0 |
| Planning processes must be carried out rapidly in order to not scare away investors and meet the EU 2020 target. | 29 | 0 |
| If good arguments exist for constructing a wind farm in a local community instead of another, than that community should agree to this for the public good. | 30 | 0 |
| Government should give priority to the environment first and to energy supply second. | 9 | 0 |
| Local opposition to a wind farm is nothing more than defending one's self-interest. | 11 | 0 |
| It is mainly local community groups that try to thwart the construction of wind farms. | 39 | 0 |
| Most of the time, stakeholders are insufficiently involved during the first phases of major projects. d | 6 | 0 |
| Residents do not want to pay for the nation's energy problems by accepting a wind farm in their area. | 14 | 0 |
| Public participation determines whether conflicts are solved and a wind farm is actually built. | 48 | 0 |
| Public participation makes the decision making process more complicated and lengthy than necessary. | 3 | -0.44 |
| It is useless to try and exert influence on the implementation of wind energy in Malta because the public is ignored. | 17 | -0.44 |
| Wind farms should go in built up areas where people live or places like Hal Far, not rural areas like Bahrija. | 41 | -0.44 |
| The local community should be able to exert its influence in every phase and on all aspects of the decision-making process. | 28 | -0.44 |
| It is mainly environmental organisations that frustrate the construction of wind turbines. | 44 | -0.44 |
| Decision making surrounding wind energy is an unpredictable process that nobody can control. | 13 | -0.44 |
| The 12 wind turbines planned will look better than the 20 disused communication towers already in the planned area. | 21 | -0.44 |
| Local power companies have no understanding of public participation and are unaccustomed to dealing with stakeholders. | 12 | -0.88 |
| Before building wind farms all over the country, energy efficiency options should be investigated more thoroughly. | 18 | -0.88 |
| The input from the public during a public participation process often shows a lack of expertise. | 10 | -0.88 |
| Financial support geared towards solar energy is better than financial support for investments in wind energy. | 34 | -0.88 |
| Local government does not seem capable of properly handling the public participation necessary for wind energy. | 45 | -0.88 |
| More citizen participation leads to even more opposition toward wind farms. | 47 | -0.88 |
| Wind farms are noisy and visually unacceptable. | 4 | -1.32 |
| Initiators of wind farm projects underestimate the value of the landscape when choosing locations. | 35 | -1.32 |
| Incentives should be given to the wind industry (not the community) since they determine the successful introduction of renewables. | 5 | -1.32 |
| The small amount of clean energy that wind farms generate does not compensate for the negative impact they have on the landscape. | 49 | -1.32 |
| Onshore wind energy plans should be abandoned in Malta. The future lies in offshore wind. | 42 | -1.76 |
| Opponents of wind farms are not willing to compromise so it is pointless to involve them in the decision-making process. | 8 | -1.76 |
| We cannot do anything about climate change anyway, so it is pointless to build wind farms. | 37 | -2.2 |

***Table 16 - Normalised Factor Scores for Factor 1 of the Scientific Community***

As expected, the scientific community ranked scientific advice as a major determinant of the Bahrija wind farm (31) highest, and had no qualms about putting the public good ahead of local community interests (2). However they seem to concur on participative principles and process with the local community (16, 19, 25) and aware that information is key in minimising objections (40).

Discussions held with the Scientific respondents tended to focus primarily on the scientific or technical merits of wind farms, particularly focused on area of their expertise, and rarely involved the same emotive outbursts that were encountered with other stakeholder groups, unless their scientific judgement was put in question.

In most cases discussions tended to be rather rational in nature, and respondents were quick to take positions on technical concerns like noise and seemed inclined to minimize the problem when comparing it to other sources of noise like air traffic or heavy traffic; and suggesting that it is the lack of first-hand experiences and correct information with any particular technology which leads to opposition and misconceptions. However it is interesting to note that in most of the cases there is significant disagreement even between the scientific proposals of peers, which further confuses the listener when trying to understand the true issues at stake.

**SCIENTIFIC COMMUNITY PERCEPTIONS ON THE BAHRIJA WIND FARM**

**Factor 1** Explains **47%** of variance. **Eigen values** 3.7269

| OPINIONS I DISAGREE WITH MOST | | | | | NEUTRAL | | | | OPINIONS I AGREE WITH MOST | |
|---|---|---|---|---|---|---|---|---|---|---|
| **-5** | **-4** | **-3** | **-2** | **-1** | **0** | **1+** | **2+** | **3+** | **4+** | **5+** |
| 37 We cannot do anything about climate change anyway, so it is pointless to build wind farms. | 8 Opponents of wind farms are not willing to compromise so it is pointless to involve them in the decision-making process. | 4 Wind farms are noisy and visually unacceptable. | 10 The input from the public during a public participation process often shows a lack of expertise. | 3 Public participation makes the decision making process more complicated and lengthy than necessary. | 6 Most of the time, stakeholders are insufficiently involved during the first phases of major projects. | 7 It is not participation in decision making that is important for wind projects, but the compensation for the disturbance they cause. | 1 It is usually individuals, like landowners, that block the construction of wind turbines. | 19 Involving potential opponents to a wind farm in a timely manner will increase its chances of getting built. | 2 Although local opposition to wind projects is quite normal, the public benefit of wind energy is more important. | 31 Professional and scientific expertise ought to play a decisive role in decision making on such infrastructure. |
| | 42 Onshore wind energy plans should be abandoned in Malta. The future lies in offshore wind. | 5 Incentives should be given to the wind industry (not the community) since they determine the successful introduction of renewables. | 12 Local power companies have no understanding of public participation and are unaccustomed to dealing with stakeholders. | 13 Decision making surrounding wind energy is an unpredictable process that nobody can control. | 9 Government should give priority to the environment first and to energy supply second. | 15 Slow implementation of wind energy is usually a result of unnecessarily arduous rounds of public participation. | 23 It is wrong to take decisions without giving neighbouring residents a decisive influence. | 25 Decisions on wind farms cannot be made by governments alone, but they must result from negotiations with all involved parties. | 16 Decisions made with the approval of the local community are generally also better decisions. | |
| | | 35 Initiators of wind farm projects underestimate the value of the landscape when choosing locations. | 18 Before building wind farms all over the country, energy efficiency options should be investigated more thoroughly. | 17 It is useless to try and exert influence on the implementation of wind energy in Malta because the public is ignored. | 11 Local opposition to a wind farm is nothing more than defending one's self-interest. | 20 People are not fooled by public meetings, environmental impact studies, surveys or superficial public consultations. | 33 In the end, it is the cost of oil and electricity that will determine the success or failure of wind energy, not the public. | 40 Local opposition to wind farms is mostly caused by the lack of information given to the public. | | |
| | | 49 The small amount of clean energy that wind farms generate does not compensate for the negative impact they have on the landscape. | 34 Financial support geared towards solar energy is better than financial support for investments in wind energy. | 21 The 12 wind turbines planned will look better than the 20 disused communication towers already in the planned area. | 14 Residents do not want to pay for the nation's energy problems by accepting a wind farm in their area. | 24 Growing energy demand and increasing environmental problems cannot be solved by government alone. | 36 Everyone prefers that new infrastructure like wind farms are not built too close to their homes. | 43 Offering financial participation in wind projects or green energy to nearby residents is a good way to reduce opposition. | | |
| | | | 45 Local government does not seem capable of properly handling the public participation necessary for wind energy. | 28 The local community should be able to exert its influence in every phase and on all aspects of the decision-making process. | 22 Government should be able to go ahead anyway when local authorities fail to co-operate with the construction of a wind farm. | 26 Every local authority would rather have wind farms built in another location. | 38 Local support is important for the successful implementation of wind energy. | | | |
| | | | 47 More citizen participation leads to even more opposition toward wind farms. | 41 Wind farms should go in built up areas where people live or places like Hal Far, not rural areas like Bahrija. | 29 Planning processes must be carried out rapidly in order to not scare away investors and meet the EU 2020 target. | 27 The compromise of the Bahrija landscape is a sacrifice that needs to be made in order to live more sustainable lives. | 46 Local interests are not taken into account at the national level, so it is understandable that there is local resistance to the wind farm plans. | | | |
| | | | | 44 It is mainly environmental organisations that frustrate the construction of wind turbines. | 30 If good arguments exist for constructing a wind farm in a local community instead of another, than that community should agree to this for the public good. | 32 The problem with public input is that it is mainly based on emotions rather than rational thought. | | | | |
| | | | | | 39 It is mainly local community groups that try to thwart the construction of wind farms. | | | | | |
| | | | | | 48 Public participation determines whether conflicts are solved and a wind farm is actually built. | | | | | |

***Figure 24 - Cognitive map for Factor 1 of the Scientific Community***

## 4.4 Summary

This chapter has attempted to present the major four discourses that have been noted in the Bahrija case study. The following table provides a quick summary of the highest and lowest scoring q statements for each of the four factors or discourses that were identified.

| Factor | Statements with most disagreement | Statements with most agreement |
|---|---|---|
| **1 The Egalitarians** | **37** We cannot do anything about climate change anyway, so it is pointless to build wind farms.<br>**8** Opponents of wind farms are not willing to compromise so it is pointless to involve them in the decision-making process.<br>**47** More citizen participation leads to even more opposition toward wind farms. | **6** Most of the time, stakeholders are insufficiently involved during the first phases of major projects.<br>**18** Before building wind farms all over the country, energy efficiency options should be investigated more thoroughly.<br>**31** Professional and scientific expertise ought to play a decisive role in decision making on such infrastructure. |
| **2 The Sceptics** | **27** The compromise of the Bahrija landscape is a sacrifice that needs to be made in order to live more sustainable lives.<br>**22** Government should be able to go ahead anyway when local authorities fail to co-operate with the construction of a wind farm.<br>**11** Local opposition to a wind farm is nothing more than defending one's self-interest. | **43** The small amount of clean energy that wind farms generate does not compensate for the negative impact they have on the landscape.<br>**4** Wind farms are noisy and visually unacceptable.<br>**18** Before building wind farms all over the country, energy efficiency options should be investigated more thoroughly. |
| **3 The Rationalists** | **13** Decision making surrounding wind energy is an unpredictable process that nobody can control.<br>**42** Onshore wind energy plans should be abandoned in Malta. The future lies in offshore wind.<br>**4** Wind farms are noisy and visually unacceptable. | **31** Professional and scientific expertise ought to play a decisive role in decision making on such infrastructure.<br>**24** Growing energy demand and increasing environmental problems cannot be solved by government alone.<br>**18** Before building wind farms all over the country, energy efficiency options should be investigated more thoroughly. |
| **4 The Pragmatists** | **4** Wind farms are noisy and visually unacceptable.<br>**37** We cannot do anything about climate change anyway, so it is pointless to build wind farms.<br>**8** Opponents of wind farms are not willing to compromise so it is pointless to involve them in the decision-making process. | **16** Decisions made with the approval of the local community are generally also better decisions.<br>**18** Before building wind farms all over the country, energy efficiency options should be investigated more thoroughly.<br>**31** Professional and scientific expertise ought to play a decisive role in decision making on such infrastructure. |

***Table 17- Summary of the four major discourses***

From the above table it is clear that certain statements are highly ranked amongst all four discourses. The belief that energy efficiency options should be investigated more thoroughly before building wind farms all over the country stands out amongst all four discourses (18). Similarly three of the discourses rank scientific expertise as having a decisive role in advising decision making.

Also of note is that two of the discourses disagree strongly with the statement that we are helpless in the face of climate and that wind farms would be pointless, or that they might foster any climate scepticism or an anti-renewable sentiment.

The following three tables provide a comparison between each and every one of the factors, and gives the reader a snapshot of how the different discourses converge and diverge amongst each other. This can prove valuable when attempts are made at reconciling the different perspectives of the prevailing four discourses.

| Descending Array of Differences Between Factors 1 and 2 | | | | |
|---|---|---|---|---|
| EGALITARIANS vs SKEPTICS | | | | |
| **Statement** | **No.** | **Type 1** | **Type 2** | **Difference** |
| The compromise of the Bahrija landscape is a sacrifice that needs to be made in order to live more sustainable lives. | **27** | 0.653 | -2.202 | **2.856** |
| Local opposition to wind farms is mostly caused by the lack of information given to the public. | **40** | 1.637 | -1.086 | **2.723** |
| Although local opposition to wind projects is quite normal, the public benefit of wind energy is more important. | **2** | 1.115 | -0.922 | **2.037** |
| Professional and scientific expertise ought to play a decisive role in decision making on such infrastructure. | **31** | 1.786 | 0 | **1.786** |
| Every local authority would rather have wind farms built in another location. | **26** | 0.716 | -0.758 | **1.474** |
| Local opposition to a wind farm is nothing more than defending one's self-interest. | **11** | -0.173 | -1.606 | **1.433** |
| Involving potential opponents to a wind farm in a timely manner will increase its chances of getting built. | **19** | 1.392 | 0 | **1.392** |
| Government should be able to go ahead anyway when local authorities fail to co-operate with the construction of a wind farm. | **22** | -0.557 | -1.918 | **1.361** |
| Offering financial participation in wind projects or green energy to nearby residents is a good way to reduce opposition. | **43** | 0.926 | -0.432 | **1.359** |
| The 12 wind turbines planned will look better than the 20 disused communication towers already in the planned area. | **21** | 0.919 | -0.314 | **1.233** |
| The problem with public input is that it is mainly based on emotions rather than rational thought. | **32** | 0.304 | -0.919 | **1.223** |
| Public participation determines whether conflicts are solved and a wind farm is actually built. | **48** | 0.474 | -0.668 | **1.142** |
| If good arguments exist for constructing a wind farm in a local community instead of another, than that community should agree to this for the public | **30** | 0.073 | -1.01 | **1.083** |
| Most of the time, stakeholders are insufficiently involved during the first phases of major projects. | **6** | 1.924 | 1.103 | **0.821** |
| Planning processes must be carried out rapidly in order to not scare away investors and meet the EU 2020 target. | **29** | -0.133 | -0.76 | **0.628** |
| It is mainly environmental organisations that frustrate the construction of wind turbines. | **44** | -0.212 | -0.76 | **0.548** |
| It is not participation in decision making that is important for wind projects, but the compensation for the disturbance they cause. | **7** | -0.914 | -1.445 | **0.53** |
| Public participation makes the decision making process more complicated and lengthy than necessary. | **3** | -1.022 | -1.521 | **0.499** |
| Decisions on wind farms cannot be made by governments alone, but they must result from negotiations with all involved parties. | **25** | 1.427 | 0.979 | **0.447** |
| Local support is important for the successful implementation of wind energy. | **38** | 0.436 | 0.181 | **0.255** |
| It is mainly local community groups that try to thwart the construction of wind farms. | **39** | 0.045 | -0.161 | **0.206** |
| In the end, it is the cost of oil and electricity that will determine the success or failure of wind energy, not the public. | **33** | 0.198 | 0.093 | **0.105** |
| Decisions made with the approval of the local community are generally also better decisions. | **16** | 0.933 | 0.851 | **0.083** |
| The input from the public during a public participation process often shows a lack of expertise. | **10** | 0.234 | 0.164 | **0.07** |
| Growing energy demand and increasing environmental problems cannot be solved by government alone. | **24** | 0.822 | 0.76 | **0.061** |
| Before building wind farms all over the country, energy efficiency options should be investigated more thoroughly. | **18** | 1.738 | 1.756 | **-0.018** |
| It is usually individuals, like landowners, that block the construction of wind turbines. | **1** | -0.288 | -0.09 | **-0.198** |
| Slow implementation of wind energy is usually a result of unnecessarily arduous rounds of public participation. | **15** | -1.211 | -0.925 | **-0.287** |
| Opponents of wind farms are not willing to compromise so it is pointless to involve them in the decision-making process. | **8** | -1.578 | -1.267 | **-0.312** |
| Local interests are not taken into account at the national level, so it is understandable that there is local resistance to the wind farm plans. | **46** | 0.529 | 0.851 | **-0.322** |
| Incentives should be given to the wind industry (not the community) since they determine the successful introduction of renewables. | **5** | -1.012 | -0.596 | **-0.416** |
| Residents do not want to pay for the nation's energy problems by accepting a wind farm in their area. | **14** | -0.175 | 0.345 | **-0.52** |
| Decision making surrounding wind energy is an unpredictable process that nobody can control. | **13** | -0.669 | -0.107 | **-0.563** |
| Local government does not seem capable of properly handling the public participation necessary for wind energy. | **45** | 0.57 | 1.171 | **-0.601** |
| Local power companies have no understanding of public participation and are unaccustomed to dealing with stakeholders. | **12** | 0.291 | 0.922 | **-0.631** |
| Government should give priority to the environment first and to energy supply second. | **9** | -0.305 | 0.361 | **-0.666** |
| It is wrong to take decisions without giving neighbouring residents a decisive influence. | **23** | 0.121 | 0.834 | **-0.714** |
| In the end, it is the cost of oil and electricity that will determine the success or failure of wind energy, not the public. | **36** | 0.039 | 0.834 | **-0.795** |
| People are not fooled by public meetings, environmental impact studies, surveys or superficial public consultations. | **20** | -0.388 | 0.504 | **-0.892** |
| The local community should be able to exert its influence in every phase and on all aspects of the decision-making process. | **28** | -0.409 | 0.637 | **-1.046** |
| Wind farms should go in built up areas where people live or places like Hal Far, not rural areas like Bahrija. | **41** | -0.639 | 0.427 | **-1.066** |
| More citizen participation leads to even more opposition toward wind farms. | **47** | -2.053 | -0.755 | **-1.298** |
| Financial support geared towards solar energy is better than financial support for investments in wind energy. | **34** | -0.299 | 1.029 | **-1.328** |
| It is useless to try and exert influence on the implementation of wind energy in Malta because the public is ignored. | **17** | -0.362 | 1.01 | **-1.372** |
| Initiators of wind farm projects underestimate the value of the landscape when choosing locations. | **35** | -0.569 | 1.012 | **-1.581** |
| Onshore wind energy plans should be abandoned in Malta. The future lies in offshore wind. | **42** | -1.153 | 0.753 | **-1.906** |
| We cannot do anything about climate change anyway, so it is pointless to build wind farms. | **37** | -2.526 | -0.074 | **-2.452** |
| Wind farms are noisy and visually unacceptable. | **4** | -1.178 | 1.699 | **-2.877** |
| The small amount of clean energy that wind farms generate does not compensate for the negative impact they have on the landscape. | **49** | -1.478 | 2.022 | **-3.5** |

| Descending Array of Differences Between Factors 1 and 3 | | | | |
|---|---|---|---|---|
| EGALITARIANS vs RATIONALISTS | | | | |
| **Statement** | **No.** | **Type 1** | **Type 3** | **Difference** |
| Most of the time, stakeholders are insufficiently involved during the first phases of major projects. | **6** | 1.924 | -0.37 | **2.293** |
| The compromise of the Bahrija landscape is a sacrifice that needs to be made in order to live more sustainable lives. | **27** | 0.653 | -1.364 | **2.017** |
| Involving potential opponents to a wind farm in a timely manner will increase its chances of getting built. | **19** | 1.392 | -0.49 | **1.881** |
| Public participation determines whether conflicts are solved and a wind farm is actually built. | **48** | 0.474 | -1.277 | **1.751** |
| Decisions on wind farms cannot be made by governments alone, but they must result from negotiations with all involved parties. | **25** | 1.427 | -0.088 | **1.514** |
| Decisions made with the approval of the local community are generally also better decisions. | **16** | 0.933 | -0.507 | **1.441** |
| It is mainly environmental organisations that frustrate the construction of wind turbines. | **44** | -0.212 | -1.611 | **1.399** |
| Decision making surrounding wind energy is an unpredictable process that nobody can control. | **13** | -0.669 | -2.065 | **1.396** |
| Local opposition to wind farms is mostly caused by the lack of information given to the public. | **40** | 1.637 | 0.245 | **1.392** |
| Every local authority would rather have wind farms built in another location. | **26** | 0.716 | -0.333 | **1.049** |
| Although local opposition to wind projects is quite normal, the public benefit of wind energy is more important. | **2** | 1.115 | 0.088 | **1.028** |
| Local support is important for the successful implementation of wind energy. | **38** | 0.436 | -0.333 | **0.769** |
| Wind farms are noisy and visually unacceptable. | **4** | -1.178 | -1.907 | **0.729** |
| Onshore wind energy plans should be abandoned in Malta. The future lies in offshore wind. | **42** | -1.153 | -1.82 | **0.667** |
| It is wrong to take decisions without giving neighbouring residents a decisive influence. | **23** | 0.121 | -0.542 | **0.662** |
| Local power companies have no understanding of public participation and are unaccustomed to dealing with stakeholders. | **12** | 0.291 | -0.366 | **0.657** |
| It is mainly local community groups that try to thwart the construction of wind farms. | **39** | 0.045 | -0.455 | **0.5** |
| Government should give priority to the environment first and to energy supply second. | **9** | -0.305 | -0.544 | **0.24** |
| It is usually individuals, like landowners, that block the construction of wind turbines. | **1** | -0.288 | -0.456 | **0.168** |
| The 12 wind turbines planned will look better than the 20 disused communication towers already in the planned area. | **21** | 0.919 | 0.752 | **0.166** |
| Local interests are not taken into account at the national level, so it is understandable that there is local resistance to the wind farm plans. | **46** | 0.529 | 0.401 | **0.128** |
| People are not fooled by public meetings, environmental impact studies, surveys or superficial public consultations. | **20** | -0.388 | -0.509 | **0.12** |
| The local community should be able to exert its influence in every phase and on all aspects of the decision-making process. | **28** | -0.409 | -0.42 | **0.012** |
| Local government does not seem capable of properly handling the public participation necessary for wind energy. | **45** | 0.57 | 0.61 | **-0.04** |
| It is useless to try and exert influence on the implementation of wind energy in Malta because the public is ignored. | **17** | -0.362 | -0.244 | **-0.118** |
| In the end, it is the cost of oil and electricity that will determine the success or failure of wind energy, not the public. | **36** | 0.039 | 0.158 | **-0.118** |
| Offering financial participation in wind projects or green energy to nearby residents is a good way to reduce opposition. | **43** | 0.926 | 1.067 | **-0.141** |
| Local opposition to a wind farm is nothing more than defending one's self-interest. | **11** | -0.173 | 0.001 | **-0.174** |
| The input from the public during a public participation process often shows a lack of expertise. | **10** | 0.234 | 0.543 | **-0.309** |
| Initiators of wind farm projects underestimate the value of the landscape when choosing locations. | **35** | -0.569 | -0.176 | **-0.392** |
| If good arguments exist for constructing a wind farm in a local community instead of another, than that community should agree to this for the public good. | **30** | 0.073 | 0.543 | **-0.47** |
| Before building wind farms all over the country, energy efficiency options should be investigated more thoroughly. | **18** | 1.738 | 2.31 | **-0.572** |
| The small amount of clean energy that wind farms generate does not compensate for the negative impact they have on the landscape. | **49** | -1.478 | -0.855 | **-0.623** |
| The problem with public input is that it is mainly based on emotions rather than rational thought. | **32** | 0.304 | 1.032 | **-0.728** |
| Professional and scientific expertise ought to play a decisive role in decision making on such infrastructure. | **31** | 1.786 | 2.519 | **-0.733** |
| Government should be able to go ahead anyway when local authorities fail to co-operate with the construction of a wind farm. | **22** | -0.557 | 0.177 | **-0.734** |
| Wind farms should go in built up areas where people live or places like Hal Far, not rural areas like Bahrija. | **41** | -0.639 | 0.122 | **-0.76** |
| Residents do not want to pay for the nation's energy problems by accepting a wind farm in their area. | **14** | -0.175 | 0.7 | **-0.875** |
| We cannot do anything about climate change anyway, so it is pointless to build wind farms. | **37** | -2.526 | -1.644 | **-0.882** |
| Financial support geared towards solar energy is better than financial support for investments in wind energy. | **34** | -0.299 | 0.699 | **-0.998** |
| Growing energy demand and increasing environmental problems cannot be solved by government alone. | **24** | 0.822 | 1.888 | **-1.067** |
| Planning processes must be carried out rapidly in order to not scare away investors and meet the EU 2020 target. | **29** | -0.133 | 0.997 | **-1.13** |
| Slow implementation of wind energy is usually a result of unnecessarily arduous rounds of public participation. | **15** | -1.211 | 0.018 | **-1.23** |
| In the end, it is the cost of oil and electricity that will determine the success or failure of wind energy, not the public. | **33** | 0.198 | 1.455 | **-1.257** |
| Incentives should be given to the wind industry (not the community) since they determine the successful introduction of renewables. | **5** | -1.012 | 0.334 | **-1.346** |
| Opponents of wind farms are not willing to compromise so it is pointless to involve them in the decision-making process. | **8** | -1.578 | 0.052 | **-1.63** |
| It is not participation in decision making that is important for wind projects, but the compensation for the disturbance they cause. | **7** | -0.914 | 0.823 | **-1.737** |
| Public participation makes the decision making process more complicated and lengthy than necessary. | **3** | -1.022 | 0.754 | **-1.776** |
| More citizen participation leads to even more opposition toward wind farms. | **47** | -2.053 | 0.086 | **-2.139** |

***Table 18 - Comparison of descending arrays of differences between factors 1 &2 and 1 & 3***

| Descending Array of Differences Between Factors 1 and 4 | | | | |
|---|---|---|---|---|
| EGALITARIANS vs PRAGMATISTS | | | | |
| **Statement** | **No.** | **Type 1** | **Type 4** | **Difference** |
| Most of the time, stakeholders are insufficiently involved during the first phases of major projects. | **6** | 1.924 | -1.061 | **2.985** |
| Local opposition to wind farms is mostly caused by the lack of information given to the public. | **40** | 1.637 | -0.127 | **1.764** |
| Local power companies have no understanding of public participation and are unaccustomed to dealing with stakeholders. | **12** | 0.291 | -1.243 | **1.534** |
| Wind farms are noisy and visually unacceptable. | **4** | -1.178 | -2.178 | **1** |
| Every local authority would rather have wind farms built in another location. | **26** | 0.716 | -0.264 | **0.981** |
| Local interests are not taken into account at the national level, so it is understandable that there is local resistance to the wind farm plans. | **46** | 0.529 | -0.44 | **0.969** |
| Local government does not seem capable of properly handling the public participation necessary for wind energy. | **45** | 0.57 | -0.318 | **0.889** |
| It is useless to try and exert influence on the implementation of wind energy in Malta because the public is ignored. | **17** | -0.362 | -1.244 | **0.882** |
| Wind farms should go in built up areas where people live or places like Hal Far, not rural areas like Bahrija. | **41** | -0.639 | -1.492 | **0.854** |
| Public participation determines whether conflicts are solved and a wind farm is actually built. | **48** | 0.474 | -0.238 | **0.712** |
| Financial support geared towards solar energy is better than financial support for investments in wind energy. | **34** | -0.299 | -0.947 | **0.648** |
| It is mainly local community groups that try to thwart the construction of wind farms. | **39** | 0.045 | -0.579 | **0.624** |
| It is mainly environmental organisations that frustrate the construction of wind turbines. | **44** | -0.212 | -0.73 | **0.518** |
| Offering financial participation in wind projects or green energy to nearby residents is a good way to reduce opposition. | **43** | 0.926 | 0.469 | **0.457** |
| Planning processes must be carried out rapidly in order to not scare away investors and meet the EU 2020 target. | **29** | -0.133 | -0.575 | **0.442** |
| In the end, it is the cost of oil and electricity that will determine the success or failure of wind energy, not the public. | **33** | 0.198 | -0.198 | **0.396** |
| The problem with public input is that it is mainly based on emotions rather than rational thought. | **32** | 0.304 | -0.09 | **0.394** |
| The compromise of the Bahrija landscape is a sacrifice that needs to be made in order to live more sustainable lives. | **27** | 0.653 | 0.452 | **0.201** |
| Decision making surrounding wind energy is an unpredictable process that nobody can control. | **13** | -0.669 | -0.815 | **0.146** |
| Before building wind farms all over the country, energy efficiency options should be investigated more thoroughly. | **18** | 1.738 | 1.592 | **0.146** |
| Although local opposition to wind projects is quite normal, the public benefit of wind energy is more important. | **2** | 1.115 | 0.971 | **0.144** |
| Involving potential opponents to a wind farm in a timely manner will increase its chances of getting built. | **19** | 1.392 | 1.273 | **0.119** |
| Opponents of wind farms are not willing to compromise so it is pointless to involve them in the decision-making process. | **8** | -1.578 | -1.617 | **0.039** |
| Professional and scientific expertise ought to play a decisive role in decision making on such infrastructure. | **31** | 1.786 | 1.757 | **0.029** |
| Local support is important for the successful implementation of wind energy. | **38** | 0.436 | 0.429 | **0.007** |
| It is wrong to take decisions without giving neighbouring residents a decisive influence. | **23** | 0.121 | 0.145 | **-0.024** |
| Government should give priority to the environment first and to energy supply second. | **9** | -0.305 | -0.259 | **-0.046** |
| Decisions on wind farms cannot be made by governments alone, but they must result from negotiations with all involved parties. | **25** | 1.427 | 1.492 | **-0.066** |
| Government should be able to go ahead anyway when local authorities fail to co-operate with the construction of a wind farm. | **22** | -0.557 | -0.429 | **-0.128** |
| Residents do not want to pay for the nation's energy problems by accepting a wind farm in their area. | **14** | -0.175 | 0 | **-0.175** |
| The small amount of clean energy that wind farms generate does not compensate for the negative impact they have on the landscape. | **49** | -1.478 | -1.297 | **-0.181** |
| Local opposition to a wind farm is nothing more than defending one's self-interest. | **11** | -0.173 | 0.156 | **-0.329** |
| Initiators of wind farm projects underestimate the value of the landscape when choosing locations. | **35** | -0.569 | -0.212 | **-0.356** |
| Onshore wind energy plans should be abandoned in Malta. The future lies in offshore wind. | **42** | -1.153 | -0.761 | **-0.393** |
| The 12 wind turbines planned will look better than the 20 disused communication towers already in the planned area. | **21** | 0.919 | 1.334 | **-0.416** |
| People are not fooled by public meetings, environmental impact studies, surveys or superficial public consultations. | **20** | -0.388 | 0.037 | **-0.425** |
| If good arguments exist for constructing a wind farm in a local community instead of another, than that community should agree to this for the public good. | **30** | 0.073 | 0.534 | **-0.461** |
| It is usually individuals, like landowners, that block the construction of wind turbines. | **1** | -0.288 | 0.231 | **-0.519** |
| We cannot do anything about climate change anyway, so it is pointless to build wind farms. | **37** | -2.526 | -1.949 | **-0.576** |
| Growing energy demand and increasing environmental problems cannot be solved by government alone. | **24** | 0.822 | 1.557 | **-0.735** |
| In the end, it is the cost of oil and electricity that will determine the success or failure of wind energy, not the public. | **36** | 0.039 | 0.966 | **-0.927** |
| The local community should be able to exert its influence in every phase and on all aspects of the decision-making process. | **28** | -0.409 | 0.594 | **-1.002** |
| Decisions made with the approval of the local community are generally also better decisions. | **16** | 0.933 | 2.021 | **-1.088** |
| The input from the public during a public participation process often shows a lack of expertise. | **10** | 0.234 | 1.369 | **-1.134** |
| Incentives should be given to the wind industry (not the community) since they determine the successful introduction of renewables. | **5** | -1.012 | 0.185 | **-1.197** |
| Public participation makes the decision making process more complicated and lengthy than necessary. | **3** | -1.022 | 0.22 | **-1.242** |
| It is not participation in decision making that is important for wind projects, but the compensation for the disturbance they cause. | **7** | -0.914 | 0.537 | **-1.451** |
| More citizen participation leads to even more opposition toward wind farms. | **47** | -2.053 | -0.367 | **-1.686** |
| Slow implementation of wind energy is usually a result of unnecessarily arduous rounds of public participation. | **15** | -1.211 | 1.111 | **-2.322** |

| Descending Array of Differences Between Factors 2 and 3 | | | | |
|---|---|---|---|---|
| SKEPTICS vs RATIONALISTS | | | | |
| **Statement** | **No.** | **Type 2** | **Type 3** | **Difference** |
| Wind farms are noisy and visually unacceptable. | **4** | 1.699 | -1.907 | **3.606** |
| The small amount of clean energy that wind farms generate does not compensate for the negative impact they have on the landscape. | **49** | 2.022 | -0.855 | **2.877** |
| Onshore wind energy plans should be abandoned in Malta. The future lies in offshore wind. | **42** | 0.753 | -1.82 | **2.573** |
| Decision making surrounding wind energy is an unpredictable process that nobody can control. | **13** | -0.107 | -2.065 | **1.959** |
| We cannot do anything about climate change anyway, so it is pointless to build wind farms. | **37** | -0.074 | -1.644 | **1.57** |
| Most of the time, stakeholders are insufficiently involved during the first phases of major projects. | **6** | 1.103 | -0.37 | **1.472** |
| It is wrong to take decisions without giving neighbouring residents a decisive influence. | **23** | 0.834 | -0.542 | **1.376** |
| Decisions made with the approval of the local community are generally also better decisions. | **16** | 0.851 | -0.507 | **1.358** |
| Local power companies have no understanding of public participation and are unaccustomed to dealing with stakeholders. | **12** | 0.922 | -0.366 | **1.288** |
| It is useless to try and exert influence on the implementation of wind energy in Malta because the public is ignored. | **17** | 1.01 | -0.244 | **1.254** |
| Initiators of wind farm projects underestimate the value of the landscape when choosing locations. | **35** | 1.012 | -0.176 | **1.188** |
| Decisions on wind farms cannot be made by governments alone, but they must result from negotiations with all involved parties. | **25** | 0.979 | -0.088 | **1.067** |
| The local community should be able to exert its influence in every phase and on all aspects of the decision-making process. | **28** | 0.637 | -0.42 | **1.058** |
| People are not fooled by public meetings, environmental impact studies, surveys or superficial public consultations. | **20** | 0.504 | -0.509 | **1.012** |
| Government should give priority to the environment first and to energy supply second. | **9** | 0.361 | -0.544 | **0.905** |
| It is mainly environmental organisations that frustrate the construction of wind turbines. | **44** | -0.76 | -1.611 | **0.85** |
| In the end, it is the cost of oil and electricity that will determine the success or failure of wind energy, not the public. | **36** | 0.834 | 0.158 | **0.677** |
| Public participation determines whether conflicts are solved and a wind farm is actually built. | **48** | -0.668 | -1.277 | **0.609** |
| Local government does not seem capable of properly handling the public participation necessary for wind energy. | **45** | 1.171 | 0.61 | **0.561** |
| Local support is important for the successful implementation of wind energy. | **38** | 0.181 | -0.333 | **0.514** |
| Involving potential opponents to a wind farm in a timely manner will increase its chances of getting built. | **19** | 0 | -0.49 | **0.49** |
| Local interests are not taken into account at the national level, so it is understandable that there is local resistance to the wind farm plans. | **46** | 0.851 | 0.401 | **0.45** |
| It is usually individuals, like landowners, that block the construction of wind turbines. | **1** | -0.09 | -0.456 | **0.366** |
| Financial support geared towards solar energy is better than financial support for investments in wind energy. | **34** | 1.029 | 0.699 | **0.33** |
| Wind farms should go in built up areas where people live or places like Hal Far, not rural areas like Bahrija. | **41** | 0.427 | 0.122 | **0.305** |
| It is mainly local community groups that try to thwart the construction of wind farms. | **39** | -0.161 | -0.455 | **0.293** |
| Residents do not want to pay for the nation's energy problems by accepting a wind farm in their area. | **14** | 0.345 | 0.7 | **-0.355** |
| The input from the public during a public participation process often shows a lack of expertise. | **10** | 0.164 | 0.543 | **-0.379** |
| Every local authority would rather have wind farms built in another location. | **26** | -0.758 | -0.333 | **-0.425** |
| Before building wind farms all over the country, energy efficiency options should be investigated more thoroughly. | **18** | 1.756 | 2.31 | **-0.554** |
| The compromise of the Bahrija landscape is a sacrifice that needs to be made in order to live more sustainable lives. | **27** | -2.202 | -1.364 | **-0.839** |
| More citizen participation leads to even more opposition toward wind farms. | **47** | -0.755 | 0.086 | **-0.842** |
| Incentives should be given to the wind industry (not the community) since they determine the successful introduction of renewables. | **5** | -0.596 | 0.334 | **-0.93** |
| Slow implementation of wind energy is usually a result of unnecessarily arduous rounds of public participation. | **15** | -0.925 | 0.018 | **-0.943** |
| Although local opposition to wind projects is quite normal, the public benefit of wind energy is more important. | **2** | -0.922 | 0.088 | **-1.01** |
| The 12 wind turbines planned will look better than the 20 disused communication towers already in the planned area. | **21** | -0.314 | 0.752 | **-1.067** |
| Growing energy demand and increasing environmental problems cannot be solved by government alone. | **24** | 0.76 | 1.888 | **-1.128** |
| Opponents of wind farms are not willing to compromise so it is pointless to involve them in the decision-making process. | **8** | -1.267 | 0.052 | **-1.319** |
| Local opposition to wind farms is mostly caused by the lack of information given to the public. | **40** | -1.086 | 0.245 | **-1.331** |
| In the end, it is the cost of oil and electricity that will determine the success or failure of wind energy, not the public. | **33** | 0.093 | 1.455 | **-1.362** |
| Offering financial participation in wind projects or green energy to nearby residents is a good way to reduce opposition. | **43** | -0.432 | 1.067 | **-1.499** |
| If good arguments exist for constructing a wind farm in a local community instead of another, than that community should agree to this for the public good. | **30** | -1.01 | 0.543 | **-1.553** |
| Local opposition to a wind farm is nothing more than defending one's self-interest. | **11** | -1.606 | 0.001 | **-1.607** |
| Planning processes must be carried out rapidly in order to not scare away investors and meet the EU 2020 target. | **29** | -0.76 | 0.997 | **-1.758** |
| The problem with public input is that it is mainly based on emotions rather than rational thought. | **32** | -0.919 | 1.032 | **-1.951** |
| Government should be able to go ahead anyway when local authorities fail to co-operate with the construction of a wind farm. | **22** | -1.918 | 0.177 | **-2.095** |
| It is not participation in decision making that is important for wind projects, but the compensation for the disturbance they cause. | **7** | -1.445 | 0.823 | **-2.268** |
| Public participation makes the decision making process more complicated and lengthy than necessary. | **3** | -1.521 | 0.754 | **-2.275** |
| Professional and scientific expertise ought to play a decisive role in decision making on such infrastructure. | **31** | 0 | 2.519 | **-2.519** |

***Table 19 - Comparison of descending arrays of differences between factors 1 &4 and 2 & 3***

| Descending Array of Differences Between Factors 2 and 4 | | | | |
|---|---|---|---|---|
| SKEPTICS vs PRAGMATISTS | | | | |
| **Statement** | **No.** | **Type 2** | **Type 4** | **Difference** |
| Wind farms are noisy and visually unacceptable. | **4** | 1.699 | -2.178 | **3.877** |
| The small amount of clean energy that wind farms generate does not compensate for the negative impact they have on the landscape. | **49** | 2.022 | -1.297 | **3.319** |
| It is useless to try and exert influence on the implementation of wind energy in Malta because the public is ignored. | **17** | 1.01 | -1.244 | **2.254** |
| Local power companies have no understanding of public participation and are unaccustomed to dealing with stakeholders. | **12** | 0.922 | -1.243 | **2.165** |
| Most of the time, stakeholders are insufficiently involved during the first phases of major projects. | **6** | 1.103 | -1.061 | **2.164** |
| Financial support geared towards solar energy is better than financial support for investments in wind energy. | **34** | 1.029 | -0.947 | **1.976** |
| Wind farms should go in built up areas where people live or places like Hal Far, not rural areas like Bahrija. | **41** | 0.427 | -1.492 | **1.919** |
| We cannot do anything about climate change anyway, so it is pointless to build wind farms. | **37** | -0.074 | -1.949 | **1.876** |
| Onshore wind energy plans should be abandoned in Malta. The future lies in offshore wind. | **42** | 0.753 | -0.761 | **1.513** |
| Local government does not seem capable of properly handling the public participation necessary for wind energy. | **45** | 1.171 | -0.318 | **1.49** |
| Local interests are not taken into account at the national level, so it is understandable that there is local resistance to the wind farm plans. | **46** | 0.851 | -0.44 | **1.291** |
| Initiators of wind farm projects underestimate the value of the landscape when choosing locations. | **35** | 1.012 | -0.212 | **1.225** |
| Decision making surrounding wind energy is an unpredictable process that nobody can control. | **13** | -0.107 | -0.815 | **0.708** |
| It is wrong to take decisions without giving neighbouring residents a decisive influence. | **23** | 0.834 | 0.145 | **0.689** |
| Government should give priority to the environment first and to energy supply second. | **9** | 0.361 | -0.259 | **0.62** |
| People are not fooled by public meetings, environmental impact studies, surveys or superficial public consultations. | **20** | 0.504 | 0.037 | **0.467** |
| It is mainly local community groups that try to thwart the construction of wind farms. | **39** | -0.161 | -0.579 | **0.417** |
| Opponents of wind farms are not willing to compromise so it is pointless to involve them in the decision-making process. | **8** | -1.267 | -1.617 | **0.351** |
| Residents do not want to pay for the nation's energy problems by accepting a wind farm in their area. | **14** | 0.345 | 0 | **0.345** |
| In the end, it is the cost of oil and electricity that will determine the success or failure of wind energy, not the public. | **33** | 0.093 | -0.198 | **0.291** |
| Before building wind farms all over the country, energy efficiency options should be investigated more thoroughly. | **18** | 1.756 | 1.592 | **0.164** |
| The local community should be able to exert its influence in every phase and on all aspects of the decision-making process. | **28** | 0.637 | 0.594 | **0.044** |
| It is mainly environmental organisations that frustrate the construction of wind turbines. | **44** | -0.76 | -0.73 | **-0.03** |
| In the end, it is the cost of oil and electricity that will determine the success or failure of wind energy, not the public. | **36** | 0.834 | 0.966 | **-0.132** |
| Planning processes must be carried out rapidly in order to not scare away investors and meet the EU 2020 target. | **29** | -0.76 | -0.575 | **-0.186** |
| Local support is important for the successful implementation of wind energy. | **38** | 0.181 | 0.429 | **-0.248** |
| It is usually individuals, like landowners, that block the construction of wind turbines. | **1** | -0.09 | 0.231 | **-0.322** |
| More citizen participation leads to even more opposition toward wind farms. | **47** | -0.755 | -0.367 | **-0.388** |
| Public participation determines whether conflicts are solved and a wind farm is actually built. | **48** | -0.668 | -0.238 | **-0.43** |
| Every local authority would rather have wind farms built in another location. | **26** | -0.758 | -0.264 | **-0.494** |
| Decisions on wind farms cannot be made by governments alone, but they must result from negotiations with all involved parties. | **25** | 0.979 | 1.492 | **-0.513** |
| Incentives should be given to the wind industry (not the community) since they determine the successful introduction of renewables. | **5** | -0.596 | 0.185 | **-0.782** |
| Growing energy demand and increasing environmental problems cannot be solved by government alone. | **24** | 0.76 | 1.557 | **-0.796** |
| The problem with public input is that it is mainly based on emotions rather than rational thought. | **32** | -0.919 | -0.09 | **-0.829** |
| Offering financial participation in wind projects or green energy to nearby residents is a good way to reduce opposition. | **43** | -0.432 | 0.469 | **-0.902** |
| Local opposition to wind farms is mostly caused by the lack of information given to the public. | **40** | -1.086 | -0.127 | **-0.959** |
| Decisions made with the approval of the local community are generally also better decisions. | **16** | 0.851 | 2.021 | **-1.17** |
| The input from the public during a public participation process often shows a lack of expertise. | **10** | 0.164 | 1.369 | **-1.205** |
| Involving potential opponents to a wind farm in a timely manner will increase its chances of getting built. | **19** | 0 | 1.273 | **-1.273** |
| Government should be able to go ahead anyway when local authorities fail to co-operate with the construction of a wind farm. | **22** | -1.918 | -0.429 | **-1.489** |
| If good arguments exist for constructing a wind farm in a local community instead of another, than that community should agree to this for the public good. | **30** | -1.01 | 0.534 | **-1.544** |
| The 12 wind turbines planned will look better than the 20 disused communication towers already in the planned area. | **21** | -0.314 | 1.334 | **-1.648** |
| Public participation makes the decision making process more complicated and lengthy than necessary. | **3** | -1.521 | 0.22 | **-1.74** |
| Professional and scientific expertise ought to play a decisive role in decision making on such infrastructure. | **31** | 0 | 1.757 | **-1.757** |
| Local opposition to a wind farm is nothing more than defending one's self-interest. | **11** | -1.606 | 0.156 | **-1.762** |
| Although local opposition to wind projects is quite normal, the public benefit of wind energy is more important. | **2** | -0.922 | 0.971 | **-1.893** |
| It is not participation in decision making that is important for wind projects, but the compensation for the disturbance they cause. | **7** | -1.445 | 0.537 | **-1.982** |
| Slow implementation of wind energy is usually a result of unnecessarily arduous rounds of public participation. | **15** | -0.925 | 1.111 | **-2.035** |
| The compromise of the Bahrija landscape is a sacrifice that needs to be made in order to live more sustainable lives. | **27** | -2.202 | 0.452 | **-2.655** |

| Descending Array of Differences Between Factors 3 and 4 | | | | |
|---|---|---|---|---|
| RATIONALISTS vs PRAGMATISTS | | | | |
| **Statement** | **No.** | **Type 3** | **Type 4** | **Difference** |
| Opponents of wind farms are not willing to compromise so it is pointless to involve them in the decision-making process. | **8** | 0.052 | -1.617 | **1.669** |
| In the end, it is the cost of oil and electricity that will determine the success or failure of wind energy, not the public. | **33** | 1.455 | -0.198 | **1.653** |
| Financial support geared towards solar energy is better than financial support for investments in wind energy. | **34** | 0.699 | -0.947 | **1.646** |
| Wind farms should go in built up areas where people live or places like Hal Far, not rural areas like Bahrija. | **41** | 0.122 | -1.492 | **1.614** |
| Planning processes must be carried out rapidly in order to not scare away investors and meet the EU 2020 target. | **29** | 0.997 | -0.575 | **1.572** |
| The problem with public input is that it is mainly based on emotions rather than rational thought. | **32** | 1.032 | -0.09 | **1.122** |
| It is useless to try and exert influence on the implementation of wind energy in Malta because the public is ignored. | **17** | -0.244 | -1.244 | **1** |
| Local government does not seem capable of properly handling the public participation necessary for wind energy. | **45** | 0.61 | -0.318 | **0.929** |
| Local power companies have no understanding of public participation and are unaccustomed to dealing with stakeholders. | **12** | -0.366 | -1.243 | **0.878** |
| Local interests are not taken into account at the national level, so it is understandable that there is local resistance to the wind farm plans. | **46** | 0.401 | -0.44 | **0.841** |
| Professional and scientific expertise ought to play a decisive role in decision making on such infrastructure. | **31** | 2.519 | 1.757 | **0.762** |
| Before building wind farms all over the country, energy efficiency options should be investigated more thoroughly. | **18** | 2.31 | 1.592 | **0.718** |
| Residents do not want to pay for the nation's energy problems by accepting a wind farm in their area. | **14** | 0.7 | 0 | **0.7** |
| Most of the time, stakeholders are insufficiently involved during the first phases of major projects. | **6** | -0.37 | -1.061 | **0.692** |
| Government should be able to go ahead anyway when local authorities fail to co-operate with the construction of a wind farm. | **22** | 0.177 | -0.429 | **0.606** |
| Offering financial participation in wind projects or green energy to nearby residents is a good way to reduce opposition. | **43** | 1.067 | 0.469 | **0.598** |
| Public participation makes the decision making process more complicated and lengthy than necessary. | **3** | 0.754 | 0.22 | **0.534** |
| More citizen participation leads to even more opposition toward wind farms. | **47** | 0.086 | -0.367 | **0.454** |
| The small amount of clean energy that wind farms generate does not compensate for the negative impact they have on the landscape. | **49** | -0.855 | -1.297 | **0.442** |
| Local opposition to wind farms is mostly caused by the lack of information given to the public. | **40** | 0.245 | -0.127 | **0.372** |
| Growing energy demand and increasing environmental problems cannot be solved by government alone. | **24** | 1.888 | 1.557 | **0.332** |
| We cannot do anything about climate change anyway, so it is pointless to build wind farms. | **37** | -1.644 | -1.949 | **0.306** |
| It is not participation in decision making that is important for wind projects, but the compensation for the disturbance they cause. | **7** | 0.823 | 0.537 | **0.286** |
| Wind farms are noisy and visually unacceptable. | **4** | -1.907 | -2.178 | **0.271** |
| Incentives should be given to the wind industry (not the community) since they determine the successful introduction of renewables. | **5** | 0.334 | 0.185 | **0.149** |
| It is mainly local community groups that try to thwart the construction of wind farms. | **39** | -0.455 | -0.579 | **0.124** |
| Initiators of wind farm projects underestimate the value of the landscape when choosing locations. | **35** | -0.176 | -0.212 | **0.036** |
| If good arguments exist for constructing a wind farm in a local community instead of another, than that community should agree to this for the public | **30** | 0.543 | 0.534 | **0.009** |
| Every local authority would rather have wind farms built in another location. | **26** | -0.333 | -0.264 | **-0.069** |
| Local opposition to a wind farm is nothing more than defending one's self-interest. | **11** | 0.001 | 0.156 | **-0.155** |
| Government should give priority to the environment first and to energy supply second. | **9** | -0.544 | -0.259 | **-0.285** |
| People are not fooled by public meetings, environmental impact studies, surveys or superficial public consultations. | **20** | -0.509 | 0.037 | **-0.545** |
| The 12 wind turbines planned will look better than the 20 disused communication towers already in the planned area. | **21** | 0.752 | 1.334 | **-0.582** |
| It is wrong to take decisions without giving neighbouring residents a decisive influence. | **23** | -0.542 | 0.145 | **-0.687** |
| It is usually individuals, like landowners, that block the construction of wind turbines. | **1** | -0.456 | 0.231 | **-0.687** |
| Local support is important for the successful implementation of wind energy. | **38** | -0.333 | 0.429 | **-0.762** |
| In the end, it is the cost of oil and electricity that will determine the success or failure of wind energy, not the public. | **36** | 0.158 | 0.966 | **-0.809** |
| The input from the public during a public participation process often shows a lack of expertise. | **10** | 0.543 | 1.369 | **-0.826** |
| It is mainly environmental organisations that frustrate the construction of wind turbines. | **44** | -1.611 | -0.73 | **-0.88** |
| Although local opposition to wind projects is quite normal, the public benefit of wind energy is more important. | **2** | 0.088 | 0.971 | **-0.884** |
| The local community should be able to exert its influence in every phase and on all aspects of the decision-making process. | **28** | -0.42 | 0.594 | **-1.014** |
| Public participation determines whether conflicts are solved and a wind farm is actually built. | **48** | -1.277 | -0.238 | **-1.039** |
| Onshore wind energy plans should be abandoned in Malta. The future lies in offshore wind. | **42** | -1.82 | -0.761 | **-1.06** |
| Slow implementation of wind energy is usually a result of unnecessarily arduous rounds of public participation. | **15** | 0.018 | 1.111 | **-1.092** |
| Decision making surrounding wind energy is an unpredictable process that nobody can control. | **13** | -2.065 | -0.815 | **-1.25** |
| Decisions on wind farms cannot be made by governments alone, but they must result from negotiations with all involved parties. | **25** | -0.088 | 1.492 | **-1.58** |
| Involving potential opponents to a wind farm in a timely manner will increase its chances of getting built. | **19** | -0.49 | 1.273 | **-1.762** |
| The compromise of the Bahrija landscape is a sacrifice that needs to be made in order to live more sustainable lives. | **27** | -1.364 | 0.452 | **-1.816** |
| Decisions made with the approval of the local community are generally also better decisions. | **16** | -0.507 | 2.021 | **-2.529** |

***Table 20 - Comparison of descending arrays of differences between factors 2 & 4 and 3 & 4***

Similarly the following table provides a quick summary of the highest and lowest scoring q statements for each of the five stakeholder groupings based on Factor 1 which had the highest significance.

| Factor | Statements with most disagreement | Statements with most agreement |
|---|---|---|
| **1 Affected Locals** | **3** Public participation makes the decision making process more complicated and lengthy than necessary.<br>**7** It is not participation in decision making that is important for wind projects, but the compensation for the disturbance they cause.<br>**27** The compromise of the Bahrija landscape is a sacrifice that needs to be made in order to live more sustainable lives. | **4** Wind farms are noisy and visually unacceptable<br>**9** Government should give priority to the environment first and to energy supply second.<br>**34** Financial support geared towards solar energy is better than financial support for investments in wind energy. |
| **1 Local Authorities** | **47** More citizen participation leads to even more opposition toward wind farms.<br>**8** Opponents of wind farms are not willing to compromise so it is pointless to involve them in the decision-making process.<br>**37** We cannot do anything about climate change anyway, so it is pointless to build wind farms. | **6** Most of the time, stakeholders are insufficiently involved during the first phases of major projects.<br>**16** Decisions made with the approval of the local community are generally also better decisions.<br>**46** Local interests are not taken into account at the national level, so it is understandable that there is local resistance to the wind farm plans. |
| **1 Non-governmental organisations** | **4** Wind farms are noisy and visually unacceptable.<br>**49** The small amount of clean energy that wind farms generate does not compensate for the negative impact they have on the landscape.<br>**37** We cannot do anything about climate change anyway, so it is pointless to build wind farms. | **31** Professional and scientific expertise ought to play a decisive role in decision making on such infrastructure.<br>**18** Before building wind farms all over the country, energy efficiency options should be investigated more thoroughly.<br>**45** Local government does not seem capable of properly handling the public participation necessary for wind energy. |
| **1 Resource users** | **47** More citizen participation leads to even more opposition toward wind farms.<br>**8** Opponents of wind farms are not willing to compromise so it is pointless to involve them in the decision-making process.<br>**28** The local community should be able to exert its influence in every phase and on all aspects of the decision-making process. | **40** Local opposition to wind farms is mostly caused by the lack of information given to the public.<br>**6** Most of the time, stakeholders are insufficiently involved during the first phases of major projects.<br>**45** Local government does not seem capable of properly handling the public participation necessary for wind energy. |
| **1 Scientific Community** | **42** Onshore wind energy plans should be abandoned in Malta. The future lies in offshore wind. | **31** Professional and scientific expertise ought to play a decisive role in decision making on such infrastructure. |

| | | |
|---|---|---|
| | **8** Opponents of wind farms are not willing to compromise so it is pointless to involve them in the decision-making process.<br>**37** We cannot do anything about climate change anyway, so it is pointless to build wind farms. | **2** Although local opposition to wind projects is quite normal, the public benefit of wind energy is more important.<br>**16** Decisions made with the approval of the local community are generally also better decisions. |

***Table 21- Summary of the five stakeholder discourses of factor 1***

# CHAPTER 5

# DISCUSSION

## 5.1 Introduction

This dissertation has attempted to explain the thought processes, values and perceptions of five key stakeholders across a number of salient issues relevant to the Bahrija wind farm debate. This was done primarily to shed some insight on the drivers and motivations that shape the groupings' positions in order to facilitate constructive public engagement in the planning and deliberative process. The following chapter discusses the major issues and provides some recommendations in order to address the community engagement concerns that are prevalent in the different discourses.

## 5.2 Recommendations

Clearly one of the most important calls made by the prevalent discourses is towards expanding and improving community participation in the way the wind project plans are planned and authorized. Of course the implication is that this requires adequate information campaigns and possibly an institutional capacity re-think that empowers constructive public involvement in the burden sharing, with the understanding that this will lead to better decision making and less public opposition. According to Bloom et al. (1956)[202] knowledge is a prerequisite to be able to analyze, and evaluate. A key challenge is therefore to recognise any barriers to knowledge dissemination while ensuring that essential information about the choices between environmental and social issues reach the stakeholders (Vicente and Partidario, 2006)[203]. However, to be meaningful, it is clear that this exercise should not stop at being a simple passive information campaign but a more active sort of engagement which focuses on identifying and bringing together people interested in an issue, and help build relationships and networks for sharing existing research and ideas, and stimulating new work (Ward et al. 2009)[204].

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[202] Bloom B, Englehart M, Furst E, Hill W, Krathwohl D. (1956) *Taxonomy of educational objectives: the classification of educational goals.* Handbook I: Cognitive domain. New York, Toronto: Longmans, Green.
[203] Vicente G, Partidario M. (2006) *SEA—enhancing communication for better environmental decisions*. Environ Impact Assess Rev 2006; 26:696–706.
[204] Ward V, House A, Hamer S. (2009) *Knowledge brokering: the missing link in the evidence to action chain?* Evid Policy 2009;5(3):267–79.

At the same time such an approach must not simply assume that opposition is mainly due to lack of information or public involvement, or that it can be easily changed.
From the results of this case study it is clear that public participation is a very complex and open ended process were numerous social and personal issues come into play, which make the outcomes somewhat varied and not necessarily in line with Government's desired outcomes.

What is certainly clear from the results is that local concerns need to be heeded very carefully, whether they are deemed 'legitimate' or not. Clearly the same issue is looked at significantly differently by the various stakeholders with four major discourses standing out indicating rather polar views.

Similarly a lot of effort needs to be directed towards establishing a level of trust between the different stakeholders and local agencies. As Macnaghten and Urry (1998)[205] indicate, a lack of trust in the public domain has a dampening effect on debates over environmental sustainability. According to Camilleri (2004)[206], a significant feature of the Maltese socio-political arena does in fact relate to trust. With the exception of family relationships, social interactions are characterised by mistrust which are reflected in constant doubts for the motives of politicians; which has been exacerbated by recent claims of political interference in crucial energy contracts[207]. In this atmosphere, it is likely that objectors will remain skeptical about any positive 'technical' study, possibly claiming a bias in attempt to justify the project and potentially undermining sincere political engagement. Therefore the establishment of trust remains essential and wind energy decision makers must openly acknowledge and communicate the potential impacts of the wind projects in order to inform their understanding of all the issues involved; and every effort made to discuss even the potential negative impacts, or what other people perceive to be negative impacts. Denying or downplaying any impact can only foster further mistrust and suspicion. Also important is that, should the project be approved, developers start discussions on potential compensation schemes right at the onset of the planning process using an objective formula, and ideally not only compensate participating landowners but also non-

[205] Macnaghten, P. and Urry, J. (1998) *Contested Natures*. London: Sage
[206] Camilleri Marguerite (2004) *Environmental capacity of a small island state. Planning for Sustainable Development in Malta.* The Town Planning Review 75 (1).
[207] Vella Matthew. (18 August 2010) *EU accused Malta of favouring BWSC bid by changing emissions laws*. http://www.maltatoday.com.mt/news/delimara/eu-accuses-malta-of-favouring-bwsc-diesel-bid-by-changing-emissions-laws based on the European Commission's formal letter to the Maltese Government. (3,6,2010) Ref 2009/2226. Retrieved online 08/10/2010.
https://docs.google.com/leaf?id=0B7Swai6S9z6QYTgxNjVjMzktMjU1Zi00NTg0LTg5MWItMGIzNmM1YmIwNjI5&hl=en&pli=1

participating landowners living in close proximity. (Casey 2007).[208] It is important to stress the focus on the use of an objective compensation formula since a non-objective method of financially compensating neighbouring landowners might incentivise opposition (Bell et al. 2005; O.Hare et al. 1983).

Another important factor is that a clear understanding of the purpose for public participation must be laid out at the onset, and should strive to settle differences, rather than resolving them or finding consensus (Mouffe, 1999[209], Hillier, 2003b[210], Ploger, 2004[211]). In fact opposition should be considered to be a positive element of environmental governance, and critical participation encouraged within an institutional framework that embraces divergences of opinion in order to find a settlement of sorts on shared concerns and a better understanding of positions proposed. This approach could also lead to improvements or changes to the Bahrija plans in order to address concerns raised, which will hopefully lead to basic respect between opposing sides.

Practical methods of engagement that make sense to the Maltese context need to be chosen but a discussion of suitable techniques is deemed beyondthe scope for this paper. However it is fit to propose the a definition of community engagement to guide the decision maker towards that aim. **Community engagement** is "*a dimension of public participation which is a process of inclusive participation that supports mutual respect of values, strategies, and actions for authentic partnership of people affiliated with or self-identified by geographic proximity, special interest, or similar situations to address issues affecting the well-being of the community of focus*" (Wells 2007)[212].

For community engagement to succeed in the context of the Bahrija decision-making process, and to address most of the issues raised by the Bahrija Q methodology case study, number of conditions are recommended (Scott et al 2009)[213]:

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[208] Casey Susan (2007) *Understanding local opposition to wind energy*. A Thesis Presented to The Faculty of the Department of Geography & Environmental Studies, Northeastern Illinois University. Retrieved online 08/10/2010. http://www.neiu.edu/~srcasey%20/THESIS-FINAL.pdf

[209] Mouffe, C. (1999) *Deliberative democracy or agonistic pluralism?*, Social Research, Vol.66, No.3, p. 745-758.

[210] Hillier, J. (2003b) *Agonizing over consensus: why Habermasian ideals cannot be "Real"*, Planning Theory, Vol. 2, No.1, p.37-60

[211] Pløger, J. (2004) *Strife: urban planning and agonism*, Planning Theory , Vol.3, No.1, p 71-92. Righter, R.W. (1996) Wind Energy in America: A History, Norman, University of Oklahoma Press.

[212] Jones L, Wells K. (2007) *Strategies for academic and clinician engagement in community-participatory partnered research*. JAMA 2007; 297:407–410. p. 408.

[213] Dickinson Scott, Prabhakar Meera (December 2009) *An analytical framework for community empowerment evaluations.* SQW Consulting Department for Communities and Local Government. Retrieved online 08/10/2010. http://www.sqw.co.uk/file_download/194

| | |
|---|---|
| **Embracing community engagement** | i. An increasing and diverse number of residents, including older people and young people, are increasing their interest and confidence to actively participate in community dialogue efforts; and it is important that they feel that their views matter and that they are being listened to.<br>ii. There needs to be a clear understanding that community engagement can strengthen representative democracy and improved governance processes.<br>iii. Systemic changes need to be undertaken to the way planning authorities work with local communities to shape local areas are undertaken<br>iv. It is critical to engage all stakeholders in the development of the wind farm plans, especially the general public, since not all perceive community engagement as relevant to them. This process is fairly intensive and it is important to leave enough time to get it right. This will help ensure that relationships and opportunities for dialogue are maximised.<br>v. There needs to be proactive community capacity-building in community engagement practice that builds skills and networks.<br>vi. It is critical to ensure there is cross-party support for community empowerment, ensuring all stakeholders work with local government tiers to engage with the local communities to promote understanding and positive interaction between communities. |
| **Trust and local governance** | vii. A concerted effort towards establishing trust and dialogue between communities and agencies. Communities already have built relationships, understand each other's perspectives and differences; and local agencies need to be proactive in understanding and dealing constructively with community tensions and competing demands.<br>viii. It is critical to make sure Local Councils are involved in developing and implementing community engagement and that Councilors are actively involved in governance arrangements with input from the communities they represent. Ideally both councils and planning partners (MEPA, MRRA) should try to use common structures, processes and boundaries through which communities can engage at local, area and strategic level. |

| | |
|---|---|
| **Communication** | ix. There needs to be a much stronger effort in ensuring clear communication between communities and government agencies, and that the community is aware of the range of opportunities to engage, and are encouraged to take them up. Scientific concerns and merits need to be adequately passed on to the general public in a digestible manner.<br>x. Crucial that planning agencies understand that communities have different needs and that one-size does not fit all. Consequently some communities will require more attention and support than others, and every effort should be made to encourage formerly marginalised groups to engage with the decision making process. |
| **Systemic dialogue** | xi. Systemic dialogue is undertaken that considers the following success factors (Sheate 2009)[214]:<br>▪ Resources, time and space need to be created for engagement and exchange of knowledge to take place;<br>▪ The appropriate range of stakeholders need to be engaged in the decision-making process;<br>▪ A sense of openness to all citizens at the deliberation stage must be created<br>▪ The time and space chosen has to lead to open-dialogue and a non-judgmental environment wherein health exchanges can take place;<br>▪ Feedback to communities must be given on what has happened as a result of their input<br>▪ The engagement processes must extend beyond the local level and links to higher level decisions<br>▪ That discussions focus on salient and relevant issues<br>▪ That dialogue is a repeated process<br>▪ That the dialogue process is strongly linked into the decision making process<br>▪ That there is strong and sincere political and/or bureaucratic buy-in<br>▪ That there is senior level of support/championing<br>▪ That the dialogue partnership work is across all sectors including public, private and third sector |

[214] Sheate R. William, Rosario Partidário Maria. (2009) *Strategic approaches and assessment techniques - Potential for knowledge brokerage towards sustainability.* Environmental Impact Assessment Review Volume 30, Issue 4, July 2010, Pages 278-288

## 5.3 Conclusions

Maltese society today is faced with serious challenges in meeting renewable energy targets and obligations. The Bahrija wind farm is a crucial element of the Maltese government's renewable energy solutions but stakeholders seem influenced by incomplete information, and the project is plagued by many subjective and debatable issues. Clearly the EIA and further wind feasibility studies could provide further insights on the viability of these wind project. However due to the many uncertainties dominating the project, science alone is not sufficient to provide peace of mind and scientific arguments can often be used in stakeholder quibbling and lead to further controversy (Sarewitz 2000)[215]. Certainly any attempts to subdue objectors or manipulate community engagement to reach a forced approval of the project can be counterproductive and will result in longer and more painful public confrontations.

The deployment of Q-Methodology in the Bahrija wind farm case has provided not only an opportunity to analyse some elements of typical discourses both in support or objection, but it has also raised some new site specific and local insights about how we understand public and stakeholder perceptions towards wind farms in Malta; in the hope that it can contribute to the settlement of differences. Further research is needed on the methods that can be used to facilitate the stakeholder engagement.

On a final note, one must mention David Orr's (2002)[216] appeal for "*a higher order of beauty*" which is needed today. This '*new aesthetic sensibility of sustainability'* (Thayer 1994) [217] requires that we judge the aesthetic value of a wind farm in an even larger spatial/temporal context, rather than just the prima facie aesthetic qualities of the landscape against the wind farm structure. Saito (2004)[218] appeals to reflect about wind energy's merits and capacity to generate environmentally friendly energy by using nature's wonderful gifts of wind and open space, …"*and that we can witness this nature's gift at work in the movement of the blades*." They also offer us with the opportunity to enjoy these "*essential markers along the road to a more sustainable world*" (Thayer) until these altered landscapes becomes an integral part of our collective and cultural memories and symbols of environmental progress.

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[215] Sarewitz D. *Science and environmental policy: an excess of objectivity*. Chapter in R. Frodeman (ed.). Earth matters: The Earth sciences, philosophy, and the claims of community. Upper Saddle River, NJ: Prentice Hall; 2000. p. 79–98.
[216] David Orr, (2002) *The Nature of Design: Ecology, Culture, and Human Intention*. Oxford University Press, 2002, pp.185, 134.
[217] Robert L. Thayer, Jr., (1994) *Gray World, Green Heart: Technology, Nature, and the Sustainable Landscape.* New York: John Wiley & Sons, p. 131.
[218] Saito Yuriko. (2004) *Machines in the Ocean: The Aesthetics of Wind Farms*. Contemporary Aesthetics. *V*olume 2. Retrieved online http://www.contempaesthetics.org/newvolume/pages/article.php?articleID=247

The best way of ensuring such a positive aesthetic experience is simply for us all to be involved in creating it. The Bahrija wind project can be a first step in that direction, and a new start in community engagement and trust building for the Maltese islands.

# APPENDICES

## ANNEX 1 – Definitions of Q terminology used

| | |
|---|---|
| Concourse | This involves ordinary conversation, commentary and discourse about everyday life not restricted to words, but including collections of paintings, pieces of art, photographs and even musical selections. |
| Q sorting | This is the process of sorting selected statements about the concourse in the participant's preferred order of preference. |
| Q sort cards | Statements that need to be arranged by participants are printed individually on Q sort cards that resemble playing cards. Similar to well-written survey items, there should only be one individual statement per Q sort card written in language familiar to the participants. |
| Q sort deck | This is the total set of Q sort cards which can vary between 30 and 100, but is typically between 50 and 70. |
| Q sort diagram | An enlarged diagram (or board) on which the statements are arranged in the participant's preferred order of preference. |
| Rating scale | The rating scale according to which statements are arranged may range from +3 to -3, or +4 or -4, or +5 to -5, depending on the number of statements in the study. |
| Distribution marker | The distribution marker is the -5 to +5, of the rating scale. |
| Q sample | This entails the process of selecting or excluding statements following a scientific procedure since the whole concourse cannot be administered because it may consist of hundreds of statements. |
| Person-sample | This is a group of participants selected from the people involved in the discourse to sort selected statements about the concourse in the participant's preferred order of preference. |
| Score sheet | A small version of the Q sort diagram on which the number of the placement of each Q sort card of each participant is recorded for factor analysis. |

*Source:* *Du Plessis, Thereséa Charmaine (2009)*[219]

[219] Du Plessis, Thereséa Charmaine. (2009) A theoretical framework of corporate online communication: a marketing public relations (MPR) perspective. Thesis. University of South Africa. Retrieved online 27/07/2010 http://uir.unisa.ac.za/handle/10500/2271

## ANNEX 2 – Q Statements

| |
|---|
| 1 It is usually individuals, like landowners, that block the construction of wind turbines. |
| 2 Although local opposition to wind projects is quite normal, the public benefit of wind energy is more important. |
| 3 Public participation makes the decision making process more complicated and lengthy than necessary. |
| 4 Wind farms are noisy and visually unacceptable. |
| 5 Incentives should be given to the wind industry (not the community) since they determine the successful introduction of renewables. |
| 6 Most of the time, stakeholders are insufficiently involved during the first phases of major projects. |
| 7 It is not participation in decision making that is important for wind projects, but the compensation for the disturbance they cause. |
| 8 Opponents of wind farms are not willing to compromise so it is pointless to involve them in the decision-making process. |
| 9 Government should give priority to the environment first and to energy supply second. |
| 10 The input from the public during a public participation process often shows a lack of expertise. |
| 11 Local opposition to a wind farm is nothing more than defending one's self-interest. |
| 12 Local power companies have no understanding of public participation and are unaccustomed to dealing with stakeholders. |
| 13 Decision making surrounding wind energy is an unpredictable process that nobody can control. |
| 14 Residents do not want to pay for the nation's energy problems by accepting a wind farm in their area. |
| 15 Slow implementation of wind energy is usually a result of unnecessarily arduous rounds of public participation. |
| 16 Decisions made with the approval of the local community are generally also better decisions. |
| 17 It is useless to try and exert influence on the implementation of wind energy in Malta because the public is ignored. |
| 18 Before building wind farms all over the country, energy efficiency options should be investigated more thoroughly. |
| 19 Involving potential opponents to a wind farm in a timely manner will increase its chances of getting built. |
| 20 People are not fooled by public meetings, environmental impact studies, surveys or superficial public consultations. |
| 21 The 12 wind turbines planned will look better than the 20 disused communication towers already in the planned area. |
| 22 Government should be able to go ahead anyway when local authorities fail to co-operate with the construction of a wind farm. |
| 23 It is wrong to take decisions without giving neighbouring residents a decisive influence. |
| 24 Growing energy demand and increasing environmental problems cannot be solved by government alone. |
| 25 Decisions on wind farms cannot be made by governments alone, but they must result from negotiations with all involved parties. |
| 26 Every local authority would rather have wind farms built in another location. |
| 27 The compromise of the Bahrija landscape is a sacrifice that needs to be made in order to live more sustainable lives. |
| 28 The local community should be able to exert its influence in every phase and on all aspects of the decision-making process. |
| 29 Planning processes must be carried out rapidly in order to not scare away investors and meet the EU 2020 target. |
| 30 If good arguments exist for constructing a wind farm in a local community instead of another, than that community should agree to this for the public good. |
| 31 Professional and scientific expertise ought to play a decisive role in decision making on such infrastructure. |
| 32 The problem with public input is that it is mainly based on emotions rather than rational thought. |

| |
|---|
| 33 In the end, it is the cost of oil and electricity that will determine the success or failure of wind energy, not the public. |
| 34 Financial support geared towards solar energy is better than financial support for investments in wind energy. |
| 35 Initiators of wind farm projects underestimate the value of the landscape when choosing locations. |
| 36 Everyone prefers that new infrastructure like wind farms are not built too close to their homes. |
| 37 We cannot do anything about climate change anyway, so it is pointless to build wind farms. |
| 38 Local support is important for the successful implementation of wind energy. |
| 39 It is mainly local community groups that try to thwart the construction of wind farms. |
| 40 Local opposition to wind farms is mostly caused by the lack of information given to the public. |
| 41 Wind farms should go in built up areas where people live or places like Hal Far, not rural areas like Bahrija. |
| 42 Onshore wind energy plans should be abandoned in Malta. The future lies in offshore wind. |
| 43 Offering financial participation in wind projects or green energy to nearby residents is a good way to reduce opposition. |
| 44 It is mainly environmental organisations that frustrate the construction of wind turbines. |
| 45 Local government does not seem capable of properly handling the public participation necessary for wind energy. |
| 46 Local interests are not taken into account at the national level, so it is understandable that there is local resistance to the wind farm plans. |
| 47 More citizen participation leads to even more opposition toward wind farms. |
| 48 Public participation determines whether conflicts are solved and a wind farm is actually built. |
| 49 The small amount of clean energy that wind farms generate does not compensate for the negative impact they have on the landscape. |

# ANNEX 3 – Q Sorting Sheet

**STAKEHOLDER PERCEPTIONS ON THE BAHRIJA WIND FARM**

**Respondent No:** _____ **Name:** _____ *(Initials are sufficient if you wish to remain anonymous)*

*Send to Brian Restall, 'One', Triq il-Plejju, Iklin IKL 1650. Tel. 2142 0852*

| **OPINIONS I DISAGREE WITH MOST** | | | | | **NEUTRAL** | | | | | **OPINIONS I AGREE WITH MOST** |
|---|---|---|---|---|---|---|---|---|---|---|
| **-5** | **-4** | **-3** | **-2** | **-1** | **0** | **1+** | **2+** | **3+** | **4+** | **5+** |

**Please explain why you agree or disagree most with the two statements you have placed at each end of the scoring sheet.**

Card No._____: I disagree mostly because

Card No._____: I agree mostly because

**Please identify your position on the wind energy project:**

**Stakeholder type:** ☐ **Affected local** ☐ **Resource user** ☐ **Local agency** ☐ **NGO** ☐ **Scientific Community**

☐ **Supporter** ☐ **Objector** ☐ **Undecided**

## ANNEX 4 – Q Sort Instructions

These instructions will guide you through the survey step by step. Please read each step to the end before you start carrying it out.

1. Please check that you have all the pieces to complete this exercise. This should include an envelope that contains 49 self-adhesive labels, with a statement on each one and a sorting sheet. *If any of these are missing please call the researcher Brian Restall on Tel: 2142 0852.*

2. Please put the large Sorting Sheet on a clear table in front of you. Empty Envelope A, so that the 49 statements printed on self-adhesive labels are all on the sheet and turn each one over so you can see what is written it.

3. This study is interested in your perceptions towards wind farm projects **in Malta, specifically related to the Bahrija wind farm.**

4. All 49 cards in the deck contain a statement about wind farms. I kindly will ask you to rank-order these statements from your own point of view, according **to what extent you agree or disagree with the following statements.** The numbers on the cards (from 1 to 49) have been assigned to the cards randomly and are only relevant for the administration of your response.

5. Read the 49 statements carefully and split them up into three piles: a pile for statements you tend to disagree with, a pile for cards you tend to agree with, and a pile for cards you neither agree nor disagree with, or that are not relevant or applicable to you.
   **Just to be clear, we are interested in your point of view. Therefore, there are no right or wrong answers.**

6. Take the cards from the "AGREE" pile and read them again. Select the two statements you most agree with for wind farm projects in Malta and place them in the two last boxes on the right of the score sheet, below the "+5" (it does no matter which one goes on top or below). Next, from the remaining cards in the deck, select the three statements you most agree with and place them in the two boxes below the "+4". Follow this procedure for all cards from the "AGREE" pile.

7. Now take the cards from the "DISAGREE" pile and read them again. Just like before, select the two statements you most disagree with for middle-distance trips (30-100 kilometres) and place them in the last box on the left of the score sheet, below the "1". Follow this procedure for all cards from the "DISAGREE" pile.

8. Finally, take the remaining cards and read them again. Arrange the cards in the remaining open boxes of the score sheet.

9. When you have placed all cards on the score sheet, please go over your distribution once more and shift cards if you want to. It is very important that you stick each statement onto the sheet in your chosen box.

10. Please explain why you agree most with the two statements you have placed at each end of the scoring sheet.

11. Once you have completed the sorting of the statements, it would be very helpful if you could provide a few thoughts on the statements which you ranked +5 and -5. Please enter your

comments into the two panels on the right labeled '+4 or -4 comment'.

**Please return this sheet in the envelope provided.**

* No personal details will be passed on to third parties and no attributable quotations will be used without seeking prior written consent.

**Thank you for your contribution to this research!**

## ANNEX 5 – P Set (List of stakeholders)

| Ref | Contact and Organisation | Email | Status |
|---|---|---|---|
| A | **Group 1 - Affected locals** | | |
| A1 | | Done | Ok |
| A2 | | Done | Ok |
| A3 | | Done | Ok |
| A4 | | Done | Ok |
| A5 | | Done | Ok |
| A6 | | Done | Ok |
| A7 | | Done | Ok |
| A8 | | Done | Ok |
| A9 | | Done | Ok |
| A10 | | Done | Ok |
| | | **Subtotal done** | **10** |
| R | **Group 2 - Resource users** | | |
| R1 | | Done | Ok |
| R2 | | Done | Ok |
| R3 | | Done | Ok |
| R4 | | Done | Ok |
| R5 | | Done | Ok |
| R6 | | Done | Ok |
| R7 | | Done | Ok |
| R8 | | Done | Ok |
| R9 | | Reply was not usable | |
| R10 | | Done | Ok |
| | | **Subtotal done** | **9** |
| G | **Group 3 -Government and other local agencies** | | |
| G1 | | Discussed in person but sort not received | No reply |
| G2 | | Done | Ok |
| G3 | | Done | Ok |
| G4 | | Done | Ok |
| G5 | | Done | Ok |
| G6 | | Email. No concrete reply. | No reply |
| G7 | | Done | Ok |
| G8 | | Done | Ok |
| G9 | | Done | Ok |
| G10 | | Done | Ok |
| G11 | | Email. No reply | No reply |
| | | **Subtotal done** | **8** |

| | | | |
|---|---|---|---|
| **N** | **Group 4 - Non-governmental organizations (NGOs),** | | |
| N1 | | Done | Ok |
| N2 | | Done | Ok |
| N3 | | General email. Informed that RES in rural settings not their focus. | No |
| N4 | | Done | Ok |
| N5 | | Done | Ok |
| N6 | | General email | No reply |
| N7 | | General email | No reply |
| N8 | | Done | Ok |
| | | **Subtotal done** | **5** |
| S | **Group 5 - Scientific community** | | |
| S1 | | Done | Ok |
| S2 | | Done | Ok |
| S3 | | Done | Ok |
| S4 | | Done | Ok |
| S5 | | Done | Ok |
| S6 | | Done | Ok |
| S7 | | Done | Ok |
| S8 | | General email | No reply |
| S9 | | Done | Ok |
| | | **Subtotal done** | **8** |
| | **TOTALS** | | **40** |

# ANNEX 6 – Photomontages

**Photomontages for wind farm (12 X 850 KW wind turbines) (created by Perit Joseph Pace, VRS Ltd.)**
Wind Turbine Details:

*Rotor Diameter –* *58 metres*
*Hub height –* *55 metres above ground level*

***Strategic view from Bahrija***

Existing view

Proposed view

**Strategic View from Rabat Roman Villa**

Existing view

Proposed View

# ANNEX 7 – PQMethod software output for all respondents

```
PQMethod2.11               Bahrija all stakeholders                                    PAGE    1
Path and Project Name: C:\PQMETHOD\PROJECTS/All                                        Oct 03 10

Correlation Matrix Between Sorts

SORTS          1   2   3   4   5   6   7   8   9  10  11  12  13  14  15  16  17  18  19  20  21  22  23  24  25  26  27  28  29
30

  1 R1       100  27   0  21  37  48  41  39  33  28  34  50   4   8  21  17  25  44  38  11  39  45  40  23  29  56  48  51  34
53
  2 R2        27 100  16  37  23  24  36  45  28  15  12  18   5   2  30   6   5  -6 -21  52  37  27  30  49  19  28  29  44  35
55
  3 R3         0  16 100   4  19  18 -15   6  31  -6 -21  21   4 -23  17  25 -11  -4 -25  26  38   6  15  27  21  28   3  16  25
14
  4 R4        21  37   4 100  -2  21  26  21  24   0   1   6 -17   2  10   1 -23 -17 -17  42  33  12  25  36   7  34  19  16  10
29
  5 R5        37  23  19  -2 100  33  28  26  23  23  34  27  33   8  15   2   8  46  32  13  32  22  19   7  29  32  29  35  17
41
  6 R6        48  24  18  21  33 100  23  24  24   7  23  33  22 -12  42  25   4  29   8  24  47  19  27  20  11  44  26  44  40
23
  7 R7        41  36 -15  26  28  23 100  44  12  36  15   8 -13  13   5  10  26  23  11  35  23  35  41  19  33  46  56  53  28
40
  8 R8        39  45   6  21  26  24  44 100  15   9   0  23  13   9  23   4   1 -15 -13  37  23  19  21  25   5  29  51  45  21
54
  9 R10       33  28  31  24  23  24  12  15 100 -12 -11  34  -6 -21  25  20  -4  14   1  42  50  17  42  55  23  42  25  36  33
53
 10 A1        28  15  -6   0  23   7  36   9 -12 100  32  -1 -14  34 -11 -12  29  26  20   3  -2  18  18 -20   5  12  15  19   0
-3
 11 A2        34  12 -21   1  34  23  15   0 -11  32 100  21  20  23 -10  16  23  53  57 -13  10  16  21 -16  21  17  31  24 -12
8
 12 A3        50  18  21   6  27  33   8  23  34  -1  21 100  21 -29  38  19   0  17  15  25  33   8  17  27  15  45  19  48  34
52
 13 A4         4   5   4 -17  33  22 -13  13  -6 -14  20  21 100   2  25 -13  18  19  23  13   8  21 -17 -23 -23  19   4  10   2
5
 14 A5         8   2 -23   2   8 -12  13   9 -21  34  23 -29   2 100 -23 -26  19  23  37 -27 -10  10  11 -30   4  -2   8 -10 -35
2
```

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 15 | A6 | 21 | 30 | 17 | 10 | 15 | 42 | 5 | 23 | 25 | -11 | -10 | 38 | 25 | -23 | 100 | -4 | -39 | -24 | -23 | 19 | 34 | -4 | -12 | 37 | -10 | 19 | -2 | 15 | 60 |
| 24 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 16 | A7 | 17 | 6 | 25 | 1 | 2 | 25 | 10 | 4 | 20 | -12 | 16 | 19 | -13 | -26 | -4 | 100 | 18 | 17 | 17 | 12 | 27 | 18 | 44 | 22 | 22 | 25 | 33 | 34 | 19 |
| 19 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 17 | A8 | 25 | 5 | -11 | -23 | 8 | 4 | 26 | 1 | -4 | 29 | 23 | 0 | 18 | 19 | -39 | 18 | 100 | 52 | 47 | 13 | -3 | 35 | 25 | -15 | 12 | 19 | 24 | 22 | 4 |
| 8 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 18 | A9 | 44 | -6 | -4 | -17 | 46 | 29 | 23 | -15 | 14 | 26 | 53 | 17 | 19 | 23 | -24 | 17 | 52 | 100 | 65 | -1 | 20 | 48 | 40 | -1 | 36 | 48 | 33 | 32 | 2 |
| 23 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 19 | A10 | 38 | -21 | -25 | -17 | 32 | 8 | 11 | -13 | 1 | 20 | 57 | 15 | 23 | 37 | -23 | 17 | 47 | 65 | 100 | -27 | -11 | 23 | 22 | -29 | 23 | 28 | 15 | 10 | -18 |
| 7 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 20 | G2 | 11 | 52 | 26 | 42 | 13 | 24 | 35 | 37 | 42 | 3 | -13 | 25 | 13 | -27 | 19 | 12 | 13 | -1 | -27 | 100 | 44 | 21 | 42 | 42 | 17 | 44 | 30 | 41 | 33 |
| 43 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 21 | G3 | 39 | 37 | 38 | 33 | 32 | 47 | 23 | 23 | 50 | -2 | 10 | 33 | 8 | -10 | 34 | 27 | -3 | 20 | -11 | 44 | 100 | 35 | 37 | 56 | 29 | 42 | 39 | 54 | 37 |
| 52 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 22 | G4 | 45 | 27 | 6 | 12 | 22 | 19 | 35 | 19 | 17 | 18 | 16 | 8 | 21 | 10 | -4 | 18 | 35 | 48 | 23 | 21 | 35 | 100 | 28 | 8 | 28 | 43 | 44 | 42 | 10 |
| 22 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 23 | G5 | 40 | 30 | 15 | 25 | 19 | 27 | 41 | 21 | 42 | 18 | 21 | 17 | -17 | 11 | -12 | 44 | 25 | 40 | 22 | 42 | 37 | 28 | 100 | 33 | 36 | 51 | 49 | 46 | 17 |
| 44 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 24 | G7 | 23 | 49 | 27 | 36 | 7 | 20 | 19 | 25 | 55 | -20 | -16 | 27 | -23 | -30 | 37 | 22 | -15 | -1 | -29 | 42 | 56 | 8 | 33 | 100 | 35 | 35 | 29 | 30 | 56 |
| 58 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 25 | G8 | 29 | 19 | 21 | 7 | 29 | 11 | 33 | 5 | 23 | 5 | 21 | 15 | -23 | 4 | -10 | 22 | 12 | 36 | 23 | 17 | 29 | 28 | 36 | 35 | 100 | 39 | 36 | 27 | 27 |
| 33 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 26 | G9 | 56 | 28 | 28 | 34 | 32 | 44 | 46 | 29 | 42 | 12 | 17 | 45 | 19 | -2 | 19 | 25 | 19 | 48 | 28 | 44 | 42 | 43 | 51 | 35 | 39 | 100 | 47 | 56 | 52 |
| 52 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 27 | G10 | 48 | 29 | 3 | 19 | 29 | 26 | 56 | 51 | 25 | 15 | 31 | 19 | 4 | 8 | -2 | 33 | 24 | 33 | 15 | 30 | 39 | 44 | 49 | 29 | 36 | 47 | 100 | 46 | 15 |
| 44 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 28 | N1 | 51 | 44 | 16 | 16 | 35 | 44 | 53 | 45 | 36 | 19 | 24 | 48 | 10 | -10 | 15 | 34 | 22 | 32 | 10 | 41 | 54 | 42 | 46 | 30 | 27 | 56 | 46 | 100 | 42 |
| 61 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 29 | N2 | 34 | 35 | 25 | 10 | 17 | 40 | 28 | 21 | 33 | 0 | -12 | 34 | 2 | -35 | 60 | 19 | 4 | 2 | -18 | 33 | 37 | 10 | 17 | 56 | 27 | 52 | 15 | 42 | 100 |
| 35 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 30 | N4 | 53 | 55 | 14 | 29 | 41 | 23 | 40 | 54 | 53 | -3 | 8 | 52 | 5 | 2 | 24 | 19 | 8 | 23 | 7 | 43 | 52 | 22 | 44 | 58 | 33 | 52 | 44 | 61 | 35 |
| 100 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 31 | N5 | 34 | 42 | 5 | 46 | 23 | 38 | 56 | 40 | 47 | 1 | 16 | 40 | 2 | -20 | 35 | 19 | -2 | 7 | -13 | 56 | 51 | 29 | 37 | 47 | 37 | 53 | 60 | 58 | 51 |
| 46 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 32 | N8 | 43 | 27 | 27 | 25 | 34 | 37 | 39 | 58 | 35 | 8 | 1 | 48 | 13 | 3 | 32 | 16 | 13 | 15 | 4 | 47 | 57 | 21 | 38 | 48 | 34 | 52 | 47 | 50 | 44 |
| 60 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 33 | S1 | 42 | 50 | 19 | 34 | 41 | 31 | 47 | 53 | 43 | 1 | 14 | 35 | 8 | -7 | 23 | 10 | 8 | 23 | 0 | 50 | 59 | 35 | 46 | 60 | 35 | 50 | 56 | 48 | 33 |
| 62 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 34 | S2 | 22 | 44 | 25 | 35 | 21 | 32 | 33 | 44 | 52 | -4 | -7 | 23 | -10 | -15 | 15 | 23 | -12 | 0 | -28 | 51 | 62 | 20 | 49 | 56 | 23 | 33 | 48 | 60 | 31 |
| 55 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 35 | S3 | 27 | 16 | 21 | 17 | 35 | 28 | 28 | 16 | 31 | -7 | 21 | 26 | 7 | 14 | -12 | 34 | 17 | 41 | 37 | 17 | 36 | 30 | 40 | 17 | 43 | 58 | 46 | 42 | 10 |
| 37 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

| | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 36 | S4 | 27 | 24 | 22 | 19 | 44 | 52 | 36 | 57 | 29 | 6 | 8 | 38 | 7 | 4 | 34 | 1 | -21 | 0 | -3 | 21 | 35 | -2 | 27 | 32 | 14 | 27 | 35 | 38 | 21 |
| 49 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 37 | S5 | 15 | 36 | 30 | 30 | 7 | 20 | 15 | 33 | 56 | -17 | -22 | 23 | -1 | -21 | 36 | 24 | -19 | -8 | -15 | 43 | 42 | 10 | 24 | 66 | 20 | 41 | 28 | 30 | 42 |
| 49 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 38 | S6 | 39 | 43 | 31 | 29 | 26 | 41 | 33 | 20 | 45 | 4 | -8 | 17 | -15 | -6 | 15 | 21 | 18 | 23 | -7 | 27 | 40 | 17 | 35 | 55 | 37 | 37 | 29 | 35 | 44 |
| 48 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 39 | S7 | 46 | 33 | 32 | 22 | 44 | 12 | 34 | 40 | 34 | -3 | 10 | 39 | 12 | 6 | 13 | 30 | 18 | 27 | 12 | 39 | 42 | 29 | 46 | 31 | 27 | 50 | 46 | 46 | 26 |
| 61 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 40 | S9 | 36 | 29 | 24 | 19 | 48 | 23 | 46 | 45 | 27 | 19 | 17 | 21 | 14 | 22 | -2 | 28 | 25 | 39 | 22 | 46 | 44 | 42 | 47 | 27 | 38 | 54 | 68 | 47 | 15 |
| 51 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

**Correlation Matrix Between Sorts**

| SORTS | | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | R1 | 34 | 43 | 42 | 22 | 27 | 27 | 15 | 39 | 46 | 36 |
| 2 | R2 | 42 | 27 | 50 | 44 | 16 | 24 | 36 | 43 | 33 | 29 |
| 3 | R3 | 5 | 27 | 19 | 25 | 21 | 22 | 30 | 31 | 32 | 24 |
| 4 | R4 | 46 | 25 | 34 | 35 | 17 | 19 | 30 | 29 | 22 | 19 |
| 5 | R5 | 23 | 34 | 41 | 21 | 35 | 44 | 7 | 26 | 44 | 48 |
| 6 | R6 | 38 | 37 | 31 | 32 | 28 | 52 | 20 | 41 | 12 | 23 |
| 7 | R7 | 56 | 39 | 47 | 33 | 28 | 36 | 15 | 33 | 34 | 46 |
| 8 | R8 | 40 | 58 | 53 | 44 | 16 | 57 | 33 | 20 | 40 | 45 |
| 9 | R10 | 47 | 35 | 43 | 52 | 31 | 29 | 56 | 45 | 34 | 27 |
| 10 | A1 | 1 | 8 | 1 | -4 | -7 | 6 | -17 | 4 | -3 | 19 |
| 11 | A2 | 16 | 1 | 14 | -7 | 21 | 8 | -22 | -8 | 10 | 17 |
| 12 | A3 | 40 | 48 | 35 | 23 | 26 | 38 | 23 | 17 | 39 | 21 |
| 13 | A4 | 2 | 13 | 8 | -10 | 7 | 7 | -1 | -15 | 12 | 14 |
| 14 | A5 | -20 | 3 | -7 | -15 | 14 | 4 | -21 | -6 | 6 | 22 |
| 15 | A6 | 35 | 32 | 23 | 15 | -12 | 34 | 36 | 15 | 13 | -2 |
| 16 | A7 | 19 | 16 | 10 | 23 | 34 | 1 | 24 | 21 | 30 | 28 |
| 17 | A8 | -2 | 13 | 8 | -12 | 17 | -21 | -19 | 18 | 18 | 25 |
| 18 | A9 | 7 | 15 | 23 | 0 | 41 | 0 | -8 | 23 | 27 | 39 |
| 19 | A10 | -13 | 4 | 0 | -28 | 37 | -3 | -15 | -7 | 12 | 22 |
| 20 | G2 | 56 | 47 | 50 | 51 | 17 | 21 | 43 | 27 | 39 | 46 |
| 21 | G3 | 51 | 57 | 59 | 62 | 36 | 35 | 42 | 40 | 42 | 44 |
| 22 | G4 | 29 | 21 | 35 | 20 | 30 | -2 | 10 | 17 | 29 | 42 |
| 23 | G5 | 37 | 38 | 46 | 49 | 40 | 27 | 24 | 35 | 46 | 47 |
| 24 | G7 | 47 | 48 | 60 | 56 | 17 | 32 | 66 | 55 | 31 | 27 |
| 25 | G8 | 37 | 34 | 35 | 23 | 43 | 14 | 20 | 37 | 27 | 38 |

| | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| 26 | G9 | 53 | 52 | 50 | 33 | 58 | 27 | 41 | 37 | 50 | 54 |
| 27 | G10 | 60 | 47 | 56 | 48 | 46 | 35 | 28 | 29 | 46 | 68 |
| 28 | N1 | 58 | 50 | 48 | 60 | 42 | 38 | 30 | 35 | 46 | 47 |
| 29 | N2 | 51 | 44 | 33 | 31 | 10 | 21 | 42 | 44 | 26 | 15 |
| 30 | N4 | 46 | 60 | 62 | 55 | 37 | 49 | 49 | 48 | 61 | 51 |
| 31 | N5 | 100 | 56 | 61 | 59 | 35 | 42 | 34 | 29 | 40 | 45 |
| 32 | N8 | 56 | 100 | 66 | 55 | 39 | 52 | 44 | 44 | 56 | 66 |
| 33 | S1 | 61 | 66 | 100 | 59 | 31 | 52 | 40 | 40 | 49 | 51 |
| 34 | S2 | 59 | 55 | 59 | 100 | 19 | 50 | 44 | 48 | 31 | 40 |
| 35 | S3 | 35 | 39 | 31 | 19 | 100 | 20 | 23 | 23 | 51 | 63 |
| 36 | S4 | 42 | 52 | 52 | 50 | 20 | 100 | 33 | 35 | 21 | 31 |
| 37 | S5 | 34 | 44 | 40 | 44 | 23 | 33 | 100 | 54 | 21 | 36 |
| 38 | S6 | 29 | 44 | 40 | 48 | 23 | 35 | 54 | 100 | 22 | 32 |
| 39 | S7 | 40 | 56 | 49 | 31 | 51 | 21 | 21 | 22 | 100 | 59 |
| 40 | S9 | 45 | 66 | 51 | 40 | 63 | 31 | 36 | 32 | 59 | 100 |

**Unrotated Factor Matrix**

| | Factors | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| SORTS | | | | | | | | |
| 1 R1 | 0.6296 | 0.3302 | 0.2176 | 0.0501 | -0.3063 | -0.0862 | -0.0059 | 0.0834 |
| 2 R2 | 0.5703 | -0.1972 | -0.1124 | 0.2891 | -0.1339 | 0.1593 | 0.2103 | 0.1696 |
| 3 R3 | 0.3176 | -0.2906 | 0.0719 | -0.4017 | 0.3008 | -0.0363 | 0.3349 | -0.2801 |
| 4 R4 | 0.3927 | -0.2581 | -0.2914 | 0.2188 | -0.1075 | -0.0658 | -0.1877 | 0.4913 |
| 5 R5 | 0.4918 | 0.3183 | 0.3587 | 0.0975 | 0.1883 | -0.2354 | 0.2088 | -0.0678 |
| 6 R6 | 0.5297 | 0.0102 | 0.4268 | -0.0174 | -0.2939 | -0.0994 | -0.0577 | -0.1345 |
| 7 R7 | 0.5793 | 0.2241 | -0.2601 | 0.3894 | -0.2547 | 0.0958 | -0.0439 | -0.1198 |
| 8 R8 | 0.5641 | -0.1119 | 0.0265 | 0.5578 | 0.2354 | 0.0601 | -0.0330 | -0.2174 |
| 9 R10 | 0.5962 | -0.2504 | -0.0325 | -0.3142 | 0.0039 | -0.1284 | 0.0509 | 0.1972 |
| 10 A1 | 0.1041 | 0.4285 | -0.0821 | 0.3863 | -0.3722 | -0.0316 | 0.3024 | -0.2318 |
| 11 A2 | 0.1796 | 0.6282 | 0.2187 | 0.0881 | -0.1928 | -0.1449 | -0.3227 | 0.0984 |
| 12 A3 | 0.5158 | -0.0389 | 0.5132 | -0.1426 | -0.0187 | -0.0033 | -0.2350 | -0.0318 |
| 13 A4 | 0.0842 | 0.1929 | 0.6454 | 0.0922 | 0.3600 | 0.3981 | 0.1138 | 0.1738 |
| 14 A5 | -0.0680 | 0.5125 | -0.1864 | 0.4086 | 0.1799 | -0.3208 | 0.2591 | 0.2046 |
| 15 A6 | 0.3128 | -0.4967 | 0.6000 | 0.1204 | -0.1751 | 0.0096 | 0.0464 | 0.1198 |
| 16 A7 | 0.3471 | 0.0936 | -0.1448 | -0.5327 | -0.0346 | 0.1036 | -0.3463 | -0.3485 |
| 17 A8 | 0.1511 | 0.6158 | -0.1347 | -0.1115 | -0.1208 | 0.4127 | 0.2890 | -0.1627 |
| 18 A9 | 0.3474 | 0.7446 | 0.0927 | -0.2889 | -0.1155 | -0.0606 | 0.1387 | 0.0882 |
| 19 A10 | 0.0839 | 0.8080 | 0.1961 | -0.1820 | -0.0033 | -0.1799 | -0.0658 | 0.1761 |
| 20 G2 | 0.6040 | -0.2757 | -0.1732 | 0.0824 | 0.0857 | 0.4527 | 0.0619 | 0.0649 |
| 21 G3 | 0.7149 | -0.1698 | 0.0569 | -0.1341 | 0.0263 | -0.0312 | 0.0098 | 0.0642 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 22 G4 | 0.4436 | 0.3851 | -0.0908 | -0.0362 | -0.0602 | 0.3722 | 0.1278 | 0.1827 |
| 23 G5 | 0.6212 | 0.2295 | -0.3659 | -0.1458 | -0.0622 | -0.0613 | -0.1108 | -0.0849 |
| 24 G7 | 0.6300 | -0.4974 | -0.1661 | -0.1925 | -0.1260 | -0.1415 | 0.0765 | 0.1563 |
| 25 G8 | 0.4768 | 0.2083 | -0.2550 | -0.2826 | -0.0898 | -0.2572 | 0.0582 | 0.0155 |
| 26 G9 | 0.7490 | 0.1885 | 0.0952 | -0.1801 | -0.0695 | 0.1193 | 0.0230 | 0.1973 |
| 27 G10 | 0.6774 | 0.2743 | -0.2235 | 0.1521 | 0.0938 | 0.0643 | -0.2491 | -0.1173 |
| 28 N1 | 0.7521 | 0.1193 | 0.0716 | 0.0326 | -0.1312 | 0.1856 | -0.1265 | -0.2107 |
| 29 N2 | 0.5398 | -0.3325 | 0.2493 | -0.1725 | -0.4009 | 0.1688 | 0.1903 | -0.0760 |
| 30 N4 | 0.7865 | -0.0597 | 0.0170 | 0.0740 | 0.1257 | -0.1259 | 0.0407 | 0.1130 |
| 31 N5 | 0.7406 | -0.1617 | -0.0433 | 0.1475 | -0.1484 | 0.1615 | -0.3460 | 0.0883 |
| 32 N8 | 0.7742 | -0.0692 | 0.0891 | 0.1131 | 0.2107 | -0.0364 | 0.0818 | -0.1281 |
| 33 S1 | 0.7836 | -0.0726 | -0.0483 | 0.1768 | 0.0906 | -0.0192 | -0.0157 | 0.0843 |
| 34 S2 | 0.6927 | -0.3251 | -0.2222 | 0.0869 | 0.0296 | -0.0556 | -0.1130 | -0.1815 |
| 35 S3 | 0.5475 | 0.3386 | -0.0831 | -0.2908 | 0.3315 | -0.1105 | -0.1482 | 0.1138 |
| 36 S4 | 0.5595 | -0.1687 | 0.2474 | 0.3425 | 0.1113 | -0.4457 | -0.0861 | -0.2790 |
| 37 S5 | 0.5593 | -0.4401 | -0.0762 | -0.1750 | 0.0798 | -0.0967 | 0.1489 | 0.1482 |
| 38 S6 | 0.5980 | -0.1514 | -0.1515 | -0.1670 | -0.2546 | -0.2485 | 0.4142 | -0.0617 |
| 39 S7 | 0.6583 | 0.1446 | -0.0071 | -0.0674 | 0.3759 | 0.1170 | -0.0108 | 0.0340 |
| 40 S9 | 0.7092 | 0.2930 | -0.1708 | 0.0510 | 0.3881 | 0.0473 | 0.0849 | -0.0670 |
| Eigenvalues | 12.2377 | 4.6916 | 2.3279 | 2.2437 | 1.6615 | 1.4940 | 1.3324 | 1.1920 |
| % expl.Var. | 31 | 12 | 6 | 6 | 4 | 4 | 3 | 3 |

**Cumulative Communalities Matrix**

| | Factors 1 Thru .... | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| SORTS | | | | | | | | |
| 1 R1 | 0.3964 | 0.5055 | 0.5528 | 0.5553 | 0.6491 | 0.6566 | 0.6566 | 0.6635 |
| 2 R2 | 0.3253 | 0.3642 | 0.3768 | 0.4604 | 0.4783 | 0.5037 | 0.5479 | 0.5767 |
| 3 R3 | 0.1009 | 0.1854 | 0.1905 | 0.3519 | 0.4424 | 0.4437 | 0.5558 | 0.6343 |
| 4 R4 | 0.1542 | 0.2208 | 0.3057 | 0.3536 | 0.3651 | 0.3695 | 0.4047 | 0.6461 |
| 5 R5 | 0.2419 | 0.3432 | 0.4718 | 0.4813 | 0.5168 | 0.5722 | 0.6158 | 0.6204 |
| 6 R6 | 0.2806 | 0.2807 | 0.4629 | 0.4632 | 0.5495 | 0.5594 | 0.5627 | 0.5808 |
| 7 R7 | 0.3356 | 0.3858 | 0.4534 | 0.6051 | 0.6699 | 0.6791 | 0.6811 | 0.6954 |
| 8 R8 | 0.3182 | 0.3307 | 0.3314 | 0.6426 | 0.6980 | 0.7016 | 0.7027 | 0.7499 |
| 9 R10 | 0.3554 | 0.4182 | 0.4192 | 0.5179 | 0.5180 | 0.5344 | 0.5370 | 0.5759 |
| 10 A1 | 0.0108 | 0.1944 | 0.2012 | 0.3504 | 0.4889 | 0.4899 | 0.5814 | 0.6352 |
| 11 A2 | 0.0323 | 0.4269 | 0.4747 | 0.4825 | 0.5197 | 0.5407 | 0.6448 | 0.6545 |
| 12 A3 | 0.2661 | 0.2676 | 0.5309 | 0.5512 | 0.5516 | 0.5516 | 0.6068 | 0.6078 |
| 13 A4 | 0.0071 | 0.0443 | 0.4609 | 0.4694 | 0.5990 | 0.7575 | 0.7705 | 0.8007 |
| 14 A5 | 0.0046 | 0.2672 | 0.3020 | 0.4689 | 0.5013 | 0.6042 | 0.6714 | 0.7132 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 15 A6 | 0.0978 | 0.3445 | 0.7046 | 0.7190 | 0.7497 | 0.7498 | 0.7520 | 0.7663 |
| 16 A7 | 0.1205 | 0.1292 | 0.1502 | 0.4340 | 0.4352 | 0.4459 | 0.5658 | 0.6872 |
| 17 A8 | 0.0228 | 0.4021 | 0.4202 | 0.4326 | 0.4472 | 0.6176 | 0.7011 | 0.7276 |
| 18 A9 | 0.1207 | 0.6752 | 0.6837 | 0.7672 | 0.7806 | 0.7842 | 0.8035 | 0.8113 |
| 19 A10 | 0.0070 | 0.6599 | 0.6983 | 0.7315 | 0.7315 | 0.7638 | 0.7682 | 0.7992 |
| 20 G2 | 0.3648 | 0.4408 | 0.4708 | 0.4776 | 0.4849 | 0.6899 | 0.6937 | 0.6979 |
| 21 G3 | 0.5111 | 0.5400 | 0.5432 | 0.5612 | 0.5619 | 0.5629 | 0.5629 | 0.5671 |
| 22 G4 | 0.1968 | 0.3450 | 0.3533 | 0.3546 | 0.3582 | 0.4968 | 0.5131 | 0.5465 |
| 23 G5 | 0.3858 | 0.4385 | 0.5724 | 0.5936 | 0.5975 | 0.6012 | 0.6135 | 0.6207 |
| 24 G7 | 0.3969 | 0.6443 | 0.6719 | 0.7090 | 0.7248 | 0.7449 | 0.7507 | 0.7751 |
| 25 G8 | 0.2273 | 0.2707 | 0.3357 | 0.4156 | 0.4237 | 0.4898 | 0.4932 | 0.4935 |
| 26 G9 | 0.5609 | 0.5965 | 0.6055 | 0.6379 | 0.6428 | 0.6570 | 0.6575 | 0.6965 |
| 27 G10 | 0.4589 | 0.5342 | 0.5841 | 0.6073 | 0.6161 | 0.6202 | 0.6823 | 0.6960 |
| 28 N1 | 0.5657 | 0.5800 | 0.5851 | 0.5862 | 0.6034 | 0.6378 | 0.6538 | 0.6982 |
| 29 N2 | 0.2914 | 0.4020 | 0.4642 | 0.4940 | 0.6547 | 0.6832 | 0.7194 | 0.7252 |
| 30 N4 | 0.6186 | 0.6221 | 0.6224 | 0.6279 | 0.6437 | 0.6595 | 0.6612 | 0.6740 |
| 31 N5 | 0.5485 | 0.5747 | 0.5766 | 0.5983 | 0.6203 | 0.6464 | 0.7661 | 0.7739 |
| 32 N8 | 0.5993 | 0.6041 | 0.6120 | 0.6248 | 0.6692 | 0.6706 | 0.6773 | 0.6937 |
| 33 S1 | 0.6140 | 0.6192 | 0.6215 | 0.6528 | 0.6610 | 0.6614 | 0.6616 | 0.6687 |
| 34 S2 | 0.4798 | 0.5855 | 0.6349 | 0.6425 | 0.6434 | 0.6465 | 0.6592 | 0.6922 |
| 35 S3 | 0.2998 | 0.4145 | 0.4214 | 0.5059 | 0.6158 | 0.6280 | 0.6500 | 0.6629 |
| 36 S4 | 0.3130 | 0.3415 | 0.4027 | 0.5200 | 0.5324 | 0.7310 | 0.7384 | 0.8162 |
| 37 S5 | 0.3129 | 0.5065 | 0.5123 | 0.5429 | 0.5493 | 0.5586 | 0.5808 | 0.6028 |
| 38 S6 | 0.3576 | 0.3806 | 0.4035 | 0.4314 | 0.4962 | 0.5580 | 0.7295 | 0.7333 |
| 39 S7 | 0.4333 | 0.4543 | 0.4543 | 0.4589 | 0.6002 | 0.6139 | 0.6140 | 0.6151 |
| 40 S9 | 0.5030 | 0.5888 | 0.6179 | 0.6205 | 0.7711 | 0.7734 | 0.7806 | 0.7851 |
| cum% expl.Var. | 31 | 42 | 48 | 54 | 58 | 62 | 65 | 68 |

QANGLES File Not Found - Apparently VARIMAX Was Used

**Factor Matrix with an X Indicating a Defining Sort**

| | Loadings | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| QSORT | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1 R1 | 0.2946 | 0.5111 | 0.4037 | 0.2201 | 0.0205 | 0.1087 | 0.2637 | 0.1492 |
| 2 R2 | 0.4257 | -0.1421 | 0.1852 | 0.3863 | -0.1904 | 0.2423 | 0.2068 | 0.2324 |
| 3 R3 | 0.1693 | -0.1407 | 0.0969 | 0.4390 | 0.1175 | 0.0232 | -0.1771 | -0.5814X |
| 4 R4 | 0.2698 | -0.0709 | -0.0183 | 0.3898 | -0.1058 | -0.0121 | -0.0835 | 0.6306X |
| 5 R5 | 0.4147 | 0.4754 | 0.2390 | 0.1142 | -0.2324 | -0.0632 | 0.0846 | -0.2951 |
| 6 R6 | 0.2175 | 0.2423 | 0.6298X | 0.1792 | 0.0991 | -0.0787 | 0.1715 | -0.0252 |
| 7 R7 | 0.5444 | 0.1274 | 0.0509 | 0.0963 | 0.1151 | 0.1623 | 0.4978 | 0.2891 |
| 8 R8 | 0.8070X | -0.1505 | 0.1593 | -0.0153 | -0.1396 | -0.0693 | 0.1604 | 0.0208 |
| 9 R10 | 0.2187 | 0.0905 | 0.2012 | 0.6527X | 0.1105 | 0.0303 | -0.1961 | 0.0431 |
| 10 A1 | 0.1002 | 0.2095 | -0.0221 | -0.1116 | -0.1255 | 0.1107 | 0.7349X | -0.0152 |
| 11 A2 | 0.0937 | 0.6845X | 0.1629 | -0.2614 | 0.0769 | -0.0388 | 0.1348 | 0.2382 |
| 12 A3 | 0.2807 | 0.2450 | 0.6283X | 0.1013 | 0.1354 | -0.0512 | -0.2029 | -0.0428 |
| 13 A4 | 0.1886 | 0.1775 | 0.3857 | -0.3333 | -0.4006 | 0.3622 | -0.3499 | -0.2442 |
| 14 A5 | 0.1449 | 0.4041 | -0.4673 | -0.1022 | -0.4748 | -0.0803 | 0.2571 | 0.0468 |
| 15 A6 | 0.0853 | -0.2077 | 0.7589X | 0.2074 | -0.2675 | -0.1115 | -0.1056 | 0.0439 |
| 16 A7 | 0.1431 | 0.1623 | 0.0792 | 0.1403 | 0.7616X | 0.0851 | -0.1071 | -0.1256 |
| 17 A8 | 0.0650 | 0.3344 | -0.1198 | -0.1121 | 0.1469 | 0.6283X | 0.3519 | -0.2107 |
| 18 A9 | 0.0365 | 0.8089X | 0.0264 | 0.1090 | 0.0936 | 0.3038 | 0.1609 | -0.1265 |
| 19 A10 | -0.0578 | 0.8704X | -0.0408 | -0.1595 | -0.0036 | 0.0994 | 0.0102 | -0.0333 |
| 20 G2 | 0.5311 | -0.2822 | 0.1528 | 0.3183 | 0.0666 | 0.4325 | -0.0606 | 0.1280 |
| 21 G3 | 0.4300 | 0.1007 | 0.3075 | 0.5027 | 0.1041 | 0.0657 | -0.0963 | 0.0193 |
| 22 G4 | 0.2708 | 0.3154 | 0.0348 | 0.1174 | 0.0258 | 0.5815X | 0.0988 | 0.1004 |
| 23 G5 | 0.4219 | 0.3055 | -0.1042 | 0.3624 | 0.3944 | 0.1149 | 0.1609 | 0.1117 |
| 24 G7 | 0.2464 | -0.1628 | 0.2137 | 0.7737X | 0.1168 | -0.0388 | -0.0657 | 0.1554 |
| 25 G8 | 0.1694 | 0.3857 | -0.1008 | 0.4787 | 0.2485 | 0.0111 | 0.1218 | -0.0015 |
| 26 G9 | 0.3826 | 0.3996 | 0.3125 | 0.4012 | 0.0992 | 0.3354 | -0.0395 | 0.0893 |
| 27 G10 | 0.6925X | 0.2746 | -0.0137 | 0.0911 | 0.2779 | 0.1130 | 0.1196 | 0.1682 |
| 28 N1 | 0.5646 | 0.1856 | 0.3851 | 0.1710 | 0.2985 | 0.2053 | 0.1866 | 0.0377 |
| 29 N2 | 0.0870 | -0.1334 | 0.6296X | 0.4657 | 0.1222 | 0.2047 | 0.1670 | -0.0433 |
| 30 N4 | 0.6045X | 0.1917 | 0.2083 | 0.4691 | -0.0541 | 0.0079 | -0.0323 | 0.0654 |
| 31 N5 | 0.5712 | 0.0001 | 0.3667 | 0.2589 | 0.2334 | 0.1024 | -0.0034 | 0.4257 |
| 32 N8 | 0.6960X | 0.0947 | 0.2534 | 0.3415 | -0.0070 | 0.0177 | 0.0186 | -0.1371 |
| 33 S1 | 0.6628X | 0.1053 | 0.1949 | 0.3907 | -0.0224 | 0.0622 | 0.0236 | 0.1511 |
| 34 S2 | 0.6053X | -0.1789 | 0.1368 | 0.4323 | 0.2512 | -0.0993 | 0.0752 | 0.0981 |
| 35 S3 | 0.4194 | 0.5271 | -0.0988 | 0.2579 | 0.2086 | 0.0914 | -0.2792 | -0.0550 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 36 S4 | 0.6008 | 0.0642 | 0.3344 | 0.1709 | -0.0800 | -0.5230 | 0.1476 | -0.0919 |
| 37 S5 | 0.2858 | -0.1458 | 0.1647 | 0.6652X | -0.0007 | -0.0018 | -0.1738 | 0.0023 |
| 38 S6 | 0.1717 | 0.0702 | 0.1381 | 0.7433X | 0.0429 | 0.0160 | 0.3310 | -0.1254 |
| 39 S7 | 0.6201X | 0.2512 | 0.0476 | 0.2321 | 0.0639 | 0.2248 | -0.2124 | -0.1081 |
| 40 S9 | 0.7374X | 0.3159 | -0.1244 | 0.2339 | 0.0507 | 0.2168 | -0.0113 | -0.1472 |
| % expl.Var. | 18 | 11 | 9 | 13 | 5 | 5 | 5 | 4 |

**Free Distribution Data Results**

| QSORT | MEAN | ST.DEV. |
|---|---|---|
| 1 R1 | 0.000 | 2.273 |
| 2 R2 | 0.000 | 2.273 |
| 3 R3 | 0.000 | 2.273 |
| 4 R4 | 0.000 | 2.273 |
| 5 R5 | 0.000 | 2.273 |
| 6 R6 | 0.000 | 2.273 |
| 7 R7 | 0.000 | 2.273 |
| 8 R8 | 0.000 | 2.273 |
| 9 R10 | 0.000 | 2.273 |
| 10 A1 | 0.000 | 2.273 |
| 11 A2 | 0.000 | 2.273 |
| 12 A3 | 0.000 | 2.273 |
| 13 A4 | 0.000 | 2.273 |
| 14 A5 | 0.000 | 2.273 |
| 15 A6 | 0.000 | 2.273 |
| 16 A7 | 0.000 | 2.273 |
| 17 A8 | 0.000 | 2.273 |
| 18 A9 | 0.000 | 2.273 |
| 19 A10 | 0.000 | 2.273 |
| 20 G2 | 0.000 | 2.273 |
| 21 G3 | 0.000 | 2.273 |
| 22 G4 | 0.000 | 2.273 |
| 23 G5 | 0.000 | 2.273 |
| 24 G7 | 0.000 | 2.273 |
| 25 G8 | 0.000 | 2.273 |
| 26 G9 | 0.000 | 2.273 |
| 27 G10 | 0.000 | 2.273 |
| 28 N1 | 0.000 | 2.273 |
| 29 N2 | 0.000 | 2.273 |

| | | | |
|---|---|---|---|
| 30 | N4 | 0.000 | 2.273 |
| 31 | N5 | 0.000 | 2.273 |
| 32 | N8 | 0.000 | 2.273 |
| 33 | S1 | 0.000 | 2.273 |
| 34 | S2 | 0.000 | 2.273 |
| 35 | S3 | 0.000 | 2.273 |
| 36 | S4 | 0.000 | 2.273 |
| 37 | S5 | 0.000 | 2.273 |
| 38 | S6 | 0.000 | 2.273 |
| 39 | S7 | 0.000 | 2.273 |
| 40 | S9 | 0.000 | 2.273 |

**Rank Statement Totals with Each Factor**

| No. | Statement | No. | Factors 1 | | 2 | | 3 | | 4 | | 5 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | It is usually individuals, like landowners, that block | 1 | -0.29 | 30 | -0.09 | 28 | -0.46 | 36 | 0.23 | 18 | 0.44 | 20 |
| 2 | Although local opposition to wind projects is quite no | 2 | 1.12 | 7 | -0.92 | 40 | 0.09 | 22 | 0.97 | 10 | 0.00 | 29 |
| 3 | Public participation makes the decision making process | 3 | -1.02 | 42 | -1.52 | 46 | 0.75 | 9 | 0.22 | 19 | -0.44 | 36 |
| 4 | Wind farms are noisy and visually unacceptable. | 4 | -1.18 | 44 | 1.70 | 3 | -1.91 | 48 | -2.18 | 49 | 0.44 | 20 |
| 5 | Incentives should be given to the wind industry (not t | 5 | -1.01 | 41 | -0.60 | 33 | 0.33 | 17 | 0.19 | 20 | 0.00 | 29 |
| 6 | Most of the time, stakeholders are insufficiently invo | 6 | 1.92 | 1 | 1.10 | 5 | -0.37 | 33 | -1.06 | 42 | -2.20 | 49 |
| 7 | It is not participation in decision making that is imp | 7 | -0.91 | 40 | -1.44 | 45 | 0.82 | 8 | 0.54 | 13 | 0.44 | 20 |
| 8 | Opponents of wind farms are not willing to compromise | 8 | -1.58 | 47 | -1.27 | 44 | 0.05 | 24 | -1.62 | 47 | -0.44 | 36 |
| 9 | Government should give priority to the environment fir | 9 | -0.30 | 32 | 0.36 | 20 | -0.54 | 41 | -0.26 | 30 | 1.32 | 7 |
| 10 | The input from the public during a public participatio | 10 | 0.23 | 20 | 0.16 | 23 | 0.54 | 15 | 1.37 | 6 | -1.32 | 46 |
| 11 | Local opposition to a wind farm is nothing more than d | 11 | -0.17 | 27 | -1.61 | 47 | 0.00 | 26 | 0.16 | 21 | 0.44 | 20 |
| 12 | Local power companies have no understanding of public | 12 | 0.29 | 19 | 0.92 | 10 | -0.37 | 32 | -1.24 | 43 | 0.00 | 29 |
| 13 | Decision making surrounding wind energy is an unpredic | 13 | -0.67 | 39 | -0.11 | 29 | -2.07 | 49 | -0.82 | 40 | -0.88 | 42 |
| 14 | Residents do not want to pay for the nation’s energy p | 14 | -0.18 | 28 | 0.34 | 21 | 0.70 | 11 | 0.00 | 24 | -0.44 | 36 |
| 15 | Slow implementation of wind energy is usually a result | 15 | -1.21 | 45 | -0.92 | 41 | 0.02 | 25 | 1.11 | 9 | -0.88 | 42 |
| 16 | Decisions made with the approval of the local communit | 16 | 0.93 | 8 | 0.85 | 12 | -0.51 | 38 | 2.02 | 1 | 2.20 | 1 |
| 17 | It is useless to try and exert influence on the implem | 17 | -0.36 | 33 | 1.01 | 8 | -0.24 | 29 | -1.24 | 44 | 0.00 | 29 |
| 18 | Before building wind farms all over the country, energ | 18 | 1.74 | 3 | 1.76 | 2 | 2.31 | 2 | 1.59 | 3 | 1.76 | 3 |
| 19 | Involving potential opponents to a wind farm in a time | 19 | 1.39 | 6 | 0.00 | 26 | -0.49 | 37 | 1.27 | 8 | 1.32 | 7 |
| 20 | People are not fooled by public meetings, environmenta | 20 | -0.39 | 34 | 0.50 | 18 | -0.51 | 39 | 0.04 | 23 | -1.32 | 46 |
| 21 | The 12 wind turbines planned will look better than the | 21 | 0.92 | 10 | -0.31 | 31 | 0.75 | 10 | 1.33 | 7 | 0.44 | 20 |
| 22 | Government should be able to go ahead anyway when loca | 22 | -0.56 | 36 | -1.92 | 48 | 0.18 | 19 | -0.43 | 34 | -1.32 | 46 |
| 23 | It is wrong to take decisions without giving neighbour | 23 | 0.12 | 22 | 0.83 | 14 | -0.54 | 40 | 0.14 | 22 | 0.88 | 13 |
| 24 | Growing energy demand and increasing environmental pro | 24 | 0.82 | 11 | 0.76 | 15 | 1.89 | 3 | 1.56 | 4 | 0.88 | 13 |
| 25 | Decisions on wind farms cannot be made by governments | 25 | 1.43 | 5 | 0.98 | 9 | -0.09 | 27 | 1.49 | 5 | 1.32 | 7 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 26 | Every local authority would rather have wind farms bui | 26 | 0.72 | 12 | -0.76 | 36 | -0.33 | 30 | -0.26 | 31 | -0.88 | 42 |
| 27 | The compromise of the Bahrija landscape is a sacrifice | 27 | 0.65 | 13 | -2.20 | 49 | -1.36 | 44 | 0.45 | 16 | -0.44 | 36 |
| 28 | The local community should be able to exert its influe | 28 | -0.41 | 35 | 0.64 | 17 | -0.42 | 34 | 0.59 | 12 | 0.44 | 20 |
| 29 | Planning processes must be carried out rapidly in orde | 29 | -0.13 | 26 | -0.76 | 38 | 1.00 | 7 | -0.57 | 36 | 0.00 | 29 |
| 30 | If good arguments exist for constructing a wind farm i | 30 | 0.07 | 23 | -1.01 | 42 | 0.54 | 14 | 0.53 | 14 | -1.32 | 46 |
| 31 | Professional and scientific expertise ought to play a | 31 | 1.79 | 2 | 0.00 | 26 | 2.52 | 1 | 1.76 | 2 | 0.00 | 29 |
| 32 | The problem with public input is that it is mainly bas | 32 | 0.30 | 18 | -0.92 | 39 | 1.03 | 6 | -0.09 | 25 | 1.32 | 7 |
| 33 | In the end, it is the cost of oil and electricity that | 33 | 0.20 | 21 | 0.09 | 24 | 1.45 | 4 | -0.20 | 27 | -0.88 | 42 |
| 34 | Financial support geared towards solar energy is bette | 34 | -0.30 | 31 | 1.03 | 6 | 0.70 | 12 | -0.95 | 41 | 0.88 | 13 |
| 35 | Initiators of wind farm projects underestimate the val | 35 | -0.57 | 37 | 1.01 | 7 | -0.18 | 28 | -0.21 | 28 | -0.44 | 36 |
| 36 | Everyone prefers that new infrastructure like wind far | 36 | 0.04 | 25 | 0.83 | 14 | 0.16 | 20 | 0.97 | 11 | -1.76 | 48 |
| 37 | We cannot do anything about climate change anyway, so | 37 | -2.53 | 49 | -0.07 | 27 | -1.64 | 46 | -1.95 | 48 | -1.76 | 48 |
| 38 | Local support is important for the successful implemen | 38 | 0.44 | 17 | 0.18 | 22 | -0.33 | 31 | 0.43 | 17 | 0.88 | 13 |
| 39 | It is mainly local community groups that try to thwart | 39 | 0.04 | 24 | -0.16 | 30 | -0.45 | 35 | -0.58 | 37 | -0.44 | 36 |
| 40 | Local opposition to wind farms is mostly caused by the | 40 | 1.64 | 4 | -1.09 | 43 | 0.25 | 18 | -0.13 | 26 | 0.88 | 13 |
| 41 | Wind farms should go in built up areas where people li | 41 | -0.64 | 38 | 0.43 | 19 | 0.12 | 21 | -1.49 | 46 | 1.76 | 3 |
| 42 | Onshore wind energy plans should be abandoned in Malta | 42 | -1.15 | 43 | 0.75 | 16 | -1.82 | 47 | -0.76 | 39 | 0.88 | 13 |
| 43 | Offering financial participation in wind projects or g | 43 | 0.93 | 9 | -0.43 | 32 | 1.07 | 5 | 0.47 | 15 | 0.00 | 29 |
| 44 | It is mainly environmental organisations that frustrat | 44 | -0.21 | 29 | -0.76 | 38 | -1.61 | 45 | -0.73 | 38 | -0.88 | 42 |
| 45 | Local government does not seem capable of properly han | 45 | 0.57 | 14 | 1.17 | 4 | 0.61 | 13 | -0.32 | 32 | -0.88 | 42 |
| 46 | Local interests are not taken into account at the nati | 46 | 0.53 | 15 | 0.85 | 12 | 0.40 | 16 | -0.44 | 35 | 0.44 | 20 |
| 47 | More citizen participation leads to even more oppositi | 47 | -2.05 | 48 | -0.76 | 35 | 0.09 | 23 | -0.37 | 33 | 0.00 | 29 |
| 48 | Public participation determines whether conflicts are | 48 | 0.47 | 16 | -0.67 | 34 | -1.28 | 43 | -0.24 | 29 | 0.00 | 29 |
| 49 | The small amount of clean energy that wind farms gener | 49 | -1.48 | 46 | 2.02 | 1 | -0.85 | 42 | -1.30 | 45 | -0.44 | 36 |

**Rank Statement Totals with Each Factor**

| No. | Statement | No. | Factors 6 | | 7 | | 8 | |
|---|---|---|---|---|---|---|---|---|
| 1 | It is usually individuals, like landowners, that block | 1 | 1.32 | 5 | -0.44 | 36 | 0.87 | 12 |
| 2 | Although local opposition to wind projects is quite no | 2 | -0.58 | 37 | 1.32 | 7 | 0.17 | 20 |
| 3 | Public participation makes the decision making process | 3 | -0.78 | 40 | 0.00 | 29 | -1.03 | 42 |
| 4 | Wind farms are noisy and visually unacceptable. | 4 | 0.87 | 9 | 1.76 | 3 | -0.45 | 33 |
| 5 | Incentives should be given to the wind industry (not t | 5 | -1.32 | 45 | 0.88 | 13 | 0.63 | 16 |
| 6 | Most of the time, stakeholders are insufficiently invo | 6 | 0.74 | 14 | 0.88 | 13 | 0.18 | 19 |
| 7 | It is not participation in decision making that is imp | 7 | -0.29 | 30 | -0.44 | 36 | -0.92 | 40 |
| 8 | Opponents of wind farms are not willing to compromise | 8 | -1.07 | 42 | -0.88 | 42 | -1.38 | 46 |
| 9 | Government should give priority to the environment fir | 9 | 0.04 | 23 | 0.44 | 20 | -0.29 | 31 |
| 10 | The input from the public during a public participatio | 10 | 0.25 | 18 | -1.76 | 48 | -0.29 | 31 |
| 11 | Local opposition to a wind farm is nothing more than d | 11 | -0.04 | 27 | 0.00 | 29 | 0.11 | 22 |
| 12 | Local power companies have no understanding of public | 12 | 0.33 | 16 | 0.44 | 20 | 0.98 | 8 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 13 | Decision making surrounding wind energy is an unpredic | 13 | 0.00 | 25 | 0.00 | 29 | 1.15 | 5 |
| 14 | Residents do not want to pay for the nation's energy p | 14 | 1.07 | 6 | -0.44 | 36 | 0.23 | 18 |
| 15 | Slow implementation of wind energy is usually a result | 15 | -1.65 | 47 | -0.44 | 36 | 1.09 | 7 |
| 16 | Decisions made with the approval of the local communit | 16 | -0.49 | 35 | -0.88 | 42 | 0.06 | 24 |
| 17 | It is useless to try and exert influence on the implem | 17 | -0.49 | 35 | 0.44 | 20 | 0.00 | 27 |
| 18 | Before building wind farms all over the country, energ | 18 | 2.68 | 1 | 0.44 | 20 | -1.84 | 48 |
| 19 | Involving potential opponents to a wind farm in a time | 19 | -0.33 | 32 | 0.00 | 29 | -0.34 | 32 |
| 20 | People are not fooled by public meetings, environmenta | 20 | -0.20 | 28 | 0.44 | 20 | 0.00 | 27 |
| 21 | The 12 wind turbines planned will look better than the | 21 | -1.56 | 46 | -0.88 | 42 | 2.59 | 1 |
| 22 | Government should be able to go ahead anyway when loca | 22 | -1.69 | 48 | -1.32 | 46 | -0.52 | 34 |
| 23 | It is wrong to take decisions without giving neighbour | 23 | 1.03 | 7 | -2.20 | 49 | 0.63 | 16 |
| 24 | Growing energy demand and increasing environmental pro | 24 | 0.00 | 25 | 1.32 | 7 | 0.40 | 17 |
| 25 | Decisions on wind farms cannot be made by governments | 25 | 1.56 | 4 | 0.88 | 13 | -1.55 | 47 |
| 26 | Every local authority would rather have wind farms bui | 26 | 0.78 | 12 | 0.88 | 13 | -0.75 | 38 |
| 27 | The compromise of the Bahrija landscape is a sacrifice | 27 | 0.13 | 21 | 0.00 | 29 | -0.92 | 40 |
| 28 | The local community should be able to exert its influe | 28 | 0.29 | 17 | -1.76 | 48 | -1.26 | 45 |
| 29 | Planning processes must be carried out rapidly in orde | 29 | -0.29 | 30 | -0.44 | 36 | -1.21 | 44 |
| 30 | If good arguments exist for constructing a wind farm i | 30 | -0.54 | 36 | 0.00 | 29 | 0.92 | 10 |
| 31 | Professional and scientific expertise ought to play a | 31 | 0.04 | 23 | -0.88 | 42 | -0.69 | 37 |
| 32 | The problem with public input is that it is mainly bas | 32 | 0.20 | 19 | -0.44 | 36 | 2.19 | 2 |
| 33 | In the end, it is the cost of oil and electricity that | 33 | -0.62 | 38 | 2.20 | 1 | 0.87 | 12 |
| 34 | Financial support geared towards solar energy is bette | 34 | -0.04 | 27 | 0.88 | 13 | -0.58 | 35 |
| 35 | Initiators of wind farm projects underestimate the val | 35 | 0.78 | 12 | 0.44 | 20 | 0.92 | 10 |
| 36 | Everyone prefers that new infrastructure like wind far | 36 | 1.65 | 3 | 1.32 | 7 | 1.32 | 4 |
| 37 | We cannot do anything about climate change anyway, so | 37 | -1.23 | 44 | 0.00 | 29 | 0.07 | 23 |
| 38 | Local support is important for the successful implemen | 38 | -0.87 | 41 | -0.88 | 42 | 0.11 | 22 |
| 39 | It is mainly local community groups that try to thwart | 39 | 0.87 | 9 | 0.00 | 29 | 1.32 | 4 |
| 40 | Local opposition to wind farms is mostly caused by the | 40 | -0.33 | 32 | -1.32 | 46 | 1.09 | 7 |
| 41 | Wind farms should go in built up areas where people li | 41 | 0.13 | 21 | -1.32 | 46 | -1.14 | 43 |
| 42 | Onshore wind energy plans should be abandoned in Malta | 42 | 2.14 | 2 | 0.88 | 13 | 0.63 | 16 |
| 43 | Offering financial participation in wind projects or g | 43 | -0.38 | 33 | -0.44 | 36 | 0.69 | 13 |
| 44 | It is mainly environmental organisations that frustrat | 44 | -1.12 | 43 | -1.32 | 46 | -0.06 | 28 |
| 45 | Local government does not seem capable of properly han | 45 | -0.74 | 39 | 0.44 | 20 | 0.00 | 27 |
| 46 | Local interests are not taken into account at the nati | 46 | 0.33 | 16 | 1.32 | 7 | -0.63 | 36 |
| 47 | More citizen participation leads to even more oppositi | 47 | -2.14 | 49 | -0.88 | 42 | -2.19 | 49 |
| 48 | Public participation determines whether conflicts are | 48 | 0.83 | 10 | 1.76 | 3 | -1.03 | 42 |
| 49 | The small amount of clean energy that wind farms gener | 49 | 0.74 | 14 | 0.00 | 29 | -0.11 | 29 |

**Correlations Between Factor Scores**

| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| 1 | 1.0000 | 0.1150 | 0.3974 | 0.5643 | 0.2448 | 0.3006 | 0.0905 | 0.0985 |
| 2 | 0.1150 | 1.0000 | -0.0391 | -0.1019 | 0.1970 | 0.5280 | 0.2785 | 0.0108 |
| 3 | 0.3974 | -0.0391 | 1.0000 | 0.4963 | 0.1569 | -0.0632 | -0.0351 | -0.0514 |
| 4 | 0.5643 | -0.1019 | 0.4963 | 1.0000 | 0.2635 | 0.0524 | -0.1365 | 0.0559 |
| 5 | 0.2448 | 0.1970 | 0.1569 | 0.2635 | 1.0000 | 0.2207 | -0.1169 | -0.1577 |
| 6 | 0.3006 | 0.5280 | -0.0632 | 0.0524 | 0.2207 | 1.0000 | 0.2929 | -0.0390 |
| 7 | 0.0905 | 0.2785 | -0.0351 | -0.1365 | -0.1169 | 0.2929 | 1.0000 | 0.0370 |
| 8 | 0.0985 | 0.0108 | -0.0514 | 0.0559 | -0.1577 | -0.0390 | 0.0370 | 1.0000 |

**Normalised Factor Scores -- For Factor 1**

| No. | Statement | No. | Z-SCORES |
|---|---|---|---|
| 6 | Most of the time, stakeholders are insufficiently involved d | 6 | 1.924 |
| 31 | Professional and scientific expertise ought to play a decisi | 31 | 1.786 |
| 18 | Before building wind farms all over the country, energy effi | 18 | 1.738 |
| 40 | Local opposition to wind farms is mostly caused by the lack | 40 | 1.637 |
| 25 | Decisions on wind farms cannot be made by governments alone, | 25 | 1.427 |
| 19 | Involving potential opponents to a wind farm in a timely man | 19 | 1.392 |
| 2 | Although local opposition to wind projects is quite normal, | 2 | 1.115 |
| 16 | Decisions made with the approval of the local community are | 16 | 0.933 |
| 43 | Offering financial participation in wind projects or green e | 43 | 0.926 |
| 21 | The 12 wind turbines planned will look better than the 20 di | 21 | 0.919 |
| 24 | Growing energy demand and increasing environmental problems | 24 | 0.822 |
| 26 | Every local authority would rather have wind farms built in | 26 | 0.716 |
| 27 | The compromise of the Bahrija landscape is a sacrifice that | 27 | 0.653 |
| 45 | Local government does not seem capable of properly handling | 45 | 0.570 |
| 46 | Local interests are not taken into account at the national l | 46 | 0.529 |
| 48 | Public participation determines whether conflicts are solved | 48 | 0.474 |
| 38 | Local support is important for the successful implementation | 38 | 0.436 |
| 32 | The problem with public input is that it is mainly based on | 32 | 0.304 |
| 12 | Local power companies have no understanding of public partic | 12 | 0.291 |
| 10 | The input from the public during a public participation proc | 10 | 0.234 |

| | | | |
|---|---|---|---|
| 33 | In the end, it is the cost of oil and electricity that will | 33 | 0.198 |
| 23 | It is wrong to take decisions without giving neighbouring re | 23 | 0.121 |
| 30 | If good arguments exist for constructing a wind farm in a lo | 30 | 0.073 |
| 39 | It is mainly local community groups that try to thwart the c | 39 | 0.045 |
| 36 | Everyone prefers that new infrastructure like wind farms are | 36 | 0.039 |
| 29 | Planning processes must be carried out rapidly in order to n | 29 | -0.133 |
| 11 | Local opposition to a wind farm is nothing more than defendi | 11 | -0.173 |
| 14 | Residents do not want to pay for the nation's energy problem | 14 | -0.175 |
| 44 | It is mainly environmental organisations that frustrate the | 44 | -0.212 |
| 1 | It is usually individuals, like landowners, that block the c | 1 | -0.288 |
| 34 | Financial support geared towards solar energy is better than | 34 | -0.299 |
| 9 | Government should give priority to the environment first and | 9 | -0.305 |
| 17 | It is useless to try and exert influence on the implementati | 17 | -0.362 |
| 20 | People are not fooled by public meetings, environmental impa | 20 | -0.388 |
| 28 | The local community should be able to exert its influence in | 28 | -0.409 |
| 22 | Government should be able to go ahead anyway when local auth | 22 | -0.557 |
| 35 | Initiators of wind farm projects underestimate the value of | 35 | -0.569 |
| 41 | Wind farms should go in built up areas where people live or | 41 | -0.639 |
| 13 | Decision making surrounding wind energy is an unpredictable | 13 | -0.669 |
| 7 | It is not participation in decision making that is important | 7 | -0.914 |
| 5 | Incentives should be given to the wind industry (not the com | 5 | -1.012 |
| 3 | Public participation makes the decision making process more | 3 | -1.022 |
| 42 | Onshore wind energy plans should be abandoned in Malta. The | 42 | -1.153 |
| 4 | Wind farms are noisy and visually unacceptable. | 4 | -1.178 |
| 15 | Slow implementation of wind energy is usually a result of un | 15 | -1.211 |
| 49 | The small amount of clean energy that wind farms generate do | 49 | -1.478 |
| 8 | Opponents of wind farms are not willing to compromise so it | 8 | -1.578 |
| 47 | More citizen participation leads to even more opposition tow | 47 | -2.053 |
| 37 | We cannot do anything about climate change anyway, so it is | 37 | -2.526 |

Normalised Factor Scores -- For Factor 2

| No. | Statement | No. | Z-SCORES |
|---|---|---|---|
| 49 | The small amount of clean energy that wind farms generate do | 49 | 2.022 |
| 18 | Before building wind farms all over the country, energy effi | 18 | 1.756 |
| 4 | Wind farms are noisy and visually unacceptable. | 4 | 1.699 |
| 45 | Local government does not seem capable of properly handling | 45 | 1.171 |
| 6 | Most of the time, stakeholders are insufficiently involved d | 6 | 1.103 |
| 34 | Financial support geared towards solar energy is better than | 34 | 1.029 |
| 35 | Initiators of wind farm projects underestimate the value of | 35 | 1.012 |

| | | | |
|---|---|---|---|
| 17 | It is useless to try and exert influence on the implementati | 17 | 1.010 |
| 25 | Decisions on wind farms cannot be made by governments alone, | 25 | 0.979 |
| 12 | Local power companies have no understanding of public partic | 12 | 0.922 |
| 16 | Decisions made with the approval of the local community are | 16 | 0.851 |
| 46 | Local interests are not taken into account at the national l | 46 | 0.851 |
| 23 | It is wrong to take decisions without giving neighbouring re | 23 | 0.834 |
| 36 | Everyone prefers that new infrastructure like wind farms are | 36 | 0.834 |
| 24 | Growing energy demand and increasing environmental problems | 24 | 0.760 |
| 42 | Onshore wind energy plans should be abandoned in Malta. The | 42 | 0.753 |
| 28 | The local community should be able to exert its influence in | 28 | 0.637 |
| 20 | People are not fooled by public meetings, environmental impa | 20 | 0.504 |
| 41 | Wind farms should go in built up areas where people live or | 41 | 0.427 |
| 9 | Government should give priority to the environment first and | 9 | 0.361 |
| 14 | Residents do not want to pay for the nation's energy problem | 14 | 0.345 |
| 38 | Local support is important for the successful implementation | 38 | 0.181 |
| 10 | The input from the public during a public participation proc | 10 | 0.164 |
| 33 | In the end, it is the cost of oil and electricity that will | 33 | 0.093 |
| 31 | Professional and scientific expertise ought to play a decisi | 31 | 0.000 |
| 19 | Involving potential opponents to a wind farm in a timely man | 19 | 0.000 |
| 37 | We cannot do anything about climate change anyway, so it is | 37 | -0.074 |
| 1 | It is usually individuals, like landowners, that block the c | 1 | -0.090 |
| 13 | Decision making surrounding wind energy is an unpredictable | 13 | -0.107 |
| 39 | It is mainly local community groups that try to thwart the c | 39 | -0.161 |
| 21 | The 12 wind turbines planned will look better than the 20 di | 21 | -0.314 |
| 43 | Offering financial participation in wind projects or green e | 43 | -0.432 |
| 5 | Incentives should be given to the wind industry (not the com | 5 | -0.596 |
| 48 | Public participation determines whether conflicts are solved | 48 | -0.668 |
| 47 | More citizen participation leads to even more opposition tow | 47 | -0.755 |
| 26 | Every local authority would rather have wind farms built in | 26 | -0.758 |
| 44 | It is mainly environmental organisations that frustrate the | 44 | -0.760 |
| 29 | Planning processes must be carried out rapidly in order to n | 29 | -0.760 |
| 32 | The problem with public input is that it is mainly based on | 32 | -0.919 |
| 2 | Although local opposition to wind projects is quite normal, | 2 | -0.922 |
| 15 | Slow implementation of wind energy is usually a result of un | 15 | -0.925 |
| 30 | If good arguments exist for constructing a wind farm in a lo | 30 | -1.010 |
| 40 | Local opposition to wind farms is mostly caused by the lack | 40 | -1.086 |
| 8 | Opponents of wind farms are not willing to compromise so it | 8 | -1.267 |
| 7 | It is not participation in decision making that is important | 7 | -1.445 |
| 3 | Public participation makes the decision making process more | 3 | -1.521 |
| 11 | Local opposition to a wind farm is nothing more than defendi | 11 | -1.606 |
| 22 | Government should be able to go ahead anyway when local auth | 22 | -1.918 |
| 27 | The compromise of the Bahrija landscape is a sacrifice that | 27 | -2.202 |

**Normalised Factor Scores -- For Factor 3**

| No. | Statement | No. | Z-SCORES |
|---|---|---|---|
| 31 | Professional and scientific expertise ought to play a decisi | 31 | 2.519 |
| 18 | Before building wind farms all over the country, energy effi | 18 | 2.310 |
| 24 | Growing energy demand and increasing environmental problems | 24 | 1.888 |
| 33 | In the end, it is the cost of oil and electricity that will | 33 | 1.455 |
| 43 | Offering financial participation in wind projects or green e | 43 | 1.067 |
| 32 | The problem with public input is that it is mainly based on | 32 | 1.032 |
| 29 | Planning processes must be carried out rapidly in order to n | 29 | 0.997 |
| 7 | It is not participation in decision making that is important | 7 | 0.823 |
| 3 | Public participation makes the decision making process more | 3 | 0.754 |
| 21 | The 12 wind turbines planned will look better than the 20 di | 21 | 0.752 |
| 14 | Residents do not want to pay for the nation's energy problem | 14 | 0.700 |
| 34 | Financial support geared towards solar energy is better than | 34 | 0.699 |
| 45 | Local government does not seem capable of properly handling | 45 | 0.610 |
| 30 | If good arguments exist for constructing a wind farm in a lo | 30 | 0.543 |
| 10 | The input from the public during a public participation proc | 10 | 0.543 |
| 46 | Local interests are not taken into account at the national l | 46 | 0.401 |
| 5 | Incentives should be given to the wind industry (not the com | 5 | 0.334 |
| 40 | Local opposition to wind farms is mostly caused by the lack | 40 | 0.245 |
| 22 | Government should be able to go ahead anyway when local auth | 22 | 0.177 |
| 36 | Everyone prefers that new infrastructure like wind farms are | 36 | 0.158 |
| 41 | Wind farms should go in built up areas where people live or | 41 | 0.122 |
| 2 | Although local opposition to wind projects is quite normal, | 2 | 0.088 |
| 47 | More citizen participation leads to even more opposition tow | 47 | 0.086 |
| 8 | Opponents of wind farms are not willing to compromise so it | 8 | 0.052 |
| 15 | Slow implementation of wind energy is usually a result of un | 15 | 0.018 |
| 11 | Local opposition to a wind farm is nothing more than defendi | 11 | 0.001 |
| 25 | Decisions on wind farms cannot be made by governments alone, | 25 | -0.088 |
| 35 | Initiators of wind farm projects underestimate the value of | 35 | -0.176 |
| 17 | It is useless to try and exert influence on the implementati | 17 | -0.244 |
| 26 | Every local authority would rather have wind farms built in | 26 | -0.333 |
| 38 | Local support is important for the successful implementation | 38 | -0.333 |
| 12 | Local power companies have no understanding of public partic | 12 | -0.366 |
| 6 | Most of the time, stakeholders are insufficiently involved d | 6 | -0.370 |
| 28 | The local community should be able to exert its influence in | 28 | -0.420 |
| 39 | It is mainly local community groups that try to thwart the c | 39 | -0.455 |
| 1 | It is usually individuals, like landowners, that block the c | 1 | -0.456 |

| | | | |
|---|---|---|---|
| 19 | Involving potential opponents to a wind farm in a timely man | 19 | -0.490 |
| 16 | Decisions made with the approval of the local community are | 16 | -0.507 |
| 20 | People are not fooled by public meetings, environmental impa | 20 | -0.509 |
| 23 | It is wrong to take decisions without giving neighbouring re | 23 | -0.542 |
| 9 | Government should give priority to the environment first and | 9 | -0.544 |
| 49 | The small amount of clean energy that wind farms generate do | 49 | -0.855 |
| 48 | Public participation determines whether conflicts are solved | 48 | -1.277 |
| 27 | The compromise of the Bahrija landscape is a sacrifice that | 27 | -1.364 |
| 44 | It is mainly environmental organisations that frustrate the | 44 | -1.611 |
| 37 | We cannot do anything about climate change anyway, so it is | 37 | -1.644 |
| 42 | Onshore wind energy plans should be abandoned in Malta. The | 42 | -1.820 |
| 4 | Wind farms are noisy and visually unacceptable. | 4 | -1.907 |
| 13 | Decision making surrounding wind energy is an unpredictable | 13 | -2.065 |

**Normalised Factor Scores -- For Factor 4**

| No. | Statement | No. | Z-SCORES |
|---|---|---|---|
| 16 | Decisions made with the approval of the local community are | 16 | 2.021 |
| 31 | Professional and scientific expertise ought to play a decisi | 31 | 1.757 |
| 18 | Before building wind farms all over the country, energy effi | 18 | 1.592 |
| 24 | Growing energy demand and increasing environmental problems | 24 | 1.557 |
| 25 | Decisions on wind farms cannot be made by governments alone, | 25 | 1.492 |
| 10 | The input from the public during a public participation proc | 10 | 1.369 |
| 21 | The 12 wind turbines planned will look better than the 20 di | 21 | 1.334 |
| 19 | Involving potential opponents to a wind farm in a timely man | 19 | 1.273 |
| 15 | Slow implementation of wind energy is usually a result of un | 15 | 1.111 |
| 2 | Although local opposition to wind projects is quite normal, | 2 | 0.971 |
| 36 | Everyone prefers that new infrastructure like wind farms are | 36 | 0.966 |
| 28 | The local community should be able to exert its influence in | 28 | 0.594 |
| 7 | It is not participation in decision making that is important | 7 | 0.537 |
| 30 | If good arguments exist for constructing a wind farm in a lo | 30 | 0.534 |
| 43 | Offering financial participation in wind projects or green e | 43 | 0.469 |
| 27 | The compromise of the Bahrija landscape is a sacrifice that | 27 | 0.452 |
| 38 | Local support is important for the successful implementation | 38 | 0.429 |
| 1 | It is usually individuals, like landowners, that block the c | 1 | 0.231 |
| 3 | Public participation makes the decision making process more | 3 | 0.220 |
| 5 | Incentives should be given to the wind industry (not the com | 5 | 0.185 |
| 11 | Local opposition to a wind farm is nothing more than defendi | 11 | 0.156 |
| 23 | It is wrong to take decisions without giving neighbouring re | 23 | 0.145 |
| 20 | People are not fooled by public meetings, environmental impa | 20 | 0.037 |
| 14 | Residents do not want to pay for the nation’s energy problem | 14 | 0.000 |

| | | | |
|---|---|---|---|
| 32 | The problem with public input is that it is mainly based on | 32 | -0.090 |
| 40 | Local opposition to wind farms is mostly caused by the lack | 40 | -0.127 |
| 33 | In the end, it is the cost of oil and electricity that will | 33 | -0.198 |
| 35 | Initiators of wind farm projects underestimate the value of | 35 | -0.212 |
| 48 | Public participation determines whether conflicts are solved | 48 | -0.238 |
| 9 | Government should give priority to the environment first and | 9 | -0.259 |
| 26 | Every local authority would rather have wind farms built in | 26 | -0.264 |
| 45 | Local government does not seem capable of properly handling | 45 | -0.318 |
| 47 | More citizen participation leads to even more opposition tow | 47 | -0.367 |
| 22 | Government should be able to go ahead anyway when local auth | 22 | -0.429 |
| 46 | Local interests are not taken into account at the national l | 46 | -0.440 |
| 29 | Planning processes must be carried out rapidly in order to n | 29 | -0.575 |
| 39 | It is mainly local community groups that try to thwart the c | 39 | -0.579 |
| 44 | It is mainly environmental organisations that frustrate the | 44 | -0.730 |
| 42 | Onshore wind energy plans should be abandoned in Malta. The | 42 | -0.761 |
| 13 | Decision making surrounding wind energy is an unpredictable | 13 | -0.815 |
| 34 | Financial support geared towards solar energy is better than | 34 | -0.947 |
| 6 | Most of the time, stakeholders are insufficiently involved d | 6 | -1.061 |
| 12 | Local power companies have no understanding of public partic | 12 | -1.243 |
| 17 | It is useless to try and exert influence on the implementati | 17 | -1.244 |
| 49 | The small amount of clean energy that wind farms generate do | 49 | -1.297 |
| 41 | Wind farms should go in built up areas where people live or | 41 | -1.492 |
| 8 | Opponents of wind farms are not willing to compromise so it | 8 | -1.617 |
| 37 | We cannot do anything about climate change anyway, so it is | 37 | -1.949 |
| 4 | Wind farms are noisy and visually unacceptable. | 4 | -2.178 |

Normalised Factor Scores -- For Factor 5

| No. | Statement | No. | Z-SCORES |
|---|---|---|---|
| 16 | Decisions made with the approval of the local community are | 16 | 2.200 |
| 18 | Before building wind farms all over the country, energy effi | 18 | 1.760 |
| 41 | Wind farms should go in built up areas where people live or | 41 | 1.760 |
| 9 | Government should give priority to the environment first and | 9 | 1.320 |
| 19 | Involving potential opponents to a wind farm in a timely man | 19 | 1.320 |
| 25 | Decisions on wind farms cannot be made by governments alone, | 25 | 1.320 |
| 32 | The problem with public input is that it is mainly based on | 32 | 1.320 |
| 23 | It is wrong to take decisions without giving neighbouring re | 23 | 0.880 |
| 24 | Growing energy demand and increasing environmental problems | 24 | 0.880 |
| 34 | Financial support geared towards solar energy is better than | 34 | 0.880 |
| 38 | Local support is important for the successful implementation | 38 | 0.880 |
| 40 | Local opposition to wind farms is mostly caused by the lack | 40 | 0.880 |

| | | | |
|---|---|---|---|
| 42 | Onshore wind energy plans should be abandoned in Malta. The | 42 | 0.880 |
| 1 | It is usually individuals, like landowners, that block the c | 1 | 0.440 |
| 21 | The 12 wind turbines planned will look better than the 20 di | 21 | 0.440 |
| 4 | Wind farms are noisy and visually unacceptable. | 4 | 0.440 |
| 28 | The local community should be able to exert its influence in | 28 | 0.440 |
| 7 | It is not participation in decision making that is important | 7 | 0.440 |
| 11 | Local opposition to a wind farm is nothing more than defendi | 11 | 0.440 |
| 46 | Local interests are not taken into account at the national l | 46 | 0.440 |
| 17 | It is useless to try and exert influence on the implementati | 17 | 0.000 |
| 29 | Planning processes must be carried out rapidly in order to n | 29 | 0.000 |
| 31 | Professional and scientific expertise ought to play a decisi | 31 | 0.000 |
| 2 | Although local opposition to wind projects is quite normal, | 2 | 0.000 |
| 5 | Incentives should be given to the wind industry (not the com | 5 | 0.000 |
| 12 | Local power companies have no understanding of public partic | 12 | 0.000 |
| 43 | Offering financial participation in wind projects or green e | 43 | 0.000 |
| 47 | More citizen participation leads to even more opposition tow | 47 | 0.000 |
| 48 | Public participation determines whether conflicts are solved | 48 | 0.000 |
| 8 | Opponents of wind farms are not willing to compromise so it | 8 | -0.440 |
| 14 | Residents do not want to pay for the nation's energy problem | 14 | -0.440 |
| 35 | Initiators of wind farm projects underestimate the value of | 35 | -0.440 |
| 39 | It is mainly local community groups that try to thwart the c | 39 | -0.440 |
| 3 | Public participation makes the decision making process more | 3 | -0.440 |
| 27 | The compromise of the Bahrija landscape is a sacrifice that | 27 | -0.440 |
| 49 | The small amount of clean energy that wind farms generate do | 49 | -0.440 |
| 33 | In the end, it is the cost of oil and electricity that will | 33 | -0.880 |
| 26 | Every local authority would rather have wind farms built in | 26 | -0.880 |
| 13 | Decision making surrounding wind energy is an unpredictable | 13 | -0.880 |
| 44 | It is mainly environmental organisations that frustrate the | 44 | -0.880 |
| 45 | Local government does not seem capable of properly handling | 45 | -0.880 |
| 15 | Slow implementation of wind energy is usually a result of un | 15 | -0.880 |
| 30 | If good arguments exist for constructing a wind farm in a lo | 30 | -1.320 |
| 10 | The input from the public during a public participation proc | 10 | -1.320 |
| 20 | People are not fooled by public meetings, environmental impa | 20 | -1.320 |
| 22 | Government should be able to go ahead anyway when local auth | 22 | -1.320 |
| 37 | We cannot do anything about climate change anyway, so it is | 37 | -1.760 |
| 36 | Everyone prefers that new infrastructure like wind farms are | 36 | -1.760 |
| 6 | Most of the time, stakeholders are insufficiently involved d | 6 | -2.200 |

**Normalised Factor Scores -- For Factor 6**

| No. | Statement | No. | Z-SCORES |
|---|---|---|---|

| | | | |
|---|---|---|---|
| 18 | Before building wind farms all over the country, energy effi | 18 | 2.676 |
| 42 | Onshore wind energy plans should be abandoned in Malta. The | 42 | 2.141 |
| 36 | Everyone prefers that new infrastructure like wind farms are | 36 | 1.650 |
| 25 | Decisions on wind farms cannot be made by governments alone, | 25 | 1.561 |
| 1 | It is usually individuals, like landowners, that block the c | 1 | 1.316 |
| 14 | Residents do not want to pay for the nation's energy problem | 14 | 1.070 |
| 23 | It is wrong to take decisions without giving neighbouring re | 23 | 1.026 |
| 4 | Wind farms are noisy and visually unacceptable. | 4 | 0.870 |
| 39 | It is mainly local community groups that try to thwart the c | 39 | 0.870 |
| 48 | Public participation determines whether conflicts are solved | 48 | 0.825 |
| 26 | Every local authority would rather have wind farms built in | 26 | 0.781 |
| 35 | Initiators of wind farm projects underestimate the value of | 35 | 0.781 |
| 6 | Most of the time, stakeholders are insufficiently involved d | 6 | 0.736 |
| 49 | The small amount of clean energy that wind farms generate do | 49 | 0.736 |
| 12 | Local power companies have no understanding of public partic | 12 | 0.334 |
| 46 | Local interests are not taken into account at the national l | 46 | 0.334 |
| 28 | The local community should be able to exert its influence in | 28 | 0.290 |
| 10 | The input from the public during a public participation proc | 10 | 0.245 |
| 32 | The problem with public input is that it is mainly based on | 32 | 0.201 |
| 27 | The compromise of the Bahrija landscape is a sacrifice that | 27 | 0.134 |
| 41 | Wind farms should go in built up areas where people live or | 41 | 0.134 |
| 31 | Professional and scientific expertise ought to play a decisi | 31 | 0.045 |
| 9 | Government should give priority to the environment first and | 9 | 0.045 |
| 24 | Growing energy demand and increasing environmental problems | 24 | 0.000 |
| 13 | Decision making surrounding wind energy is an unpredictable | 13 | 0.000 |
| 11 | Local opposition to a wind farm is nothing more than defendi | 11 | -0.045 |
| 34 | Financial support geared towards solar energy is better than | 34 | -0.045 |
| 20 | People are not fooled by public meetings, environmental impa | 20 | -0.201 |
| 29 | Planning processes must be carried out rapidly in order to n | 29 | -0.290 |
| 7 | It is not participation in decision making that is important | 7 | -0.290 |
| 19 | Involving potential opponents to a wind farm in a timely man | 19 | -0.334 |
| 40 | Local opposition to wind farms is mostly caused by the lack | 40 | -0.334 |
| 43 | Offering financial participation in wind projects or green e | 43 | -0.379 |
| 17 | It is useless to try and exert influence on the implementati | 17 | -0.491 |
| 16 | Decisions made with the approval of the local community are | 16 | -0.491 |
| 30 | If good arguments exist for constructing a wind farm in a lo | 30 | -0.535 |
| 2 | Although local opposition to wind projects is quite normal, | 2 | -0.580 |
| 33 | In the end, it is the cost of oil and electricity that will | 33 | -0.624 |
| 45 | Local government does not seem capable of properly handling | 45 | -0.736 |
| 3 | Public participation makes the decision making process more | 3 | -0.781 |
| 38 | Local support is important for the successful implementation | 38 | -0.870 |
| 8 | Opponents of wind farms are not willing to compromise so it | 8 | -1.070 |

| | | | |
|---|---|---|---|
| 44 | It is mainly environmental organisations that frustrate the | 44 | -1.115 |
| 37 | We cannot do anything about climate change anyway, so it is | 37 | -1.227 |
| 5 | Incentives should be given to the wind industry (not the com | 5 | -1.316 |
| 21 | The 12 wind turbines planned will look better than the 20 di | 21 | -1.561 |
| 15 | Slow implementation of wind energy is usually a result of un | 15 | -1.650 |
| 22 | Government should be able to go ahead anyway when local auth | 22 | -1.695 |
| 47 | More citizen participation leads to even more opposition tow | 47 | -2.141 |

Normalised Factor Scores -- For Factor 7

| No. | Statement | No. | Z-SCORES |
|---|---|---|---|
| 33 | In the end, it is the cost of oil and electricity that will | 33 | 2.200 |
| 4 | Wind farms are noisy and visually unacceptable. | 4 | 1.760 |
| 48 | Public participation determines whether conflicts are solved | 48 | 1.760 |
| 2 | Although local opposition to wind projects is quite normal, | 2 | 1.320 |
| 24 | Growing energy demand and increasing environmental problems | 24 | 1.320 |
| 36 | Everyone prefers that new infrastructure like wind farms are | 36 | 1.320 |
| 46 | Local interests are not taken into account at the national l | 46 | 1.320 |
| 5 | Incentives should be given to the wind industry (not the com | 5 | 0.880 |
| 25 | Decisions on wind farms cannot be made by governments alone, | 25 | 0.880 |
| 26 | Every local authority would rather have wind farms built in | 26 | 0.880 |
| 34 | Financial support geared towards solar energy is better than | 34 | 0.880 |
| 6 | Most of the time, stakeholders are insufficiently involved d | 6 | 0.880 |
| 42 | Onshore wind energy plans should be abandoned in Malta. The | 42 | 0.880 |
| 17 | It is useless to try and exert influence on the implementati | 17 | 0.440 |
| 18 | Before building wind farms all over the country, energy effi | 18 | 0.440 |
| 20 | People are not fooled by public meetings, environmental impa | 20 | 0.440 |
| 9 | Government should give priority to the environment first and | 9 | 0.440 |
| 35 | Initiators of wind farm projects underestimate the value of | 35 | 0.440 |
| 12 | Local power companies have no understanding of public partic | 12 | 0.440 |
| 45 | Local government does not seem capable of properly handling | 45 | 0.440 |
| 27 | The compromise of the Bahrija landscape is a sacrifice that | 27 | 0.000 |
| 30 | If good arguments exist for constructing a wind farm in a lo | 30 | 0.000 |
| 11 | Local opposition to a wind farm is nothing more than defendi | 11 | 0.000 |
| 19 | Involving potential opponents to a wind farm in a timely man | 19 | 0.000 |
| 37 | We cannot do anything about climate change anyway, so it is | 37 | 0.000 |
| 39 | It is mainly local community groups that try to thwart the c | 39 | 0.000 |
| 13 | Decision making surrounding wind energy is an unpredictable | 13 | 0.000 |
| 3 | Public participation makes the decision making process more | 3 | 0.000 |
| 49 | The small amount of clean energy that wind farms generate do | 49 | 0.000 |

| | | | |
|---|---|---|---|
| 32 | The problem with public input is that it is mainly based on | 32 | -0.440 |
| 1 | It is usually individuals, like landowners, that block the c | 1 | -0.440 |
| 15 | Slow implementation of wind energy is usually a result of un | 15 | -0.440 |
| 14 | Residents do not want to pay for the nation's energy problem | 14 | -0.440 |
| 43 | Offering financial participation in wind projects or green e | 43 | -0.440 |
| 7 | It is not participation in decision making that is important | 7 | -0.440 |
| 29 | Planning processes must be carried out rapidly in order to n | 29 | -0.440 |
| 31 | Professional and scientific expertise ought to play a decisi | 31 | -0.880 |
| 38 | Local support is important for the successful implementation | 38 | -0.880 |
| 21 | The 12 wind turbines planned will look better than the 20 di | 21 | -0.880 |
| 16 | Decisions made with the approval of the local community are | 16 | -0.880 |
| 47 | More citizen participation leads to even more opposition tow | 47 | -0.880 |
| 8 | Opponents of wind farms are not willing to compromise so it | 8 | -0.880 |
| 44 | It is mainly environmental organisations that frustrate the | 44 | -1.320 |
| 40 | Local opposition to wind farms is mostly caused by the lack | 40 | -1.320 |
| 22 | Government should be able to go ahead anyway when local auth | 22 | -1.320 |
| 41 | Wind farms should go in built up areas where people live or | 41 | -1.320 |
| 28 | The local community should be able to exert its influence in | 28 | -1.760 |
| 10 | The input from the public during a public participation proc | 10 | -1.760 |
| 23 | It is wrong to take decisions without giving neighbouring re | 23 | -2.200 |

**Normalised Factor Scores -- For Factor 8**

| No. | Statement | No. | Z-SCORES |
|---|---|---|---|
| 21 | The 12 wind turbines planned will look better than the 20 di | 21 | 2.585 |
| 32 | The problem with public input is that it is mainly based on | 32 | 2.186 |
| 36 | Everyone prefers that new infrastructure like wind farms are | 36 | 1.320 |
| 39 | It is mainly local community groups that try to thwart the c | 39 | 1.320 |
| 13 | Decision making surrounding wind energy is an unpredictable | 13 | 1.154 |
| 15 | Slow implementation of wind energy is usually a result of un | 15 | 1.087 |
| 40 | Local opposition to wind farms is mostly caused by the lack | 40 | 1.087 |
| 12 | Local power companies have no understanding of public partic | 12 | 0.976 |
| 30 | If good arguments exist for constructing a wind farm in a lo | 30 | 0.921 |
| 35 | Initiators of wind farm projects underestimate the value of | 35 | 0.921 |
| 1 | It is usually individuals, like landowners, that block the c | 1 | 0.866 |
| 33 | In the end, it is the cost of oil and electricity that will | 33 | 0.866 |
| 43 | Offering financial participation in wind projects or green e | 43 | 0.688 |
| 23 | It is wrong to take decisions without giving neighbouring re | 23 | 0.632 |
| 42 | Onshore wind energy plans should be abandoned in Malta. The | 42 | 0.632 |
| 5 | Incentives should be given to the wind industry (not the com | 5 | 0.632 |

| | | | |
|---|---|---|---|
| 24 | Growing energy demand and increasing environmental problems | 24 | 0.399 |
| 14 | Residents do not want to pay for the nation's energy problem | 14 | 0.233 |
| 6 | Most of the time, stakeholders are insufficiently involved d | 6 | 0.178 |
| 2 | Although local opposition to wind projects is quite normal, | 2 | 0.166 |
| 11 | Local opposition to a wind farm is nothing more than defendi | 11 | 0.111 |
| 38 | Local support is important for the successful implementation | 38 | 0.111 |
| 37 | We cannot do anything about climate change anyway, so it is | 37 | 0.067 |
| 16 | Decisions made with the approval of the local community are | 16 | 0.055 |
| 20 | People are not fooled by public meetings, environmental impa | 20 | 0.000 |
| 17 | It is useless to try and exert influence on the implementati | 17 | 0.000 |
| 45 | Local government does not seem capable of properly handling | 45 | 0.000 |
| 44 | It is mainly environmental organisations that frustrate the | 44 | -0.055 |
| 49 | The small amount of clean energy that wind farms generate do | 49 | -0.111 |
| 9 | Government should give priority to the environment first and | 9 | -0.289 |
| 10 | The input from the public during a public participation proc | 10 | -0.289 |
| 19 | Involving potential opponents to a wind farm in a timely man | 19 | -0.344 |
| 4 | Wind farms are noisy and visually unacceptable. | 4 | -0.455 |
| 22 | Government should be able to go ahead anyway when local auth | 22 | -0.522 |
| 34 | Financial support geared towards solar energy is better than | 34 | -0.577 |
| 46 | Local interests are not taken into account at the national l | 46 | -0.632 |
| 31 | Professional and scientific expertise ought to play a decisi | 31 | -0.688 |
| 26 | Every local authority would rather have wind farms built in | 26 | -0.755 |
| 7 | It is not participation in decision making that is important | 7 | -0.921 |
| 27 | The compromise of the Bahrija landscape is a sacrifice that | 27 | -0.921 |
| 3 | Public participation makes the decision making process more | 3 | -1.032 |
| 48 | Public participation determines whether conflicts are solved | 48 | -1.032 |
| 41 | Wind farms should go in built up areas where people live or | 41 | -1.143 |
| 29 | Planning processes must be carried out rapidly in order to n | 29 | -1.210 |
| 28 | The local community should be able to exert its influence in | 28 | -1.265 |
| 8 | Opponents of wind farms are not willing to compromise so it | 8 | -1.376 |
| 25 | Decisions on wind farms cannot be made by governments alone, | 25 | -1.553 |
| 18 | Before building wind farms all over the country, energy effi | 18 | -1.842 |
| 47 | More citizen participation leads to even more opposition tow | 47 | -2.186 |

**Descending Array of Differences Between Factors 1 and 2**

| No. | Statement | No. | Type 1 | Type 2 | Difference |
|---|---|---|---|---|---|
| 27 | The compromise of the Bahrija landscape is a sacrifice that | 27 | 0.653 | -2.202 | 2.856 |
| 40 | Local opposition to wind farms is mostly caused by the lack | 40 | 1.637 | -1.086 | 2.723 |
| 2 | Although local opposition to wind projects is quite normal, | 2 | 1.115 | -0.922 | 2.037 |
| 31 | Professional and scientific expertise ought to play a decisi | 31 | 1.786 | 0.000 | 1.786 |

| | | | | | |
|---|---|---|---|---|---|
| 26 | Every local authority would rather have wind farms built in | 26 | 0.716 | -0.758 | 1.474 |
| 11 | Local opposition to a wind farm is nothing more than defendi | 11 | -0.173 | -1.606 | 1.433 |
| 19 | Involving potential opponents to a wind farm in a timely man | 19 | 1.392 | 0.000 | 1.392 |
| 22 | Government should be able to go ahead anyway when local auth | 22 | -0.557 | -1.918 | 1.361 |
| 43 | Offering financial participation in wind projects or green e | 43 | 0.926 | -0.432 | 1.359 |
| 21 | The 12 wind turbines planned will look better than the 20 di | 21 | 0.919 | -0.314 | 1.233 |
| 32 | The problem with public input is that it is mainly based on | 32 | 0.304 | -0.919 | 1.223 |
| 48 | Public participation determines whether conflicts are solved | 48 | 0.474 | -0.668 | 1.142 |
| 30 | If good arguments exist for constructing a wind farm in a lo | 30 | 0.073 | -1.010 | 1.083 |
| 6 | Most of the time, stakeholders are insufficiently involved d | 6 | 1.924 | 1.103 | 0.821 |
| 29 | Planning processes must be carried out rapidly in order to n | 29 | -0.133 | -0.760 | 0.628 |
| 44 | It is mainly environmental organisations that frustrate the | 44 | -0.212 | -0.760 | 0.548 |
| 7 | It is not participation in decision making that is important | 7 | -0.914 | -1.445 | 0.530 |
| 3 | Public participation makes the decision making process more | 3 | -1.022 | -1.521 | 0.499 |
| 25 | Decisions on wind farms cannot be made by governments alone, | 25 | 1.427 | 0.979 | 0.447 |
| 38 | Local support is important for the successful implementation | 38 | 0.436 | 0.181 | 0.255 |
| 39 | It is mainly local community groups that try to thwart the c | 39 | 0.045 | -0.161 | 0.206 |
| 33 | In the end, it is the cost of oil and electricity that will | 33 | 0.198 | 0.093 | 0.105 |
| 16 | Decisions made with the approval of the local community are | 16 | 0.933 | 0.851 | 0.083 |
| 10 | The input from the public during a public participation proc | 10 | 0.234 | 0.164 | 0.070 |
| 24 | Growing energy demand and increasing environmental problems | 24 | 0.822 | 0.760 | 0.061 |
| 18 | Before building wind farms all over the country, energy effi | 18 | 1.738 | 1.756 | -0.018 |
| 1 | It is usually individuals, like landowners, that block the c | 1 | -0.288 | -0.090 | -0.198 |
| 15 | Slow implementation of wind energy is usually a result of un | 15 | -1.211 | -0.925 | -0.287 |
| 8 | Opponents of wind farms are not willing to compromise so it | 8 | -1.578 | -1.267 | -0.312 |
| 46 | Local interests are not taken into account at the national l | 46 | 0.529 | 0.851 | -0.322 |
| 5 | Incentives should be given to the wind industry (not the com | 5 | -1.012 | -0.596 | -0.416 |
| 14 | Residents do not want to pay for the nation’s energy problem | 14 | -0.175 | 0.345 | -0.520 |
| 13 | Decision making surrounding wind energy is an unpredictable | 13 | -0.669 | -0.107 | -0.563 |
| 45 | Local government does not seem capable of properly handling | 45 | 0.570 | 1.171 | -0.601 |
| 12 | Local power companies have no understanding of public partic | 12 | 0.291 | 0.922 | -0.631 |
| 9 | Government should give priority to the environment first and | 9 | -0.305 | 0.361 | -0.666 |
| 23 | It is wrong to take decisions without giving neighbouring re | 23 | 0.121 | 0.834 | -0.714 |
| 36 | Everyone prefers that new infrastructure like wind farms are | 36 | 0.039 | 0.834 | -0.795 |
| 20 | People are not fooled by public meetings, environmental impa | 20 | -0.388 | 0.504 | -0.892 |
| 28 | The local community should be able to exert its influence in | 28 | -0.409 | 0.637 | -1.046 |
| 41 | Wind farms should go in built up areas where people live or | 41 | -0.639 | 0.427 | -1.066 |
| 47 | More citizen participation leads to even more opposition tow | 47 | -2.053 | -0.755 | -1.298 |
| 34 | Financial support geared towards solar energy is better than | 34 | -0.299 | 1.029 | -1.328 |
| 17 | It is useless to try and exert influence on the implementati | 17 | -0.362 | 1.010 | -1.372 |
| 35 | Initiators of wind farm projects underestimate the value of | 35 | -0.569 | 1.012 | -1.581 |
| 42 | Onshore wind energy plans should be abandoned in Malta. The | 42 | -1.153 | 0.753 | -1.906 |

| | | | | | |
|---|---|---|---|---|---|
| 37 | We cannot do anything about climate change anyway, so it is | 37 | -2.526 | -0.074 | -2.452 |
| 4 | Wind farms are noisy and visually unacceptable. | 4 | -1.178 | 1.699 | -2.877 |
| 49 | The small amount of clean energy that wind farms generate do | 49 | -1.478 | 2.022 | -3.500 |

Descending Array of Differences Between Factors 1 and 3

| No. | Statement | No. | Type 1 | Type 3 | Difference |
|---|---|---|---|---|---|
| 6 | Most of the time, stakeholders are insufficiently involved d | 6 | 1.924 | -0.370 | 2.293 |
| 27 | The compromise of the Bahrija landscape is a sacrifice that | 27 | 0.653 | -1.364 | 2.017 |
| 19 | Involving potential opponents to a wind farm in a timely man | 19 | 1.392 | -0.490 | 1.881 |
| 48 | Public participation determines whether conflicts are solved | 48 | 0.474 | -1.277 | 1.751 |
| 25 | Decisions on wind farms cannot be made by governments alone, | 25 | 1.427 | -0.088 | 1.514 |
| 16 | Decisions made with the approval of the local community are | 16 | 0.933 | -0.507 | 1.441 |
| 44 | It is mainly environmental organisations that frustrate the | 44 | -0.212 | -1.611 | 1.399 |
| 13 | Decision making surrounding wind energy is an unpredictable | 13 | -0.669 | -2.065 | 1.396 |
| 40 | Local opposition to wind farms is mostly caused by the lack | 40 | 1.637 | 0.245 | 1.392 |
| 26 | Every local authority would rather have wind farms built in | 26 | 0.716 | -0.333 | 1.049 |
| 2 | Although local opposition to wind projects is quite normal, | 2 | 1.115 | 0.088 | 1.028 |
| 38 | Local support is important for the successful implementation | 38 | 0.436 | -0.333 | 0.769 |
| 4 | Wind farms are noisy and visually unacceptable. | 4 | -1.178 | -1.907 | 0.729 |
| 42 | Onshore wind energy plans should be abandoned in Malta. The | 42 | -1.153 | -1.820 | 0.667 |
| 23 | It is wrong to take decisions without giving neighbouring re | 23 | 0.121 | -0.542 | 0.662 |
| 12 | Local power companies have no understanding of public partic | 12 | 0.291 | -0.366 | 0.657 |
| 39 | It is mainly local community groups that try to thwart the c | 39 | 0.045 | -0.455 | 0.500 |
| 9 | Government should give priority to the environment first and | 9 | -0.305 | -0.544 | 0.240 |
| 1 | It is usually individuals, like landowners, that block the c | 1 | -0.288 | -0.456 | 0.168 |
| 21 | The 12 wind turbines planned will look better than the 20 di | 21 | 0.919 | 0.752 | 0.166 |
| 46 | Local interests are not taken into account at the national l | 46 | 0.529 | 0.401 | 0.128 |
| 20 | People are not fooled by public meetings, environmental impa | 20 | -0.388 | -0.509 | 0.120 |
| 28 | The local community should be able to exert its influence in | 28 | -0.409 | -0.420 | 0.012 |
| 45 | Local government does not seem capable of properly handling | 45 | 0.570 | 0.610 | -0.040 |
| 17 | It is useless to try and exert influence on the implementati | 17 | -0.362 | -0.244 | -0.118 |
| 36 | Everyone prefers that new infrastructure like wind farms are | 36 | 0.039 | 0.158 | -0.118 |
| 43 | Offering financial participation in wind projects or green e | 43 | 0.926 | 1.067 | -0.141 |
| 11 | Local opposition to a wind farm is nothing more than defendi | 11 | -0.173 | 0.001 | -0.174 |
| 10 | The input from the public during a public participation proc | 10 | 0.234 | 0.543 | -0.309 |
| 35 | Initiators of wind farm projects underestimate the value of | 35 | -0.569 | -0.176 | -0.392 |
| 30 | If good arguments exist for constructing a wind farm in a lo | 30 | 0.073 | 0.543 | -0.470 |
| 18 | Before building wind farms all over the country, energy effi | 18 | 1.738 | 2.310 | -0.572 |
| 49 | The small amount of clean energy that wind farms generate do | 49 | -1.478 | -0.855 | -0.623 |
| 32 | The problem with public input is that it is mainly based on | 32 | 0.304 | 1.032 | -0.728 |

| | | | | | |
|---|---|---|---|---|---|
| 31 | Professional and scientific expertise ought to play a decisi | 31 | 1.786 | 2.519 | -0.733 |
| 22 | Government should be able to go ahead anyway when local auth | 22 | -0.557 | 0.177 | -0.734 |
| 41 | Wind farms should go in built up areas where people live or | 41 | -0.639 | 0.122 | -0.760 |
| 14 | Residents do not want to pay for the nation's energy problem | 14 | -0.175 | 0.700 | -0.875 |
| 37 | We cannot do anything about climate change anyway, so it is | 37 | -2.526 | -1.644 | -0.882 |
| 34 | Financial support geared towards solar energy is better than | 34 | -0.299 | 0.699 | -0.998 |
| 24 | Growing energy demand and increasing environmental problems | 24 | 0.822 | 1.888 | -1.067 |
| 29 | Planning processes must be carried out rapidly in order to n | 29 | -0.133 | 0.997 | -1.130 |
| 15 | Slow implementation of wind energy is usually a result of un | 15 | -1.211 | 0.018 | -1.230 |
| 33 | In the end, it is the cost of oil and electricity that will | 33 | 0.198 | 1.455 | -1.257 |
| 5 | Incentives should be given to the wind industry (not the com | 5 | -1.012 | 0.334 | -1.346 |
| 8 | Opponents of wind farms are not willing to compromise so it | 8 | -1.578 | 0.052 | -1.630 |
| 7 | It is not participation in decision making that is important | 7 | -0.914 | 0.823 | -1.737 |
| 3 | Public participation makes the decision making process more | 3 | -1.022 | 0.754 | -1.776 |
| 47 | More citizen participation leads to even more opposition tow | 47 | -2.053 | 0.086 | -2.139 |

**Descending Array of Differences Between Factors 1 and 4**

| No. | Statement | No. | Type 1 | Type 4 | Difference |
|---|---|---|---|---|---|
| 6 | Most of the time, stakeholders are insufficiently involved d | 6 | 1.924 | -1.061 | 2.985 |
| 40 | Local opposition to wind farms is mostly caused by the lack | 40 | 1.637 | -0.127 | 1.764 |
| 12 | Local power companies have no understanding of public partic | 12 | 0.291 | -1.243 | 1.534 |
| 4 | Wind farms are noisy and visually unacceptable. | 4 | -1.178 | -2.178 | 1.000 |
| 26 | Every local authority would rather have wind farms built in | 26 | 0.716 | -0.264 | 0.981 |
| 46 | Local interests are not taken into account at the national l | 46 | 0.529 | -0.440 | 0.969 |
| 45 | Local government does not seem capable of properly handling | 45 | 0.570 | -0.318 | 0.889 |
| 17 | It is useless to try and exert influence on the implementati | 17 | -0.362 | -1.244 | 0.882 |
| 41 | Wind farms should go in built up areas where people live or | 41 | -0.639 | -1.492 | 0.854 |
| 48 | Public participation determines whether conflicts are solved | 48 | 0.474 | -0.238 | 0.712 |
| 34 | Financial support geared towards solar energy is better than | 34 | -0.299 | -0.947 | 0.648 |
| 39 | It is mainly local community groups that try to thwart the c | 39 | 0.045 | -0.579 | 0.624 |
| 44 | It is mainly environmental organisations that frustrate the | 44 | -0.212 | -0.730 | 0.518 |
| 43 | Offering financial participation in wind projects or green e | 43 | 0.926 | 0.469 | 0.457 |
| 29 | Planning processes must be carried out rapidly in order to n | 29 | -0.133 | -0.575 | 0.442 |
| 33 | In the end, it is the cost of oil and electricity that will | 33 | 0.198 | -0.198 | 0.396 |
| 32 | The problem with public input is that it is mainly based on | 32 | 0.304 | -0.090 | 0.394 |
| 27 | The compromise of the Bahrija landscape is a sacrifice that | 27 | 0.653 | 0.452 | 0.201 |
| 13 | Decision making surrounding wind energy is an unpredictable | 13 | -0.669 | -0.815 | 0.146 |
| 18 | Before building wind farms all over the country, energy effi | 18 | 1.738 | 1.592 | 0.146 |
| 2 | Although local opposition to wind projects is quite normal, | 2 | 1.115 | 0.971 | 0.144 |

| | | | | | |
|---|---|---|---|---|---|
| 19 | Involving potential opponents to a wind farm in a timely man | 19 | 1.392 | 1.273 | 0.119 |
| 8 | Opponents of wind farms are not willing to compromise so it | 8 | -1.578 | -1.617 | 0.039 |
| 31 | Professional and scientific expertise ought to play a decisi | 31 | 1.786 | 1.757 | 0.029 |
| 38 | Local support is important for the successful implementation | 38 | 0.436 | 0.429 | 0.007 |
| 23 | It is wrong to take decisions without giving neighbouring re | 23 | 0.121 | 0.145 | -0.024 |
| 9 | Government should give priority to the environment first and | 9 | -0.305 | -0.259 | -0.046 |
| 25 | Decisions on wind farms cannot be made by governments alone, | 25 | 1.427 | 1.492 | -0.066 |
| 22 | Government should be able to go ahead anyway when local auth | 22 | -0.557 | -0.429 | -0.128 |
| 14 | Residents do not want to pay for the nation's energy problem | 14 | -0.175 | 0.000 | -0.175 |
| 49 | The small amount of clean energy that wind farms generate do | 49 | -1.478 | -1.297 | -0.181 |
| 11 | Local opposition to a wind farm is nothing more than defendi | 11 | -0.173 | 0.156 | -0.329 |
| 35 | Initiators of wind farm projects underestimate the value of | 35 | -0.569 | -0.212 | -0.356 |
| 42 | Onshore wind energy plans should be abandoned in Malta. The | 42 | -1.153 | -0.761 | -0.393 |
| 21 | The 12 wind turbines planned will look better than the 20 di | 21 | 0.919 | 1.334 | -0.416 |
| 20 | People are not fooled by public meetings, environmental impa | 20 | -0.388 | 0.037 | -0.425 |
| 30 | If good arguments exist for constructing a wind farm in a lo | 30 | 0.073 | 0.534 | -0.461 |
| 1 | It is usually individuals, like landowners, that block the c | 1 | -0.288 | 0.231 | -0.519 |
| 37 | We cannot do anything about climate change anyway, so it is | 37 | -2.526 | -1.949 | -0.576 |
| 24 | Growing energy demand and increasing environmental problems | 24 | 0.822 | 1.557 | -0.735 |
| 36 | Everyone prefers that new infrastructure like wind farms are | 36 | 0.039 | 0.966 | -0.927 |
| 28 | The local community should be able to exert its influence in | 28 | -0.409 | 0.594 | -1.002 |
| 16 | Decisions made with the approval of the local community are | 16 | 0.933 | 2.021 | -1.088 |
| 10 | The input from the public during a public participation proc | 10 | 0.234 | 1.369 | -1.134 |
| 5 | Incentives should be given to the wind industry (not the com | 5 | -1.012 | 0.185 | -1.197 |
| 3 | Public participation makes the decision making process more | 3 | -1.022 | 0.220 | -1.242 |
| 7 | It is not participation in decision making that is important | 7 | -0.914 | 0.537 | -1.451 |
| 47 | More citizen participation leads to even more opposition tow | 47 | -2.053 | -0.367 | -1.686 |
| 15 | Slow implementation of wind energy is usually a result of un | 15 | -1.211 | 1.111 | -2.322 |

**Descending Array of Differences Between Factors 1 and 5**

| No. | Statement | No. | Type 1 | Type 5 | Difference |
|---|---|---|---|---|---|
| 6 | Most of the time, stakeholders are insufficiently involved d | 6 | 1.924 | -2.200 | 4.123 |
| 36 | Everyone prefers that new infrastructure like wind farms are | 36 | 0.039 | -1.760 | 1.799 |
| 31 | Professional and scientific expertise ought to play a decisi | 31 | 1.786 | 0.000 | 1.786 |
| 26 | Every local authority would rather have wind farms built in | 26 | 0.716 | -0.880 | 1.596 |
| 10 | The input from the public during a public participation proc | 10 | 0.234 | -1.320 | 1.554 |
| 45 | Local government does not seem capable of properly handling | 45 | 0.570 | -0.880 | 1.450 |
| 30 | If good arguments exist for constructing a wind farm in a lo | 30 | 0.073 | -1.320 | 1.393 |
| 2 | Although local opposition to wind projects is quite normal, | 2 | 1.115 | 0.000 | 1.115 |

| | | | | | |
|---|---|---|---|---|---|
| 27 | The compromise of the Bahrija landscape is a sacrifice that | 27 | 0.653 | -0.440 | 1.093 |
| 33 | In the end, it is the cost of oil and electricity that will | 33 | 0.198 | -0.880 | 1.078 |
| 20 | People are not fooled by public meetings, environmental impa | 20 | -0.388 | -1.320 | 0.932 |
| 43 | Offering financial participation in wind projects or green e | 43 | 0.926 | 0.000 | 0.926 |
| 22 | Government should be able to go ahead anyway when local auth | 22 | -0.557 | -1.320 | 0.763 |
| 40 | Local opposition to wind farms is mostly caused by the lack | 40 | 1.637 | 0.880 | 0.757 |
| 44 | It is mainly environmental organisations that frustrate the | 44 | -0.212 | -0.880 | 0.668 |
| 39 | It is mainly local community groups that try to thwart the c | 39 | 0.045 | -0.440 | 0.485 |
| 21 | The 12 wind turbines planned will look better than the 20 di | 21 | 0.919 | 0.440 | 0.479 |
| 48 | Public participation determines whether conflicts are solved | 48 | 0.474 | 0.000 | 0.474 |
| 12 | Local power companies have no understanding of public partic | 12 | 0.291 | 0.000 | 0.291 |
| 14 | Residents do not want to pay for the nation's energy problem | 14 | -0.175 | -0.440 | 0.265 |
| 13 | Decision making surrounding wind energy is an unpredictable | 13 | -0.669 | -0.880 | 0.211 |
| 25 | Decisions on wind farms cannot be made by governments alone, | 25 | 1.427 | 1.320 | 0.107 |
| 46 | Local interests are not taken into account at the national l | 46 | 0.529 | 0.440 | 0.089 |
| 19 | Involving potential opponents to a wind farm in a timely man | 19 | 1.392 | 1.320 | 0.072 |
| 18 | Before building wind farms all over the country, energy effi | 18 | 1.738 | 1.760 | -0.021 |
| 24 | Growing energy demand and increasing environmental problems | 24 | 0.822 | 0.880 | -0.058 |
| 35 | Initiators of wind farm projects underestimate the value of | 35 | -0.569 | -0.440 | -0.129 |
| 29 | Planning processes must be carried out rapidly in order to n | 29 | -0.133 | 0.000 | -0.133 |
| 15 | Slow implementation of wind energy is usually a result of un | 15 | -1.211 | -0.880 | -0.331 |
| 17 | It is useless to try and exert influence on the implementati | 17 | -0.362 | 0.000 | -0.362 |
| 38 | Local support is important for the successful implementation | 38 | 0.436 | 0.880 | -0.444 |
| 3 | Public participation makes the decision making process more | 3 | -1.022 | -0.440 | -0.582 |
| 11 | Local opposition to a wind farm is nothing more than defendi | 11 | -0.173 | 0.440 | -0.613 |
| 1 | It is usually individuals, like landowners, that block the c | 1 | -0.288 | 0.440 | -0.728 |
| 23 | It is wrong to take decisions without giving neighbouring re | 23 | 0.121 | 0.880 | -0.759 |
| 37 | We cannot do anything about climate change anyway, so it is | 37 | -2.526 | -1.760 | -0.766 |
| 28 | The local community should be able to exert its influence in | 28 | -0.409 | 0.440 | -0.849 |
| 5 | Incentives should be given to the wind industry (not the com | 5 | -1.012 | 0.000 | -1.012 |
| 32 | The problem with public input is that it is mainly based on | 32 | 0.304 | 1.320 | -1.016 |
| 49 | The small amount of clean energy that wind farms generate do | 49 | -1.478 | -0.440 | -1.038 |
| 8 | Opponents of wind farms are not willing to compromise so it | 8 | -1.578 | -0.440 | -1.138 |
| 34 | Financial support geared towards solar energy is better than | 34 | -0.299 | 0.880 | -1.179 |
| 16 | Decisions made with the approval of the local community are | 16 | 0.933 | 2.200 | -1.266 |
| 7 | It is not participation in decision making that is important | 7 | -0.914 | 0.440 | -1.354 |
| 4 | Wind farms are noisy and visually unacceptable. | 4 | -1.178 | 0.440 | -1.618 |
| 9 | Government should give priority to the environment first and | 9 | -0.305 | 1.320 | -1.624 |
| 42 | Onshore wind energy plans should be abandoned in Malta. The | 42 | -1.153 | 0.880 | -2.033 |
| 47 | More citizen participation leads to even more opposition tow | 47 | -2.053 | 0.000 | -2.053 |
| 41 | Wind farms should go in built up areas where people live or | 41 | -0.639 | 1.760 | -2.398 |

**Descending Array of Differences Between Factors 1 and 6**

| No. | Statement | No. | Type 1 | Type 6 | Difference |
|---|---|---|---|---|---|
| 21 | The 12 wind turbines planned will look better than the 20 di | 21 | 0.919 | -1.561 | 2.480 |
| 40 | Local opposition to wind farms is mostly caused by the lack | 40 | 1.637 | -0.334 | 1.972 |
| 31 | Professional and scientific expertise ought to play a decisi | 31 | 1.786 | 0.045 | 1.742 |
| 19 | Involving potential opponents to a wind farm in a timely man | 19 | 1.392 | -0.334 | 1.726 |
| 2 | Although local opposition to wind projects is quite normal, | 2 | 1.115 | -0.580 | 1.695 |
| 16 | Decisions made with the approval of the local community are | 16 | 0.933 | -0.491 | 1.424 |
| 45 | Local government does not seem capable of properly handling | 45 | 0.570 | -0.736 | 1.306 |
| 38 | Local support is important for the successful implementation | 38 | 0.436 | -0.870 | 1.306 |
| 43 | Offering financial participation in wind projects or green e | 43 | 0.926 | -0.379 | 1.305 |
| 6 | Most of the time, stakeholders are insufficiently involved d | 6 | 1.924 | 0.736 | 1.188 |
| 22 | Government should be able to go ahead anyway when local auth | 22 | -0.557 | -1.695 | 1.138 |
| 44 | It is mainly environmental organisations that frustrate the | 44 | -0.212 | -1.115 | 0.903 |
| 33 | In the end, it is the cost of oil and electricity that will | 33 | 0.198 | -0.624 | 0.822 |
| 24 | Growing energy demand and increasing environmental problems | 24 | 0.822 | 0.000 | 0.822 |
| 30 | If good arguments exist for constructing a wind farm in a lo | 30 | 0.073 | -0.535 | 0.608 |
| 27 | The compromise of the Bahrija landscape is a sacrifice that | 27 | 0.653 | 0.134 | 0.520 |
| 15 | Slow implementation of wind energy is usually a result of un | 15 | -1.211 | -1.650 | 0.439 |
| 5 | Incentives should be given to the wind industry (not the com | 5 | -1.012 | -1.316 | 0.304 |
| 46 | Local interests are not taken into account at the national l | 46 | 0.529 | 0.334 | 0.194 |
| 29 | Planning processes must be carried out rapidly in order to n | 29 | -0.133 | -0.290 | 0.157 |
| 17 | It is useless to try and exert influence on the implementati | 17 | -0.362 | -0.491 | 0.128 |
| 32 | The problem with public input is that it is mainly based on | 32 | 0.304 | 0.201 | 0.103 |
| 47 | More citizen participation leads to even more opposition tow | 47 | -2.053 | -2.141 | 0.088 |
| 10 | The input from the public during a public participation proc | 10 | 0.234 | 0.245 | -0.011 |
| 12 | Local power companies have no understanding of public partic | 12 | 0.291 | 0.334 | -0.043 |
| 26 | Every local authority would rather have wind farms built in | 26 | 0.716 | 0.781 | -0.064 |
| 11 | Local opposition to a wind farm is nothing more than defendi | 11 | -0.173 | -0.045 | -0.128 |
| 25 | Decisions on wind farms cannot be made by governments alone, | 25 | 1.427 | 1.561 | -0.134 |
| 20 | People are not fooled by public meetings, environmental impa | 20 | -0.388 | -0.201 | -0.188 |
| 3 | Public participation makes the decision making process more | 3 | -1.022 | -0.781 | -0.242 |
| 34 | Financial support geared towards solar energy is better than | 34 | -0.299 | -0.045 | -0.254 |
| 9 | Government should give priority to the environment first and | 9 | -0.305 | 0.045 | -0.349 |
| 48 | Public participation determines whether conflicts are solved | 48 | 0.474 | 0.825 | -0.351 |
| 8 | Opponents of wind farms are not willing to compromise so it | 8 | -1.578 | -1.070 | -0.508 |
| 7 | It is not participation in decision making that is important | 7 | -0.914 | -0.290 | -0.624 |
| 13 | Decision making surrounding wind energy is an unpredictable | 13 | -0.669 | 0.000 | -0.669 |
| 28 | The local community should be able to exert its influence in | 28 | -0.409 | 0.290 | -0.699 |

| | | | | | |
|---|---|---|---|---|---|
| 41 | Wind farms should go in built up areas where people live or | 41 | -0.639 | 0.134 | -0.772 |
| 39 | It is mainly local community groups that try to thwart the c | 39 | 0.045 | 0.870 | -0.825 |
| 23 | It is wrong to take decisions without giving neighbouring re | 23 | 0.121 | 1.026 | -0.905 |
| 18 | Before building wind farms all over the country, energy effi | 18 | 1.738 | 2.676 | -0.938 |
| 14 | Residents do not want to pay for the nation's energy problem | 14 | -0.175 | 1.070 | -1.245 |
| 37 | We cannot do anything about climate change anyway, so it is | 37 | -2.526 | -1.227 | -1.299 |
| 35 | Initiators of wind farm projects underestimate the value of | 35 | -0.569 | 0.781 | -1.349 |
| 1 | It is usually individuals, like landowners, that block the c | 1 | -0.288 | 1.316 | -1.604 |
| 36 | Everyone prefers that new infrastructure like wind farms are | 36 | 0.039 | 1.650 | -1.611 |
| 4 | Wind farms are noisy and visually unacceptable. | 4 | -1.178 | 0.870 | -2.048 |
| 49 | The small amount of clean energy that wind farms generate do | 49 | -1.478 | 0.736 | -2.214 |
| 42 | Onshore wind energy plans should be abandoned in Malta. The | 42 | -1.153 | 2.141 | -3.294 |

Descending Array of Differences Between Factors 1 and 7

| No. | Statement | No. | Type 1 | Type 7 | Difference |
|---|---|---|---|---|---|
| 40 | Local opposition to wind farms is mostly caused by the lack | 40 | 1.637 | -1.320 | 2.957 |
| 31 | Professional and scientific expertise ought to play a decisi | 31 | 1.786 | -0.880 | 2.666 |
| 23 | It is wrong to take decisions without giving neighbouring re | 23 | 0.121 | -2.200 | 2.320 |
| 10 | The input from the public during a public participation proc | 10 | 0.234 | -1.760 | 1.994 |
| 16 | Decisions made with the approval of the local community are | 16 | 0.933 | -0.880 | 1.813 |
| 21 | The 12 wind turbines planned will look better than the 20 di | 21 | 0.919 | -0.880 | 1.798 |
| 19 | Involving potential opponents to a wind farm in a timely man | 19 | 1.392 | 0.000 | 1.392 |
| 43 | Offering financial participation in wind projects or green e | 43 | 0.926 | -0.440 | 1.366 |
| 28 | The local community should be able to exert its influence in | 28 | -0.409 | -1.760 | 1.351 |
| 38 | Local support is important for the successful implementation | 38 | 0.436 | -0.880 | 1.316 |
| 18 | Before building wind farms all over the country, energy effi | 18 | 1.738 | 0.440 | 1.298 |
| 44 | It is mainly environmental organisations that frustrate the | 44 | -0.212 | -1.320 | 1.108 |
| 6 | Most of the time, stakeholders are insufficiently involved d | 6 | 1.924 | 0.880 | 1.044 |
| 22 | Government should be able to go ahead anyway when local auth | 22 | -0.557 | -1.320 | 0.763 |
| 32 | The problem with public input is that it is mainly based on | 32 | 0.304 | -0.440 | 0.744 |
| 41 | Wind farms should go in built up areas where people live or | 41 | -0.639 | -1.320 | 0.681 |
| 27 | The compromise of the Bahrija landscape is a sacrifice that | 27 | 0.653 | 0.000 | 0.653 |
| 25 | Decisions on wind farms cannot be made by governments alone, | 25 | 1.427 | 0.880 | 0.547 |
| 29 | Planning processes must be carried out rapidly in order to n | 29 | -0.133 | -0.440 | 0.307 |
| 14 | Residents do not want to pay for the nation's energy problem | 14 | -0.175 | -0.440 | 0.265 |
| 1 | It is usually individuals, like landowners, that block the c | 1 | -0.288 | -0.440 | 0.152 |
| 45 | Local government does not seem capable of properly handling | 45 | 0.570 | 0.440 | 0.130 |
| 30 | If good arguments exist for constructing a wind farm in a lo | 30 | 0.073 | 0.000 | 0.073 |
| 39 | It is mainly local community groups that try to thwart the c | 39 | 0.045 | 0.000 | 0.045 |

| | | | | | |
|---|---|---|---|---|---|
| 12 | Local power companies have no understanding of public partic | 12 | 0.291 | 0.440 | -0.149 |
| 26 | Every local authority would rather have wind farms built in | 26 | 0.716 | 0.880 | -0.163 |
| 11 | Local opposition to a wind farm is nothing more than defendi | 11 | -0.173 | 0.000 | -0.173 |
| 2 | Although local opposition to wind projects is quite normal, | 2 | 1.115 | 1.320 | -0.204 |
| 7 | It is not participation in decision making that is important | 7 | -0.914 | -0.440 | -0.474 |
| 24 | Growing energy demand and increasing environmental problems | 24 | 0.822 | 1.320 | -0.498 |
| 13 | Decision making surrounding wind energy is an unpredictable | 13 | -0.669 | 0.000 | -0.669 |
| 8 | Opponents of wind farms are not willing to compromise so it | 8 | -1.578 | -0.880 | -0.699 |
| 9 | Government should give priority to the environment first and | 9 | -0.305 | 0.440 | -0.745 |
| 15 | Slow implementation of wind energy is usually a result of un | 15 | -1.211 | -0.440 | -0.771 |
| 46 | Local interests are not taken into account at the national l | 46 | 0.529 | 1.320 | -0.791 |
| 17 | It is useless to try and exert influence on the implementati | 17 | -0.362 | 0.440 | -0.802 |
| 20 | People are not fooled by public meetings, environmental impa | 20 | -0.388 | 0.440 | -0.828 |
| 35 | Initiators of wind farm projects underestimate the value of | 35 | -0.569 | 0.440 | -1.009 |
| 3 | Public participation makes the decision making process more | 3 | -1.022 | 0.000 | -1.022 |
| 47 | More citizen participation leads to even more opposition tow | 47 | -2.053 | -0.880 | -1.173 |
| 34 | Financial support geared towards solar energy is better than | 34 | -0.299 | 0.880 | -1.179 |
| 36 | Everyone prefers that new infrastructure like wind farms are | 36 | 0.039 | 1.320 | -1.281 |
| 48 | Public participation determines whether conflicts are solved | 48 | 0.474 | 1.760 | -1.285 |
| 49 | The small amount of clean energy that wind farms generate do | 49 | -1.478 | 0.000 | -1.478 |
| 5 | Incentives should be given to the wind industry (not the com | 5 | -1.012 | 0.880 | -1.892 |
| 33 | In the end, it is the cost of oil and electricity that will | 33 | 0.198 | 2.200 | -2.002 |
| 42 | Onshore wind energy plans should be abandoned in Malta. The | 42 | -1.153 | 0.880 | -2.033 |
| 37 | We cannot do anything about  climate change anyway, so it is | 37 | -2.526 | 0.000 | -2.526 |
| 4 | Wind farms are noisy and visually unacceptable. | 4 | -1.178 | 1.760 | -2.938 |

**Descending Array of Differences Between Factors 1 and 8**

| No. | Statement | No. | Type 1 | Type 8 | Difference |
|---|---|---|---|---|---|
| 18 | Before building wind farms all over the country, energy effi | 18 | 1.738 | -1.842 | 3.580 |
| 25 | Decisions on wind farms cannot be made by governments alone, | 25 | 1.427 | -1.553 | 2.980 |
| 31 | Professional and scientific expertise ought to play a decisi | 31 | 1.786 | -0.688 | 2.474 |
| 6 | Most of the time, stakeholders are insufficiently involved d | 6 | 1.924 | 0.178 | 1.746 |
| 19 | Involving potential opponents to a wind farm in a timely man | 19 | 1.392 | -0.344 | 1.735 |
| 27 | The compromise of the Bahrija landscape is a sacrifice that | 27 | 0.653 | -0.921 | 1.574 |
| 48 | Public participation determines whether conflicts are solved | 48 | 0.474 | -1.032 | 1.506 |
| 26 | Every local authority would rather have wind farms built in | 26 | 0.716 | -0.755 | 1.471 |
| 46 | Local interests are not taken into account at the national l | 46 | 0.529 | -0.632 | 1.161 |
| 29 | Planning processes must be carried out rapidly in order to n | 29 | -0.133 | -1.210 | 1.077 |
| 2 | Although local opposition to wind projects is quite normal, | 2 | 1.115 | 0.166 | 0.949 |

| | | | | | |
|---|---|---|---|---|---|
| 16 | Decisions made with the approval of the local community are | 16 | 0.933 | 0.055 | 0.878 |
| 28 | The local community should be able to exert its influence in | 28 | -0.409 | -1.265 | 0.856 |
| 45 | Local government does not seem capable of properly handling | 45 | 0.570 | 0.000 | 0.570 |
| 40 | Local opposition to wind farms is mostly caused by the lack | 40 | 1.637 | 1.087 | 0.550 |
| 10 | The input from the public during a public participation proc | 10 | 0.234 | -0.289 | 0.523 |
| 41 | Wind farms should go in built up areas where people live or | 41 | -0.639 | -1.143 | 0.504 |
| 24 | Growing energy demand and increasing environmental problems | 24 | 0.822 | 0.399 | 0.422 |
| 38 | Local support is important for the successful implementation | 38 | 0.436 | 0.111 | 0.325 |
| 34 | Financial support geared towards solar energy is better than | 34 | -0.299 | -0.577 | 0.278 |
| 43 | Offering financial participation in wind projects or green e | 43 | 0.926 | 0.688 | 0.239 |
| 47 | More citizen participation leads to even more opposition tow | 47 | -2.053 | -2.186 | 0.133 |
| 3 | Public participation makes the decision making process more | 3 | -1.022 | -1.032 | 0.010 |
| 7 | It is not participation in decision making that is important | 7 | -0.914 | -0.921 | 0.007 |
| 9 | Government should give priority to the environment first and | 9 | -0.305 | -0.289 | -0.016 |
| 22 | Government should be able to go ahead anyway when local auth | 22 | -0.557 | -0.522 | -0.035 |
| 44 | It is mainly environmental organisations that frustrate the | 44 | -0.212 | -0.055 | -0.157 |
| 8 | Opponents of wind farms are not willing to compromise so it | 8 | -1.578 | -1.376 | -0.203 |
| 11 | Local opposition to a wind farm is nothing more than defendi | 11 | -0.173 | 0.111 | -0.284 |
| 17 | It is useless to try and exert influence on the implementati | 17 | -0.362 | 0.000 | -0.362 |
| 20 | People are not fooled by public meetings, environmental impa | 20 | -0.388 | 0.000 | -0.388 |
| 14 | Residents do not want to pay for the nation's energy problem | 14 | -0.175 | 0.233 | -0.408 |
| 23 | It is wrong to take decisions without giving neighbouring re | 23 | 0.121 | 0.632 | -0.512 |
| 33 | In the end, it is the cost of oil and electricity that will | 33 | 0.198 | 0.866 | -0.668 |
| 12 | Local power companies have no understanding of public partic | 12 | 0.291 | 0.976 | -0.685 |
| 4 | Wind farms are noisy and visually unacceptable. | 4 | -1.178 | -0.455 | -0.724 |
| 30 | If good arguments exist for constructing a wind farm in a lo | 30 | 0.073 | 0.921 | -0.848 |
| 1 | It is usually individuals, like landowners, that block the c | 1 | -0.288 | 0.866 | -1.154 |
| 39 | It is mainly local community groups that try to thwart the c | 39 | 0.045 | 1.320 | -1.276 |
| 36 | Everyone prefers that new infrastructure like wind farms are | 36 | 0.039 | 1.320 | -1.281 |
| 49 | The small amount of clean energy that wind farms generate do | 49 | -1.478 | -0.111 | -1.367 |
| 35 | Initiators of wind farm projects underestimate the value of | 35 | -0.569 | 0.921 | -1.490 |
| 5 | Incentives should be given to the wind industry (not the com | 5 | -1.012 | 0.632 | -1.644 |
| 21 | The 12 wind turbines planned will look better than the 20 di | 21 | 0.919 | 2.585 | -1.667 |
| 42 | Onshore wind energy plans should be abandoned in Malta. The | 42 | -1.153 | 0.632 | -1.786 |
| 13 | Decision making surrounding wind energy is an unpredictable | 13 | -0.669 | 1.154 | -1.823 |
| 32 | The problem with public input is that it is mainly based on | 32 | 0.304 | 2.186 | -1.882 |
| 15 | Slow implementation of wind energy is usually a result of un | 15 | -1.211 | 1.087 | -2.299 |
| 37 | We cannot do anything about  climate change anyway, so it is | 37 | -2.526 | 0.067 | -2.592 |

**Descending Array of Differences Between Factors 2 and 3**

| No. | Statement | No. | Type 2 | Type 3 | Difference |
|---|---|---|---|---|---|
| 4 | Wind farms are noisy and visually unacceptable. | 4 | 1.699 | -1.907 | 3.606 |
| 49 | The small amount of clean energy that wind farms generate do | 49 | 2.022 | -0.855 | 2.877 |
| 42 | Onshore wind energy plans should be abandoned in Malta. The | 42 | 0.753 | -1.820 | 2.573 |
| 13 | Decision making surrounding wind energy is an unpredictable | 13 | -0.107 | -2.065 | 1.959 |
| 37 | We cannot do anything about climate change anyway, so it is | 37 | -0.074 | -1.644 | 1.570 |
| 6 | Most of the time, stakeholders are insufficiently involved d | 6 | 1.103 | -0.370 | 1.472 |
| 23 | It is wrong to take decisions without giving neighbouring re | 23 | 0.834 | -0.542 | 1.376 |
| 16 | Decisions made with the approval of the local community are | 16 | 0.851 | -0.507 | 1.358 |
| 12 | Local power companies have no understanding of public partic | 12 | 0.922 | -0.366 | 1.288 |
| 17 | It is useless to try and exert influence on the implementati | 17 | 1.010 | -0.244 | 1.254 |
| 35 | Initiators of wind farm projects underestimate the value of | 35 | 1.012 | -0.176 | 1.188 |
| 25 | Decisions on wind farms cannot be made by governments alone, | 25 | 0.979 | -0.088 | 1.067 |
| 28 | The local community should be able to exert its influence in | 28 | 0.637 | -0.420 | 1.058 |
| 20 | People are not fooled by public meetings, environmental impa | 20 | 0.504 | -0.509 | 1.012 |
| 9 | Government should give priority to the environment first and | 9 | 0.361 | -0.544 | 0.905 |
| 44 | It is mainly environmental organisations that frustrate the | 44 | -0.760 | -1.611 | 0.850 |
| 36 | Everyone prefers that new infrastructure like wind farms are | 36 | 0.834 | 0.158 | 0.677 |
| 48 | Public participation determines whether conflicts are solved | 48 | -0.668 | -1.277 | 0.609 |
| 45 | Local government does not seem capable of properly handling | 45 | 1.171 | 0.610 | 0.561 |
| 38 | Local support is important for the successful implementation | 38 | 0.181 | -0.333 | 0.514 |
| 19 | Involving potential opponents to a wind farm in a timely man | 19 | 0.000 | -0.490 | 0.490 |
| 46 | Local interests are not taken into account at the national l | 46 | 0.851 | 0.401 | 0.450 |
| 1 | It is usually individuals, like landowners, that block the c | 1 | -0.090 | -0.456 | 0.366 |
| 34 | Financial support geared towards solar energy is better than | 34 | 1.029 | 0.699 | 0.330 |
| 41 | Wind farms should go in built up areas where people live or | 41 | 0.427 | 0.122 | 0.305 |
| 39 | It is mainly local community groups that try to thwart the c | 39 | -0.161 | -0.455 | 0.293 |
| 14 | Residents do not want to pay for the nation's energy problem | 14 | 0.345 | 0.700 | -0.355 |
| 10 | The input from the public during a public participation proc | 10 | 0.164 | 0.543 | -0.379 |
| 26 | Every local authority would rather have wind farms built in | 26 | -0.758 | -0.333 | -0.425 |
| 18 | Before building wind farms all over the country, energy effi | 18 | 1.756 | 2.310 | -0.554 |
| 27 | The compromise of the Bahrija landscape is a sacrifice that | 27 | -2.202 | -1.364 | -0.839 |
| 47 | More citizen participation leads to even more opposition tow | 47 | -0.755 | 0.086 | -0.842 |
| 5 | Incentives should be given to the wind industry (not the com | 5 | -0.596 | 0.334 | -0.930 |
| 15 | Slow implementation of wind energy is usually a result of un | 15 | -0.925 | 0.018 | -0.943 |
| 2 | Although local opposition to wind projects is quite normal, | 2 | -0.922 | 0.088 | -1.010 |
| 21 | The 12 wind turbines planned will look better than the 20 di | 21 | -0.314 | 0.752 | -1.067 |
| 24 | Growing energy demand and increasing environmental problems | 24 | 0.760 | 1.888 | -1.128 |
| 8 | Opponents of wind farms are not willing to compromise so it | 8 | -1.267 | 0.052 | -1.319 |
| 40 | Local opposition to wind farms is mostly caused by the lack | 40 | -1.086 | 0.245 | -1.331 |
| 33 | In the end, it is the cost of oil and electricity that will | 33 | 0.093 | 1.455 | -1.362 |

| | | | | | |
|---|---|---|---|---|---|
| 43 | Offering financial participation in wind projects or green e | 43 | -0.432 | 1.067 | -1.499 |
| 30 | If good arguments exist for constructing a wind farm in a lo | 30 | -1.010 | 0.543 | -1.553 |
| 11 | Local opposition to a wind farm is nothing more than defendi | 11 | -1.606 | 0.001 | -1.607 |
| 29 | Planning processes must be carried out rapidly in order to n | 29 | -0.760 | 0.997 | -1.758 |
| 32 | The problem with public input is that it is mainly based on | 32 | -0.919 | 1.032 | -1.951 |
| 22 | Government should be able to go ahead anyway when local auth | 22 | -1.918 | 0.177 | -2.095 |
| 7 | It is not participation in decision making that is important | 7 | -1.445 | 0.823 | -2.268 |
| 3 | Public participation makes the decision making process more | 3 | -1.521 | 0.754 | -2.275 |
| 31 | Professional and scientific expertise ought to play a decisi | 31 | 0.000 | 2.519 | -2.519 |

**Descending Array of Differences Between Factors 2 and 4**

| No. | Statement | No. | Type 2 | Type 4 | Difference |
|---|---|---|---|---|---|
| 4 | Wind farms are noisy and visually unacceptable. | 4 | 1.699 | -2.178 | 3.877 |
| 49 | The small amount of clean energy that wind farms generate do | 49 | 2.022 | -1.297 | 3.319 |
| 17 | It is useless to try and exert influence on the implementati | 17 | 1.010 | -1.244 | 2.254 |
| 12 | Local power companies have no understanding of public partic | 12 | 0.922 | -1.243 | 2.165 |
| 6 | Most of the time, stakeholders are insufficiently involved d | 6 | 1.103 | -1.061 | 2.164 |
| 34 | Financial support geared towards solar energy is better than | 34 | 1.029 | -0.947 | 1.976 |
| 41 | Wind farms should go in built up areas where people live or | 41 | 0.427 | -1.492 | 1.919 |
| 37 | We cannot do anything about climate change anyway, so it is | 37 | -0.074 | -1.949 | 1.876 |
| 42 | Onshore wind energy plans should be abandoned in Malta. The | 42 | 0.753 | -0.761 | 1.513 |
| 45 | Local government does not seem capable of properly handling | 45 | 1.171 | -0.318 | 1.490 |
| 46 | Local interests are not taken into account at the national l | 46 | 0.851 | -0.440 | 1.291 |
| 35 | Initiators of wind farm projects underestimate the value of | 35 | 1.012 | -0.212 | 1.225 |
| 13 | Decision making surrounding wind energy is an unpredictable | 13 | -0.107 | -0.815 | 0.708 |
| 23 | It is wrong to take decisions without giving neighbouring re | 23 | 0.834 | 0.145 | 0.689 |
| 9 | Government should give priority to the environment first and | 9 | 0.361 | -0.259 | 0.620 |
| 20 | People are not fooled by public meetings, environmental impa | 20 | 0.504 | 0.037 | 0.467 |
| 39 | It is mainly local community groups that try to thwart the c | 39 | -0.161 | -0.579 | 0.417 |
| 8 | Opponents of wind farms are not willing to compromise so it | 8 | -1.267 | -1.617 | 0.351 |
| 14 | Residents do not want to pay for the nation’s energy problem | 14 | 0.345 | 0.000 | 0.345 |
| 33 | In the end, it is the cost of oil and electricity that will | 33 | 0.093 | -0.198 | 0.291 |
| 18 | Before building wind farms all over the country, energy effi | 18 | 1.756 | 1.592 | 0.164 |
| 28 | The local community should be able to exert its influence in | 28 | 0.637 | 0.594 | 0.044 |
| 44 | It is mainly environmental organisations that frustrate the | 44 | -0.760 | -0.730 | -0.030 |
| 36 | Everyone prefers that new infrastructure like wind farms are | 36 | 0.834 | 0.966 | -0.132 |
| 29 | Planning processes must be carried out rapidly in order to n | 29 | -0.760 | -0.575 | -0.186 |
| 38 | Local support is important for the successful implementation | 38 | 0.181 | 0.429 | -0.248 |
| 1 | It is usually individuals, like landowners, that block the c | 1 | -0.090 | 0.231 | -0.322 |

| | | | | | |
|---|---|---|---|---|---|
| 47 | More citizen participation leads to even more opposition tow | 47 | -0.755 | -0.367 | -0.388 |
| 48 | Public participation determines whether conflicts are solved | 48 | -0.668 | -0.238 | -0.430 |
| 26 | Every local authority would rather have wind farms built in | 26 | -0.758 | -0.264 | -0.494 |
| 25 | Decisions on wind farms cannot be made by governments alone, | 25 | 0.979 | 1.492 | -0.513 |
| 5 | Incentives should be given to the wind industry (not the com | 5 | -0.596 | 0.185 | -0.782 |
| 24 | Growing energy demand and increasing environmental problems | 24 | 0.760 | 1.557 | -0.796 |
| 32 | The problem with public input is that it is mainly based on | 32 | -0.919 | -0.090 | -0.829 |
| 43 | Offering financial participation in wind projects or green e | 43 | -0.432 | 0.469 | -0.902 |
| 40 | Local opposition to wind farms is mostly caused by the lack | 40 | -1.086 | -0.127 | -0.959 |
| 16 | Decisions made with the approval of the local community are | 16 | 0.851 | 2.021 | -1.170 |
| 10 | The input from the public during a public participation proc | 10 | 0.164 | 1.369 | -1.205 |
| 19 | Involving potential opponents to a wind farm in a timely man | 19 | 0.000 | 1.273 | -1.273 |
| 22 | Government should be able to go ahead anyway when local auth | 22 | -1.918 | -0.429 | -1.489 |
| 30 | If good arguments exist for constructing a wind farm in a lo | 30 | -1.010 | 0.534 | -1.544 |
| 21 | The 12 wind turbines planned will look better than the 20 di | 21 | -0.314 | 1.334 | -1.648 |
| 3 | Public participation makes the decision making process more | 3 | -1.521 | 0.220 | -1.740 |
| 31 | Professional and scientific expertise ought to play a decisi | 31 | 0.000 | 1.757 | -1.757 |
| 11 | Local opposition to a wind farm is nothing more than defendi | 11 | -1.606 | 0.156 | -1.762 |
| 2 | Although local opposition to wind projects is quite normal, | 2 | -0.922 | 0.971 | -1.893 |
| 7 | It is not participation in decision making that is important | 7 | -1.445 | 0.537 | -1.982 |
| 15 | Slow implementation of wind energy is usually a result of un | 15 | -0.925 | 1.111 | -2.035 |
| 27 | The compromise of the Bahrija landscape is a sacrifice that | 27 | -2.202 | 0.452 | -2.655 |

**Descending Array of Differences Between Factors 2 and 5**

| No. | Statement | No. | Type 2 | Type 5 | Difference |
|---|---|---|---|---|---|
| 6 | Most of the time, stakeholders are insufficiently involved d | 6 | 1.103 | -2.200 | 3.302 |
| 36 | Everyone prefers that new infrastructure like wind farms are | 36 | 0.834 | -1.760 | 2.594 |
| 49 | The small amount of clean energy that wind farms generate do | 49 | 2.022 | -0.440 | 2.462 |
| 45 | Local government does not seem capable of properly handling | 45 | 1.171 | -0.880 | 2.051 |
| 20 | People are not fooled by public meetings, environmental impa | 20 | 0.504 | -1.320 | 1.823 |
| 37 | We cannot do anything about climate change anyway, so it is | 37 | -0.074 | -1.760 | 1.686 |
| 10 | The input from the public during a public participation proc | 10 | 0.164 | -1.320 | 1.484 |
| 35 | Initiators of wind farm projects underestimate the value of | 35 | 1.012 | -0.440 | 1.452 |
| 4 | Wind farms are noisy and visually unacceptable. | 4 | 1.699 | 0.440 | 1.259 |
| 17 | It is useless to try and exert influence on the implementati | 17 | 1.010 | 0.000 | 1.010 |
| 33 | In the end, it is the cost of oil and electricity that will | 33 | 0.093 | -0.880 | 0.973 |
| 12 | Local power companies have no understanding of public partic | 12 | 0.922 | 0.000 | 0.922 |
| 14 | Residents do not want to pay for the nation's energy problem | 14 | 0.345 | -0.440 | 0.785 |
| 13 | Decision making surrounding wind energy is an unpredictable | 13 | -0.107 | -0.880 | 0.773 |
| 46 | Local interests are not taken into account at the national l | 46 | 0.851 | 0.440 | 0.411 |

| | | | | | |
|---|---|---|---|---|---|
| 30 | If good arguments exist for constructing a wind farm in a lo | 30 | -1.010 | -1.320 | 0.310 |
| 39 | It is mainly local community groups that try to thwart the c | 39 | -0.161 | -0.440 | 0.278 |
| 28 | The local community should be able to exert its influence in | 28 | 0.637 | 0.440 | 0.197 |
| 34 | Financial support geared towards solar energy is better than | 34 | 1.029 | 0.880 | 0.149 |
| 26 | Every local authority would rather have wind farms built in | 26 | -0.758 | -0.880 | 0.122 |
| 44 | It is mainly environmental organisations that frustrate the | 44 | -0.760 | -0.880 | 0.119 |
| 31 | Professional and scientific expertise ought to play a decisi | 31 | 0.000 | 0.000 | 0.000 |
| 18 | Before building wind farms all over the country, energy effi | 18 | 1.756 | 1.760 | -0.004 |
| 15 | Slow implementation of wind energy is usually a result of un | 15 | -0.925 | -0.880 | -0.045 |
| 23 | It is wrong to take decisions without giving neighbouring re | 23 | 0.834 | 0.880 | -0.046 |
| 24 | Growing energy demand and increasing environmental problems | 24 | 0.760 | 0.880 | -0.119 |
| 42 | Onshore wind energy plans should be abandoned in Malta. The | 42 | 0.753 | 0.880 | -0.127 |
| 25 | Decisions on wind farms cannot be made by governments alone, | 25 | 0.979 | 1.320 | -0.341 |
| 43 | Offering financial participation in wind projects or green e | 43 | -0.432 | 0.000 | -0.432 |
| 1 | It is usually individuals, like landowners, that block the c | 1 | -0.090 | 0.440 | -0.530 |
| 5 | Incentives should be given to the wind industry (not the com | 5 | -0.596 | 0.000 | -0.596 |
| 22 | Government should be able to go ahead anyway when local auth | 22 | -1.918 | -1.320 | -0.598 |
| 48 | Public participation determines whether conflicts are solved | 48 | -0.668 | 0.000 | -0.668 |
| 38 | Local support is important for the successful implementation | 38 | 0.181 | 0.880 | -0.699 |
| 21 | The 12 wind turbines planned will look better than the 20 di | 21 | -0.314 | 0.440 | -0.754 |
| 47 | More citizen participation leads to even more opposition tow | 47 | -0.755 | 0.000 | -0.755 |
| 29 | Planning processes must be carried out rapidly in order to n | 29 | -0.760 | 0.000 | -0.760 |
| 8 | Opponents of wind farms are not willing to compromise so it | 8 | -1.267 | -0.440 | -0.827 |
| 2 | Although local opposition to wind projects is quite normal, | 2 | -0.922 | 0.000 | -0.922 |
| 9 | Government should give priority to the environment first and | 9 | 0.361 | 1.320 | -0.959 |
| 3 | Public participation makes the decision making process more | 3 | -1.521 | -0.440 | -1.081 |
| 19 | Involving potential opponents to a wind farm in a timely man | 19 | 0.000 | 1.320 | -1.320 |
| 41 | Wind farms should go in built up areas where people live or | 41 | 0.427 | 1.760 | -1.333 |
| 16 | Decisions made with the approval of the local community are | 16 | 0.851 | 2.200 | -1.349 |
| 27 | The compromise of the Bahrija landscape is a sacrifice that | 27 | -2.202 | -0.440 | -1.762 |
| 7 | It is not participation in decision making that is important | 7 | -1.445 | 0.440 | -1.884 |
| 40 | Local opposition to wind farms is mostly caused by the lack | 40 | -1.086 | 0.880 | -1.966 |
| 11 | Local opposition to a wind farm is nothing more than defendi | 11 | -1.606 | 0.440 | -2.046 |
| 32 | The problem with public input is that it is mainly based on | 32 | -0.919 | 1.320 | -2.239 |

**Descending Array of Differences Between Factors 2 and 6**

| No. | Statement | No. | Type 2 | Type 6 | Difference |
|---|---|---|---|---|---|
| 45 | Local government does not seem capable of properly handling | 45 | 1.171 | -0.736 | 1.907 |

| | | | | | |
|---|---|---|---|---|---|
| 17 | It is useless to try and exert influence on the implementati | 17 | 1.010 | -0.491 | 1.500 |
| 47 | More citizen participation leads to even more opposition tow | 47 | -0.755 | -2.141 | 1.386 |
| 16 | Decisions made with the approval of the local community are | 16 | 0.851 | -0.491 | 1.341 |
| 49 | The small amount of clean energy that wind farms generate do | 49 | 2.022 | 0.736 | 1.286 |
| 21 | The 12 wind turbines planned will look better than the 20 di | 21 | -0.314 | -1.561 | 1.247 |
| 37 | We cannot do anything about climate change anyway, so it is | 37 | -0.074 | -1.227 | 1.153 |
| 34 | Financial support geared towards solar energy is better than | 34 | 1.029 | -0.045 | 1.073 |
| 38 | Local support is important for the successful implementation | 38 | 0.181 | -0.870 | 1.050 |
| 4 | Wind farms are noisy and visually unacceptable. | 4 | 1.699 | 0.870 | 0.829 |
| 24 | Growing energy demand and increasing environmental problems | 24 | 0.760 | 0.000 | 0.760 |
| 15 | Slow implementation of wind energy is usually a result of un | 15 | -0.925 | -1.650 | 0.726 |
| 5 | Incentives should be given to the wind industry (not the com | 5 | -0.596 | -1.316 | 0.719 |
| 33 | In the end, it is the cost of oil and electricity that will | 33 | 0.093 | -0.624 | 0.717 |
| 20 | People are not fooled by public meetings, environmental impa | 20 | 0.504 | -0.201 | 0.704 |
| 12 | Local power companies have no understanding of public partic | 12 | 0.922 | 0.334 | 0.587 |
| 46 | Local interests are not taken into account at the national l | 46 | 0.851 | 0.334 | 0.516 |
| 6 | Most of the time, stakeholders are insufficiently involved d | 6 | 1.103 | 0.736 | 0.367 |
| 44 | It is mainly environmental organisations that frustrate the | 44 | -0.760 | -1.115 | 0.355 |
| 28 | The local community should be able to exert its influence in | 28 | 0.637 | 0.290 | 0.347 |
| 19 | Involving potential opponents to a wind farm in a timely man | 19 | 0.000 | -0.334 | 0.334 |
| 9 | Government should give priority to the environment first and | 9 | 0.361 | 0.045 | 0.317 |
| 41 | Wind farms should go in built up areas where people live or | 41 | 0.427 | 0.134 | 0.293 |
| 35 | Initiators of wind farm projects underestimate the value of | 35 | 1.012 | 0.781 | 0.232 |
| 31 | Professional and scientific expertise ought to play a decisi | 31 | 0.000 | 0.045 | -0.045 |
| 43 | Offering financial participation in wind projects or green e | 43 | -0.432 | -0.379 | -0.053 |
| 10 | The input from the public during a public participation proc | 10 | 0.164 | 0.245 | -0.081 |
| 13 | Decision making surrounding wind energy is an unpredictable | 13 | -0.107 | 0.000 | -0.107 |
| 23 | It is wrong to take decisions without giving neighbouring re | 23 | 0.834 | 1.026 | -0.192 |
| 8 | Opponents of wind farms are not willing to compromise so it | 8 | -1.267 | -1.070 | -0.196 |
| 22 | Government should be able to go ahead anyway when local auth | 22 | -1.918 | -1.695 | -0.223 |
| 2 | Although local opposition to wind projects is quite normal, | 2 | -0.922 | -0.580 | -0.342 |
| 29 | Planning processes must be carried out rapidly in order to n | 29 | -0.760 | -0.290 | -0.471 |
| 30 | If good arguments exist for constructing a wind farm in a lo | 30 | -1.010 | -0.535 | -0.474 |
| 25 | Decisions on wind farms cannot be made by governments alone, | 25 | 0.979 | 1.561 | -0.582 |
| 14 | Residents do not want to pay for the nation’s energy problem | 14 | 0.345 | 1.070 | -0.726 |
| 3 | Public participation makes the decision making process more | 3 | -1.521 | -0.781 | -0.740 |
| 40 | Local opposition to wind farms is mostly caused by the lack | 40 | -1.086 | -0.334 | -0.752 |
| 36 | Everyone prefers that new infrastructure like wind farms are | 36 | 0.834 | 1.650 | -0.816 |
| 18 | Before building wind farms all over the country, energy effi | 18 | 1.756 | 2.676 | -0.920 |
| 39 | It is mainly local community groups that try to thwart the c | 39 | -0.161 | 0.870 | -1.031 |
| 32 | The problem with public input is that it is mainly based on | 32 | -0.919 | 0.201 | -1.120 |
| 7 | It is not participation in decision making that is important | 7 | -1.445 | -0.290 | -1.155 |

| | | | | | |
|---|---|---|---|---|---|
| 42 | Onshore wind energy plans should be abandoned in Malta. The | 42 | 0.753 | 2.141 | -1.388 |
| 1 | It is usually individuals, like landowners, that block the c | 1 | -0.090 | 1.316 | -1.406 |
| 48 | Public participation determines whether conflicts are solved | 48 | -0.668 | 0.825 | -1.493 |
| 26 | Every local authority would rather have wind farms built in | 26 | -0.758 | 0.781 | -1.538 |
| 11 | Local opposition to a wind farm is nothing more than defendi | 11 | -1.606 | -0.045 | -1.561 |
| 27 | The compromise of the Bahrija landscape is a sacrifice that | 27 | -2.202 | 0.134 | -2.336 |

Descending Array of Differences Between Factors 2 and 7

| No. | Statement | No. | Type 2 | Type 7 | Difference |
|---|---|---|---|---|---|
| 23 | It is wrong to take decisions without giving neighbouring re | 23 | 0.834 | -2.200 | 3.034 |
| 28 | The local community should be able to exert its influence in | 28 | 0.637 | -1.760 | 2.397 |
| 49 | The small amount of clean energy that wind farms generate do | 49 | 2.022 | 0.000 | 2.022 |
| 10 | The input from the public during a public participation proc | 10 | 0.164 | -1.760 | 1.924 |
| 41 | Wind farms should go in built up areas where people live or | 41 | 0.427 | -1.320 | 1.747 |
| 16 | Decisions made with the approval of the local community are | 16 | 0.851 | -0.880 | 1.731 |
| 18 | Before building wind farms all over the country, energy effi | 18 | 1.756 | 0.440 | 1.316 |
| 38 | Local support is important for the successful implementation | 38 | 0.181 | -0.880 | 1.060 |
| 31 | Professional and scientific expertise ought to play a decisi | 31 | 0.000 | -0.880 | 0.880 |
| 14 | Residents do not want to pay for the nation's energy problem | 14 | 0.345 | -0.440 | 0.785 |
| 45 | Local government does not seem capable of properly handling | 45 | 1.171 | 0.440 | 0.731 |
| 35 | Initiators of wind farm projects underestimate the value of | 35 | 1.012 | 0.440 | 0.572 |
| 17 | It is useless to try and exert influence on the implementati | 17 | 1.010 | 0.440 | 0.570 |
| 21 | The 12 wind turbines planned will look better than the 20 di | 21 | -0.314 | -0.880 | 0.566 |
| 44 | It is mainly environmental organisations that frustrate the | 44 | -0.760 | -1.320 | 0.559 |
| 12 | Local power companies have no understanding of public partic | 12 | 0.922 | 0.440 | 0.482 |
| 1 | It is usually individuals, like landowners, that block the c | 1 | -0.090 | -0.440 | 0.350 |
| 40 | Local opposition to wind farms is mostly caused by the lack | 40 | -1.086 | -1.320 | 0.234 |
| 6 | Most of the time, stakeholders are insufficiently involved d | 6 | 1.103 | 0.880 | 0.223 |
| 34 | Financial support geared towards solar energy is better than | 34 | 1.029 | 0.880 | 0.149 |
| 47 | More citizen participation leads to even more opposition tow | 47 | -0.755 | -0.880 | 0.125 |
| 25 | Decisions on wind farms cannot be made by governments alone, | 25 | 0.979 | 0.880 | 0.099 |
| 20 | People are not fooled by public meetings, environmental impa | 20 | 0.504 | 0.440 | 0.064 |
| 43 | Offering financial participation in wind projects or green e | 43 | -0.432 | -0.440 | 0.008 |
| 19 | Involving potential opponents to a wind farm in a timely man | 19 | 0.000 | 0.000 | 0.000 |
| 4 | Wind farms are noisy and visually unacceptable. | 4 | 1.699 | 1.760 | -0.061 |
| 37 | We cannot do anything about climate change anyway, so it is | 37 | -0.074 | 0.000 | -0.074 |
| 9 | Government should give priority to the environment first and | 9 | 0.361 | 0.440 | -0.079 |
| 13 | Decision making surrounding wind energy is an unpredictable | 13 | -0.107 | 0.000 | -0.107 |
| 42 | Onshore wind energy plans should be abandoned in Malta. The | 42 | 0.753 | 0.880 | -0.127 |

| | | | | | |
|---|---|---|---|---|---|
| 39 | It is mainly local community groups that try to thwart the c | 39 | -0.161 | 0.000 | -0.161 |
| 29 | Planning processes must be carried out rapidly in order to n | 29 | -0.760 | -0.440 | -0.321 |
| 8 | Opponents of wind farms are not willing to compromise so it | 8 | -1.267 | -0.880 | -0.387 |
| 46 | Local interests are not taken into account at the national l | 46 | 0.851 | 1.320 | -0.469 |
| 32 | The problem with public input is that it is mainly based on | 32 | -0.919 | -0.440 | -0.479 |
| 15 | Slow implementation of wind energy is usually a result of un | 15 | -0.925 | -0.440 | -0.485 |
| 36 | Everyone prefers that new infrastructure like wind farms are | 36 | 0.834 | 1.320 | -0.486 |
| 24 | Growing energy demand and increasing environmental problems | 24 | 0.760 | 1.320 | -0.559 |
| 22 | Government should be able to go ahead anyway when local auth | 22 | -1.918 | -1.320 | -0.598 |
| 7 | It is not participation in decision making that is important | 7 | -1.445 | -0.440 | -1.005 |
| 30 | If good arguments exist for constructing a wind farm in a lo | 30 | -1.010 | 0.000 | -1.010 |
| 5 | Incentives should be given to the wind industry (not the com | 5 | -0.596 | 0.880 | -1.476 |
| 3 | Public participation makes the decision making process more | 3 | -1.521 | 0.000 | -1.521 |
| 11 | Local opposition to a wind farm is nothing more than defendi | 11 | -1.606 | 0.000 | -1.606 |
| 26 | Every local authority would rather have wind farms built in | 26 | -0.758 | 0.880 | -1.638 |
| 33 | In the end, it is the cost of oil and electricity that will | 33 | 0.093 | 2.200 | -2.107 |
| 27 | The compromise of the Bahrija landscape is a sacrifice that | 27 | -2.202 | 0.000 | -2.202 |
| 2 | Although local opposition to wind projects is quite normal, | 2 | -0.922 | 1.320 | -2.242 |
| 48 | Public participation determines whether conflicts are solved | 48 | -0.668 | 1.760 | -2.427 |

Descending Array of Differences Between Factors 2 and 8

| No. | Statement | No. | Type 2 | Type 8 | Difference |
|---|---|---|---|---|---|
| 18 | Before building wind farms all over the country, energy effi | 18 | 1.756 | -1.842 | 3.598 |
| 25 | Decisions on wind farms cannot be made by governments alone, | 25 | 0.979 | -1.553 | 2.533 |
| 4 | Wind farms are noisy and visually unacceptable. | 4 | 1.699 | -0.455 | 2.154 |
| 49 | The small amount of clean energy that wind farms generate do | 49 | 2.022 | -0.111 | 2.133 |
| 28 | The local community should be able to exert its influence in | 28 | 0.637 | -1.265 | 1.902 |
| 34 | Financial support geared towards solar energy is better than | 34 | 1.029 | -0.577 | 1.606 |
| 41 | Wind farms should go in built up areas where people live or | 41 | 0.427 | -1.143 | 1.570 |
| 46 | Local interests are not taken into account at the national l | 46 | 0.851 | -0.632 | 1.483 |
| 47 | More citizen participation leads to even more opposition tow | 47 | -0.755 | -2.186 | 1.431 |
| 45 | Local government does not seem capable of properly handling | 45 | 1.171 | 0.000 | 1.171 |
| 17 | It is useless to try and exert influence on the implementati | 17 | 1.010 | 0.000 | 1.010 |
| 6 | Most of the time, stakeholders are insufficiently involved d | 6 | 1.103 | 0.178 | 0.925 |
| 16 | Decisions made with the approval of the local community are | 16 | 0.851 | 0.055 | 0.795 |
| 31 | Professional and scientific expertise ought to play a decisi | 31 | 0.000 | -0.688 | 0.688 |
| 9 | Government should give priority to the environment first and | 9 | 0.361 | -0.289 | 0.650 |
| 20 | People are not fooled by public meetings, environmental impa | 20 | 0.504 | 0.000 | 0.504 |
| 10 | The input from the public during a public participation proc | 10 | 0.164 | -0.289 | 0.453 |

| | | | | | |
|---|---|---|---|---|---|
| 29 | Planning processes must be carried out rapidly in order to n | 29 | -0.760 | -1.210 | 0.449 |
| 48 | Public participation determines whether conflicts are solved | 48 | -0.668 | -1.032 | 0.364 |
| 24 | Growing energy demand and increasing environmental problems | 24 | 0.760 | 0.399 | 0.361 |
| 19 | Involving potential opponents to a wind farm in a timely man | 19 | 0.000 | -0.344 | 0.344 |
| 23 | It is wrong to take decisions without giving neighbouring re | 23 | 0.834 | 0.632 | 0.202 |
| 42 | Onshore wind energy plans should be abandoned in Malta. The | 42 | 0.753 | 0.632 | 0.120 |
| 14 | Residents do not want to pay for the nation's energy problem | 14 | 0.345 | 0.233 | 0.112 |
| 8 | Opponents of wind farms are not willing to compromise so it | 8 | -1.267 | -1.376 | 0.109 |
| 35 | Initiators of wind farm projects underestimate the value of | 35 | 1.012 | 0.921 | 0.091 |
| 38 | Local support is important for the successful implementation | 38 | 0.181 | 0.111 | 0.070 |
| 26 | Every local authority would rather have wind farms built in | 26 | -0.758 | -0.755 | -0.003 |
| 12 | Local power companies have no understanding of public partic | 12 | 0.922 | 0.976 | -0.054 |
| 37 | We cannot do anything about climate change anyway, so it is | 37 | -0.074 | 0.067 | -0.141 |
| 36 | Everyone prefers that new infrastructure like wind farms are | 36 | 0.834 | 1.320 | -0.486 |
| 3 | Public participation makes the decision making process more | 3 | -1.521 | -1.032 | -0.489 |
| 7 | It is not participation in decision making that is important | 7 | -1.445 | -0.921 | -0.524 |
| 44 | It is mainly environmental organisations that frustrate the | 44 | -0.760 | -0.055 | -0.705 |
| 33 | In the end, it is the cost of oil and electricity that will | 33 | 0.093 | 0.866 | -0.773 |
| 1 | It is usually individuals, like landowners, that block the c | 1 | -0.090 | 0.866 | -0.956 |
| 2 | Although local opposition to wind projects is quite normal, | 2 | -0.922 | 0.166 | -1.088 |
| 43 | Offering financial participation in wind projects or green e | 43 | -0.432 | 0.688 | -1.120 |
| 5 | Incentives should be given to the wind industry (not the com | 5 | -0.596 | 0.632 | -1.229 |
| 13 | Decision making surrounding wind energy is an unpredictable | 13 | -0.107 | 1.154 | -1.261 |
| 27 | The compromise of the Bahrija landscape is a sacrifice that | 27 | -2.202 | -0.921 | -1.281 |
| 22 | Government should be able to go ahead anyway when local auth | 22 | -1.918 | -0.522 | -1.396 |
| 39 | It is mainly local community groups that try to thwart the c | 39 | -0.161 | 1.320 | -1.482 |
| 11 | Local opposition to a wind farm is nothing more than defendi | 11 | -1.606 | 0.111 | -1.717 |
| 30 | If good arguments exist for constructing a wind farm in a lo | 30 | -1.010 | 0.921 | -1.931 |
| 15 | Slow implementation of wind energy is usually a result of un | 15 | -0.925 | 1.087 | -2.012 |
| 40 | Local opposition to wind farms is mostly caused by the lack | 40 | -1.086 | 1.087 | -2.173 |
| 21 | The 12 wind turbines planned will look better than the 20 di | 21 | -0.314 | 2.585 | -2.900 |
| 32 | The problem with public input is that it is mainly based on | 32 | -0.919 | 2.186 | -3.105 |

**Descending Array of Differences Between Factors 3 and 4**

| No. | Statement | No. | Type 3 | Type 4 | Difference |
|---|---|---|---|---|---|
| 8 | Opponents of wind farms are not willing to compromise so it | 8 | 0.052 | -1.617 | 1.669 |
| 33 | In the end, it is the cost of oil and electricity that will | 33 | 1.455 | -0.198 | 1.653 |
| 34 | Financial support geared towards solar energy is better than | 34 | 0.699 | -0.947 | 1.646 |

| | | | | | |
|---|---|---|---|---|---|
| 41 | Wind farms should go in built up areas where people live or | 41 | 0.122 | -1.492 | 1.614 |
| 29 | Planning processes must be carried out rapidly in order to n | 29 | 0.997 | -0.575 | 1.572 |
| 32 | The problem with public input is that it is mainly based on | 32 | 1.032 | -0.090 | 1.122 |
| 17 | It is useless to try and exert influence on the implementati | 17 | -0.244 | -1.244 | 1.000 |
| 45 | Local government does not seem capable of properly handling | 45 | 0.610 | -0.318 | 0.929 |
| 12 | Local power companies have no understanding of public partic | 12 | -0.366 | -1.243 | 0.878 |
| 46 | Local interests are not taken into account at the national l | 46 | 0.401 | -0.440 | 0.841 |
| 31 | Professional and scientific expertise ought to play a decisi | 31 | 2.519 | 1.757 | 0.762 |
| 18 | Before building wind farms all over the country, energy effi | 18 | 2.310 | 1.592 | 0.718 |
| 14 | Residents do not want to pay for the nation's energy problem | 14 | 0.700 | 0.000 | 0.700 |
| 6 | Most of the time, stakeholders are insufficiently involved d | 6 | -0.370 | -1.061 | 0.692 |
| 22 | Government should be able to go ahead anyway when local auth | 22 | 0.177 | -0.429 | 0.606 |
| 43 | Offering financial participation in wind projects or green e | 43 | 1.067 | 0.469 | 0.598 |
| 3 | Public participation makes the decision making process more | 3 | 0.754 | 0.220 | 0.534 |
| 47 | More citizen participation leads to even more opposition tow | 47 | 0.086 | -0.367 | 0.454 |
| 49 | The small amount of clean energy that wind farms generate do | 49 | -0.855 | -1.297 | 0.442 |
| 40 | Local opposition to wind farms is mostly caused by the lack | 40 | 0.245 | -0.127 | 0.372 |
| 24 | Growing energy demand and increasing environmental problems | 24 | 1.888 | 1.557 | 0.332 |
| 37 | We cannot do anything about  climate change anyway, so it is | 37 | -1.644 | -1.949 | 0.306 |
| 7 | It is not participation in decision making that is important | 7 | 0.823 | 0.537 | 0.286 |
| 4 | Wind farms are noisy and visually unacceptable. | 4 | -1.907 | -2.178 | 0.271 |
| 5 | Incentives should be given to the wind industry (not the com | 5 | 0.334 | 0.185 | 0.149 |
| 39 | It is mainly local community groups that try to thwart the c | 39 | -0.455 | -0.579 | 0.124 |
| 35 | Initiators of wind farm projects underestimate the value of | 35 | -0.176 | -0.212 | 0.036 |
| 30 | If good arguments exist for constructing a wind farm in a lo | 30 | 0.543 | 0.534 | 0.009 |
| 26 | Every local authority would rather have wind farms built in | 26 | -0.333 | -0.264 | -0.069 |
| 11 | Local opposition to a wind farm is nothing more than defendi | 11 | 0.001 | 0.156 | -0.155 |
| 9 | Government should give priority to the environment first and | 9 | -0.544 | -0.259 | -0.285 |
| 20 | People are not fooled by public meetings, environmental impa | 20 | -0.509 | 0.037 | -0.545 |
| 21 | The 12 wind turbines planned will look better than the 20 di | 21 | 0.752 | 1.334 | -0.582 |
| 23 | It is wrong to take decisions without giving neighbouring re | 23 | -0.542 | 0.145 | -0.687 |
| 1 | It is usually individuals, like landowners, that block the c | 1 | -0.456 | 0.231 | -0.687 |
| 38 | Local support is important for the successful implementation | 38 | -0.333 | 0.429 | -0.762 |
| 36 | Everyone prefers that new infrastructure like wind farms are | 36 | 0.158 | 0.966 | -0.809 |
| 10 | The input from the public during a public participation proc | 10 | 0.543 | 1.369 | -0.826 |
| 44 | It is mainly environmental organisations that frustrate the | 44 | -1.611 | -0.730 | -0.880 |
| 2 | Although local opposition to wind projects is quite normal, | 2 | 0.088 | 0.971 | -0.884 |
| 28 | The local community should be able to exert its influence in | 28 | -0.420 | 0.594 | -1.014 |
| 48 | Public participation determines whether conflicts are solved | 48 | -1.277 | -0.238 | -1.039 |
| 42 | Onshore wind energy plans should be abandoned in Malta. The | 42 | -1.820 | -0.761 | -1.060 |
| 15 | Slow implementation of wind energy is usually a result of un | 15 | 0.018 | 1.111 | -1.092 |
| 13 | Decision making surrounding wind energy is an unpredictable | 13 | -2.065 | -0.815 | -1.250 |

| | | | | | |
|---|---|---|---|---|---|
| 25 | Decisions on wind farms cannot be made by governments alone, | 25 | -0.088 | 1.492 | -1.580 |
| 19 | Involving potential opponents to a wind farm in a timely man | 19 | -0.490 | 1.273 | -1.762 |
| 27 | The compromise of the Bahrija landscape is a sacrifice that | 27 | -1.364 | 0.452 | -1.816 |
| 16 | Decisions made with the approval of the local community are | 16 | -0.507 | 2.021 | -2.529 |

Descending Array of Differences Between Factors 3 and 5

| No. | Statement | No. | Type 3 | Type 5 | Difference |
|---|---|---|---|---|---|
| 31 | Professional and scientific expertise ought to play a decisi | 31 | 2.519 | 0.000 | 2.519 |
| 33 | In the end, it is the cost of oil and electricity that will | 33 | 1.455 | -0.880 | 2.335 |
| 36 | Everyone prefers that new infrastructure like wind farms are | 36 | 0.158 | -1.760 | 1.917 |
| 30 | If good arguments exist for constructing a wind farm in a lo | 30 | 0.543 | -1.320 | 1.863 |
| 10 | The input from the public during a public participation proc | 10 | 0.543 | -1.320 | 1.863 |
| 6 | Most of the time, stakeholders are insufficiently involved d | 6 | -0.370 | -2.200 | 1.830 |
| 22 | Government should be able to go ahead anyway when local auth | 22 | 0.177 | -1.320 | 1.497 |
| 45 | Local government does not seem capable of properly handling | 45 | 0.610 | -0.880 | 1.490 |
| 3 | Public participation makes the decision making process more | 3 | 0.754 | -0.440 | 1.194 |
| 14 | Residents do not want to pay for the nation's energy problem | 14 | 0.700 | -0.440 | 1.140 |
| 43 | Offering financial participation in wind projects or green e | 43 | 1.067 | 0.000 | 1.067 |
| 24 | Growing energy demand and increasing environmental problems | 24 | 1.888 | 0.880 | 1.008 |
| 29 | Planning processes must be carried out rapidly in order to n | 29 | 0.997 | 0.000 | 0.997 |
| 15 | Slow implementation of wind energy is usually a result of un | 15 | 0.018 | -0.880 | 0.898 |
| 20 | People are not fooled by public meetings, environmental impa | 20 | -0.509 | -1.320 | 0.811 |
| 18 | Before building wind farms all over the country, energy effi | 18 | 2.310 | 1.760 | 0.550 |
| 26 | Every local authority would rather have wind farms built in | 26 | -0.333 | -0.880 | 0.547 |
| 8 | Opponents of wind farms are not willing to compromise so it | 8 | 0.052 | -0.440 | 0.492 |
| 7 | It is not participation in decision making that is important | 7 | 0.823 | 0.440 | 0.383 |
| 5 | Incentives should be given to the wind industry (not the com | 5 | 0.334 | 0.000 | 0.334 |
| 21 | The 12 wind turbines planned will look better than the 20 di | 21 | 0.752 | 0.440 | 0.313 |
| 35 | Initiators of wind farm projects underestimate the value of | 35 | -0.176 | -0.440 | 0.264 |
| 37 | We cannot do anything about climate change anyway, so it is | 37 | -1.644 | -1.760 | 0.116 |
| 2 | Although local opposition to wind projects is quite normal, | 2 | 0.088 | 0.000 | 0.088 |
| 47 | More citizen participation leads to even more opposition tow | 47 | 0.086 | 0.000 | 0.086 |
| 39 | It is mainly local community groups that try to thwart the c | 39 | -0.455 | -0.440 | -0.015 |
| 46 | Local interests are not taken into account at the national l | 46 | 0.401 | 0.440 | -0.039 |
| 34 | Financial support geared towards solar energy is better than | 34 | 0.699 | 0.880 | -0.181 |
| 17 | It is useless to try and exert influence on the implementati | 17 | -0.244 | 0.000 | -0.244 |
| 32 | The problem with public input is that it is mainly based on | 32 | 1.032 | 1.320 | -0.288 |
| 12 | Local power companies have no understanding of public partic | 12 | -0.366 | 0.000 | -0.366 |
| 49 | The small amount of clean energy that wind farms generate do | 49 | -0.855 | -0.440 | -0.415 |
| 11 | Local opposition to a wind farm is nothing more than defendi | 11 | 0.001 | 0.440 | -0.439 |

| | | | | | |
|---|---|---|---|---|---|
| 40 | Local opposition to wind farms is mostly caused by the lack | 40 | 0.245 | 0.880 | -0.635 |
| 44 | It is mainly environmental organisations that frustrate the | 44 | -1.611 | -0.880 | -0.731 |
| 28 | The local community should be able to exert its influence in | 28 | -0.420 | 0.440 | -0.860 |
| 1 | It is usually individuals, like landowners, that block the c | 1 | -0.456 | 0.440 | -0.896 |
| 27 | The compromise of the Bahrija landscape is a sacrifice that | 27 | -1.364 | -0.440 | -0.924 |
| 13 | Decision making surrounding wind energy is an unpredictable | 13 | -2.065 | -0.880 | -1.186 |
| 38 | Local support is important for the successful implementation | 38 | -0.333 | 0.880 | -1.213 |
| 48 | Public participation determines whether conflicts are solved | 48 | -1.277 | 0.000 | -1.277 |
| 25 | Decisions on wind farms cannot be made by governments alone, | 25 | -0.088 | 1.320 | -1.407 |
| 23 | It is wrong to take decisions without giving neighbouring re | 23 | -0.542 | 0.880 | -1.422 |
| 41 | Wind farms should go in built up areas where people live or | 41 | 0.122 | 1.760 | -1.638 |
| 19 | Involving potential opponents to a wind farm in a timely man | 19 | -0.490 | 1.320 | -1.810 |
| 9 | Government should give priority to the environment first and | 9 | -0.544 | 1.320 | -1.864 |
| 4 | Wind farms are noisy and visually unacceptable. | 4 | -1.907 | 0.440 | -2.347 |
| 42 | Onshore wind energy plans should be abandoned in Malta. The | 42 | -1.820 | 0.880 | -2.700 |
| 16 | Decisions made with the approval of the local community are | 16 | -0.507 | 2.200 | -2.707 |

Descending Array of Differences Between Factors 3 and 6

| No. | Statement | No. | Type 3 | Type 6 | Difference |
|---|---|---|---|---|---|
| 31 | Professional and scientific expertise ought to play a decisi | 31 | 2.519 | 0.045 | 2.475 |
| 21 | The 12 wind turbines planned will look better than the 20 di | 21 | 0.752 | -1.561 | 2.314 |
| 47 | More citizen participation leads to even more opposition tow | 47 | 0.086 | -2.141 | 2.227 |
| 33 | In the end, it is the cost of oil and electricity that will | 33 | 1.455 | -0.624 | 2.079 |
| 24 | Growing energy demand and increasing environmental problems | 24 | 1.888 | 0.000 | 1.888 |
| 22 | Government should be able to go ahead anyway when local auth | 22 | 0.177 | -1.695 | 1.872 |
| 15 | Slow implementation of wind energy is usually a result of un | 15 | 0.018 | -1.650 | 1.669 |
| 5 | Incentives should be given to the wind industry (not the com | 5 | 0.334 | -1.316 | 1.650 |
| 3 | Public participation makes the decision making process more | 3 | 0.754 | -0.781 | 1.534 |
| 43 | Offering financial participation in wind projects or green e | 43 | 1.067 | -0.379 | 1.446 |
| 45 | Local government does not seem capable of properly handling | 45 | 0.610 | -0.736 | 1.346 |
| 29 | Planning processes must be carried out rapidly in order to n | 29 | 0.997 | -0.290 | 1.287 |
| 8 | Opponents of wind farms are not willing to compromise so it | 8 | 0.052 | -1.070 | 1.122 |
| 7 | It is not participation in decision making that is important | 7 | 0.823 | -0.290 | 1.113 |
| 30 | If good arguments exist for constructing a wind farm in a lo | 30 | 0.543 | -0.535 | 1.078 |
| 32 | The problem with public input is that it is mainly based on | 32 | 1.032 | 0.201 | 0.831 |
| 34 | Financial support geared towards solar energy is better than | 34 | 0.699 | -0.045 | 0.743 |
| 2 | Although local opposition to wind projects is quite normal, | 2 | 0.088 | -0.580 | 0.667 |
| 40 | Local opposition to wind farms is mostly caused by the lack | 40 | 0.245 | -0.334 | 0.580 |
| 38 | Local support is important for the successful implementation | 38 | -0.333 | -0.870 | 0.536 |
| 10 | The input from the public during a public participation proc | 10 | 0.543 | 0.245 | 0.298 |

| | | | | | |
|---|---|---|---|---|---|
| 17 | It is useless to try and exert influence on the implementati | 17 | -0.244 | -0.491 | 0.246 |
| 46 | Local interests are not taken into account at the national l | 46 | 0.401 | 0.334 | 0.066 |
| 11 | Local opposition to a wind farm is nothing more than defendi | 11 | 0.001 | -0.045 | 0.046 |
| 41 | Wind farms should go in built up areas where people live or | 41 | 0.122 | 0.134 | -0.012 |
| 16 | Decisions made with the approval of the local community are | 16 | -0.507 | -0.491 | -0.017 |
| 19 | Involving potential opponents to a wind farm in a timely man | 19 | -0.490 | -0.334 | -0.155 |
| 20 | People are not fooled by public meetings, environmental impa | 20 | -0.509 | -0.201 | -0.308 |
| 18 | Before building wind farms all over the country, energy effi | 18 | 2.310 | 2.676 | -0.366 |
| 14 | Residents do not want to pay for the nation's energy problem | 14 | 0.700 | 1.070 | -0.371 |
| 37 | We cannot do anything about climate change anyway, so it is | 37 | -1.644 | -1.227 | -0.417 |
| 44 | It is mainly environmental organisations that frustrate the | 44 | -1.611 | -1.115 | -0.496 |
| 9 | Government should give priority to the environment first and | 9 | -0.544 | 0.045 | -0.589 |
| 12 | Local power companies have no understanding of public partic | 12 | -0.366 | 0.334 | -0.700 |
| 28 | The local community should be able to exert its influence in | 28 | -0.420 | 0.290 | -0.710 |
| 35 | Initiators of wind farm projects underestimate the value of | 35 | -0.176 | 0.781 | -0.957 |
| 6 | Most of the time, stakeholders are insufficiently involved d | 6 | -0.370 | 0.736 | -1.106 |
| 26 | Every local authority would rather have wind farms built in | 26 | -0.333 | 0.781 | -1.114 |
| 39 | It is mainly local community groups that try to thwart the c | 39 | -0.455 | 0.870 | -1.324 |
| 36 | Everyone prefers that new infrastructure like wind farms are | 36 | 0.158 | 1.650 | -1.493 |
| 27 | The compromise of the Bahrija landscape is a sacrifice that | 27 | -1.364 | 0.134 | -1.497 |
| 23 | It is wrong to take decisions without giving neighbouring re | 23 | -0.542 | 1.026 | -1.568 |
| 49 | The small amount of clean energy that wind farms generate do | 49 | -0.855 | 0.736 | -1.591 |
| 25 | Decisions on wind farms cannot be made by governments alone, | 25 | -0.088 | 1.561 | -1.649 |
| 1 | It is usually individuals, like landowners, that block the c | 1 | -0.456 | 1.316 | -1.772 |
| 13 | Decision making surrounding wind energy is an unpredictable | 13 | -2.065 | 0.000 | -2.065 |
| 48 | Public participation determines whether conflicts are solved | 48 | -1.277 | 0.825 | -2.102 |
| 4 | Wind farms are noisy and visually unacceptable. | 4 | -1.907 | 0.870 | -2.777 |
| 42 | Onshore wind energy plans should be abandoned in Malta. The | 42 | -1.820 | 2.141 | -3.961 |



Descending Array of Differences Between Factors 3 and 7

| No. | Statement | No. | Type 3 | Type 7 | Difference |
|---|---|---|---|---|---|
| 31 | Professional and scientific expertise ought to play a decisi | 31 | 2.519 | -0.880 | 3.399 |
| 10 | The input from the public during a public participation proc | 10 | 0.543 | -1.760 | 2.303 |
| 18 | Before building wind farms all over the country, energy effi | 18 | 2.310 | 0.440 | 1.870 |
| 23 | It is wrong to take decisions without giving neighbouring re | 23 | -0.542 | -2.200 | 1.658 |
| 21 | The 12 wind turbines planned will look better than the 20 di | 21 | 0.752 | -0.880 | 1.632 |

| | | | | | |
|---|---|---|---|---|---|
| 40 | Local opposition to wind farms is mostly caused by the lack | 40 | 0.245 | -1.320 | 1.565 |
| 43 | Offering financial participation in wind projects or green e | 43 | 1.067 | -0.440 | 1.507 |
| 22 | Government should be able to go ahead anyway when local auth | 22 | 0.177 | -1.320 | 1.497 |
| 32 | The problem with public input is that it is mainly based on | 32 | 1.032 | -0.440 | 1.472 |
| 41 | Wind farms should go in built up areas where people live or | 41 | 0.122 | -1.320 | 1.442 |
| 29 | Planning processes must be carried out rapidly in order to n | 29 | 0.997 | -0.440 | 1.437 |
| 28 | The local community should be able to exert its influence in | 28 | -0.420 | -1.760 | 1.339 |
| 7 | It is not participation in decision making that is important | 7 | 0.823 | -0.440 | 1.263 |
| 14 | Residents do not want to pay for the nation's energy problem | 14 | 0.700 | -0.440 | 1.140 |
| 47 | More citizen participation leads to even more opposition tow | 47 | 0.086 | -0.880 | 0.966 |
| 8 | Opponents of wind farms are not willing to compromise so it | 8 | 0.052 | -0.880 | 0.932 |
| 3 | Public participation makes the decision making process more | 3 | 0.754 | 0.000 | 0.754 |
| 24 | Growing energy demand and increasing environmental problems | 24 | 1.888 | 1.320 | 0.569 |
| 38 | Local support is important for the successful implementation | 38 | -0.333 | -0.880 | 0.547 |
| 30 | If good arguments exist for constructing a wind farm in a lo | 30 | 0.543 | 0.000 | 0.543 |
| 15 | Slow implementation of wind energy is usually a result of un | 15 | 0.018 | -0.440 | 0.458 |
| 16 | Decisions made with the approval of the local community are | 16 | -0.507 | -0.880 | 0.373 |
| 45 | Local government does not seem capable of properly handling | 45 | 0.610 | 0.440 | 0.171 |
| 11 | Local opposition to a wind farm is nothing more than defendi | 11 | 0.001 | 0.000 | 0.001 |
| 1 | It is usually individuals, like landowners, that block the c | 1 | -0.456 | -0.440 | -0.016 |
| 34 | Financial support geared towards solar energy is better than | 34 | 0.699 | 0.880 | -0.181 |
| 44 | It is mainly environmental organisations that frustrate the | 44 | -1.611 | -1.320 | -0.291 |
| 39 | It is mainly local community groups that try to thwart the c | 39 | -0.455 | 0.000 | -0.455 |
| 19 | Involving potential opponents to a wind farm in a timely man | 19 | -0.490 | 0.000 | -0.490 |
| 5 | Incentives should be given to the wind industry (not the com | 5 | 0.334 | 0.880 | -0.546 |
| 35 | Initiators of wind farm projects underestimate the value of | 35 | -0.176 | 0.440 | -0.616 |
| 17 | It is useless to try and exert influence on the implementati | 17 | -0.244 | 0.440 | -0.684 |
| 33 | In the end, it is the cost of oil and electricity that will | 33 | 1.455 | 2.200 | -0.745 |
| 12 | Local power companies have no understanding of public partic | 12 | -0.366 | 0.440 | -0.806 |
| 49 | The small amount of clean energy that wind farms generate do | 49 | -0.855 | 0.000 | -0.855 |
| 46 | Local interests are not taken into account at the national l | 46 | 0.401 | 1.320 | -0.919 |
| 20 | People are not fooled by public meetings, environmental impa | 20 | -0.509 | 0.440 | -0.949 |
| 25 | Decisions on wind farms cannot be made by governments alone, | 25 | -0.088 | 0.880 | -0.968 |
| 9 | Government should give priority to the environment first and | 9 | -0.544 | 0.440 | -0.984 |
| 36 | Everyone prefers that new infrastructure like wind farms are | 36 | 0.158 | 1.320 | -1.162 |
| 26 | Every local authority would rather have wind farms built in | 26 | -0.333 | 0.880 | -1.213 |
| 2 | Although local opposition to wind projects is quite normal, | 2 | 0.088 | 1.320 | -1.232 |
| 6 | Most of the time, stakeholders are insufficiently involved d | 6 | -0.370 | 0.880 | -1.249 |
| 27 | The compromise of the Bahrija landscape is a sacrifice that | 27 | -1.364 | 0.000 | -1.364 |
| 37 | We cannot do anything about  climate change anyway, so it is | 37 | -1.644 | 0.000 | -1.644 |
| 13 | Decision making surrounding wind energy is an unpredictable | 13 | -2.065 | 0.000 | -2.065 |
| 42 | Onshore wind energy plans should be abandoned in Malta. The | 42 | -1.820 | 0.880 | -2.700 |

| | | | | | |
|---|---|---|---|---|---|
| 48 | Public participation determines whether conflicts are solved | 48 | -1.277 | 1.760 | -3.036 |
| 4 | Wind farms are noisy and visually unacceptable. | 4 | -1.907 | 1.760 | -3.667 |



Descending Array of Differences Between Factors 3 and 8

| No. | Statement | No. | Type 3 | Type 8 | Difference |
|---|---|---|---|---|---|
| 18 | Before building wind farms all over the country, energy effi | 18 | 2.310 | -1.842 | 4.152 |
| 31 | Professional and scientific expertise ought to play a decisi | 31 | 2.519 | -0.688 | 3.207 |
| 47 | More citizen participation leads to even more opposition tow | 47 | 0.086 | -2.186 | 2.272 |
| 29 | Planning processes must be carried out rapidly in order to n | 29 | 0.997 | -1.210 | 2.207 |
| 3 | Public participation makes the decision making process more | 3 | 0.754 | -1.032 | 1.786 |
| 7 | It is not participation in decision making that is important | 7 | 0.823 | -0.921 | 1.744 |
| 24 | Growing energy demand and increasing environmental problems | 24 | 1.888 | 0.399 | 1.489 |
| 25 | Decisions on wind farms cannot be made by governments alone, | 25 | -0.088 | -1.553 | 1.466 |
| 8 | Opponents of wind farms are not willing to compromise so it | 8 | 0.052 | -1.376 | 1.428 |
| 34 | Financial support geared towards solar energy is better than | 34 | 0.699 | -0.577 | 1.276 |
| 41 | Wind farms should go in built up areas where people live or | 41 | 0.122 | -1.143 | 1.265 |
| 46 | Local interests are not taken into account at the national l | 46 | 0.401 | -0.632 | 1.033 |
| 28 | The local community should be able to exert its influence in | 28 | -0.420 | -1.265 | 0.844 |
| 10 | The input from the public during a public participation proc | 10 | 0.543 | -0.289 | 0.831 |
| 22 | Government should be able to go ahead anyway when local auth | 22 | 0.177 | -0.522 | 0.699 |
| 45 | Local government does not seem capable of properly handling | 45 | 0.610 | 0.000 | 0.610 |
| 33 | In the end, it is the cost of oil and electricity that will | 33 | 1.455 | 0.866 | 0.589 |
| 14 | Residents do not want to pay for the nation’s energy problem | 14 | 0.700 | 0.233 | 0.467 |
| 26 | Every local authority would rather have wind farms built in | 26 | -0.333 | -0.755 | 0.422 |
| 43 | Offering financial participation in wind projects or green e | 43 | 1.067 | 0.688 | 0.379 |
| 2 | Although local opposition to wind projects is quite normal, | 2 | 0.088 | 0.166 | -0.079 |
| 11 | Local opposition to a wind farm is nothing more than defendi | 11 | 0.001 | 0.111 | -0.110 |
| 19 | Involving potential opponents to a wind farm in a timely man | 19 | -0.490 | -0.344 | -0.146 |
| 17 | It is useless to try and exert influence on the implementati | 17 | -0.244 | 0.000 | -0.244 |
| 48 | Public participation determines whether conflicts are solved | 48 | -1.277 | -1.032 | -0.245 |
| 9 | Government should give priority to the environment first and | 9 | -0.544 | -0.289 | -0.256 |
| 5 | Incentives should be given to the wind industry (not the com | 5 | 0.334 | 0.632 | -0.299 |
| 30 | If good arguments exist for constructing a wind farm in a lo | 30 | 0.543 | 0.921 | -0.378 |
| 27 | The compromise of the Bahrija landscape is a sacrifice that | 27 | -1.364 | -0.921 | -0.443 |
| 38 | Local support is important for the successful implementation | 38 | -0.333 | 0.111 | -0.444 |
| 20 | People are not fooled by public meetings, environmental impa | 20 | -0.509 | 0.000 | -0.509 |

| | | | | | |
|---|---|---|---|---|---|
| 6 | Most of the time, stakeholders are insufficiently involved d | 6 | -0.370 | 0.178 | -0.547 |
| 16 | Decisions made with the approval of the local community are | 16 | -0.507 | 0.055 | -0.563 |
| 49 | The small amount of clean energy that wind farms generate do | 49 | -0.855 | -0.111 | -0.744 |
| 40 | Local opposition to wind farms is mostly caused by the lack | 40 | 0.245 | 1.087 | -0.842 |
| 15 | Slow implementation of wind energy is usually a result of un | 15 | 0.018 | 1.087 | -1.069 |
| 35 | Initiators of wind farm projects underestimate the value of | 35 | -0.176 | 0.921 | -1.097 |
| 32 | The problem with public input is that it is mainly based on | 32 | 1.032 | 2.186 | -1.154 |
| 36 | Everyone prefers that new infrastructure like wind farms are | 36 | 0.158 | 1.320 | -1.163 |
| 23 | It is wrong to take decisions without giving neighbouring re | 23 | -0.542 | 0.632 | -1.174 |
| 1 | It is usually individuals, like landowners, that block the c | 1 | -0.456 | 0.866 | -1.322 |
| 12 | Local power companies have no understanding of public partic | 12 | -0.366 | 0.976 | -1.342 |
| 4 | Wind farms are noisy and visually unacceptable. | 4 | -1.907 | -0.455 | -1.452 |
| 44 | It is mainly environmental organisations that frustrate the | 44 | -1.611 | -0.055 | -1.555 |
| 37 | We cannot do anything about climate change anyway, so it is | 37 | -1.644 | 0.067 | -1.711 |
| 39 | It is mainly local community groups that try to thwart the c | 39 | -0.455 | 1.320 | -1.775 |
| 21 | The 12 wind turbines planned will look better than the 20 di | 21 | 0.752 | 2.585 | -1.833 |
| 42 | Onshore wind energy plans should be abandoned in Malta. The | 42 | -1.820 | 0.632 | -2.453 |
| 13 | Decision making surrounding wind energy is an unpredictable | 13 | -2.065 | 1.154 | -3.220 |



Descending Array of Differences Between Factors 4 and 5

| No. | Statement | No. | Type 4 | Type 5 | Difference |
|---|---|---|---|---|---|
| 36 | Everyone prefers that new infrastructure like wind farms are | 36 | 0.966 | -1.760 | 2.726 |
| 10 | The input from the public during a public participation proc | 10 | 1.369 | -1.320 | 2.688 |
| 15 | Slow implementation of wind energy is usually a result of un | 15 | 1.111 | -0.880 | 1.991 |
| 30 | If good arguments exist for constructing a wind farm in a lo | 30 | 0.534 | -1.320 | 1.854 |
| 31 | Professional and scientific expertise ought to play a decisi | 31 | 1.757 | 0.000 | 1.757 |
| 20 | People are not fooled by public meetings, environmental impa | 20 | 0.037 | -1.320 | 1.356 |
| 6 | Most of the time, stakeholders are insufficiently involved d | 6 | -1.061 | -2.200 | 1.139 |
| 2 | Although local opposition to wind projects is quite normal, | 2 | 0.971 | 0.000 | 0.971 |
| 21 | The 12 wind turbines planned will look better than the 20 di | 21 | 1.334 | 0.440 | 0.894 |
| 27 | The compromise of the Bahrija landscape is a sacrifice that | 27 | 0.452 | -0.440 | 0.892 |
| 22 | Government should be able to go ahead anyway when local auth | 22 | -0.429 | -1.320 | 0.891 |
| 33 | In the end, it is the cost of oil and electricity that will | 33 | -0.198 | -0.880 | 0.682 |
| 24 | Growing energy demand and increasing environmental problems | 24 | 1.557 | 0.880 | 0.677 |
| 3 | Public participation makes the decision making process more | 3 | 0.220 | -0.440 | 0.659 |
| 26 | Every local authority would rather have wind farms built in | 26 | -0.264 | -0.880 | 0.616 |

| | | | | | |
|---|---|---|---|---|---|
| 45 | Local government does not seem capable of properly handling | 45 | -0.318 | -0.880 | 0.561 |
| 43 | Offering financial participation in wind projects or green e | 43 | 0.469 | 0.000 | 0.469 |
| 14 | Residents do not want to pay for the nation's energy problem | 14 | 0.000 | -0.440 | 0.440 |
| 35 | Initiators of wind farm projects underestimate the value of | 35 | -0.212 | -0.440 | 0.228 |
| 5 | Incentives should be given to the wind industry (not the com | 5 | 0.185 | 0.000 | 0.185 |
| 25 | Decisions on wind farms cannot be made by governments alone, | 25 | 1.492 | 1.320 | 0.172 |
| 28 | The local community should be able to exert its influence in | 28 | 0.594 | 0.440 | 0.154 |
| 44 | It is mainly environmental organisations that frustrate the | 44 | -0.730 | -0.880 | 0.150 |
| 7 | It is not participation in decision making that is important | 7 | 0.537 | 0.440 | 0.097 |
| 13 | Decision making surrounding wind energy is an unpredictable | 13 | -0.815 | -0.880 | 0.065 |
| 19 | Involving potential opponents to a wind farm in a timely man | 19 | 1.273 | 1.320 | -0.047 |
| 39 | It is mainly local community groups that try to thwart the c | 39 | -0.579 | -0.440 | -0.139 |
| 18 | Before building wind farms all over the country, energy effi | 18 | 1.592 | 1.760 | -0.167 |
| 16 | Decisions made with the approval of the local community are | 16 | 2.021 | 2.200 | -0.178 |
| 37 | We cannot do anything about climate change anyway, so it is | 37 | -1.949 | -1.760 | -0.190 |
| 1 | It is usually individuals, like landowners, that block the c | 1 | 0.231 | 0.440 | -0.209 |
| 48 | Public participation determines whether conflicts are solved | 48 | -0.238 | 0.000 | -0.238 |
| 11 | Local opposition to a wind farm is nothing more than defendi | 11 | 0.156 | 0.440 | -0.284 |
| 47 | More citizen participation leads to even more opposition tow | 47 | -0.367 | 0.000 | -0.367 |
| 38 | Local support is important for the successful implementation | 38 | 0.429 | 0.880 | -0.451 |
| 29 | Planning processes must be carried out rapidly in order to n | 29 | -0.575 | 0.000 | -0.575 |
| 23 | It is wrong to take decisions without giving neighbouring re | 23 | 0.145 | 0.880 | -0.735 |
| 49 | The small amount of clean energy that wind farms generate do | 49 | -1.297 | -0.440 | -0.857 |
| 46 | Local interests are not taken into account at the national l | 46 | -0.440 | 0.440 | -0.880 |
| 40 | Local opposition to wind farms is mostly caused by the lack | 40 | -0.127 | 0.880 | -1.006 |
| 8 | Opponents of wind farms are not willing to compromise so it | 8 | -1.617 | -0.440 | -1.177 |
| 12 | Local power companies have no understanding of public partic | 12 | -1.243 | 0.000 | -1.243 |
| 17 | It is useless to try and exert influence on the implementati | 17 | -1.244 | 0.000 | -1.244 |
| 32 | The problem with public input is that it is mainly based on | 32 | -0.090 | 1.320 | -1.410 |
| 9 | Government should give priority to the environment first and | 9 | -0.259 | 1.320 | -1.579 |
| 42 | Onshore wind energy plans should be abandoned in Malta. The | 42 | -0.761 | 0.880 | -1.640 |
| 34 | Financial support geared towards solar energy is better than | 34 | -0.947 | 0.880 | -1.827 |
| 4 | Wind farms are noisy and visually unacceptable. | 4 | -2.178 | 0.440 | -2.618 |
| 41 | Wind farms should go in built up areas where people live or | 41 | -1.492 | 1.760 | -3.252 |



Descending Array of Differences Between Factors 4 and 6

| No. | Statement | No. | Type 4 | Type 6 | Difference |
|---|---|---|---|---|---|

| | | | | | |
|---|---|---|---|---|---|
| 21 | The 12 wind turbines planned will look better than the 20 di | 21 | 1.334 | -1.561 | 2.895 |
| 15 | Slow implementation of wind energy is usually a result of un | 15 | 1.111 | -1.650 | 2.761 |
| 16 | Decisions made with the approval of the local community are | 16 | 2.021 | -0.491 | 2.512 |
| 47 | More citizen participation leads to even more opposition tow | 47 | -0.367 | -2.141 | 1.774 |
| 31 | Professional and scientific expertise ought to play a decisi | 31 | 1.757 | 0.045 | 1.713 |
| 19 | Involving potential opponents to a wind farm in a timely man | 19 | 1.273 | -0.334 | 1.607 |
| 24 | Growing energy demand and increasing environmental problems | 24 | 1.557 | 0.000 | 1.557 |
| 2 | Although local opposition to wind projects is quite normal, | 2 | 0.971 | -0.580 | 1.551 |
| 5 | Incentives should be given to the wind industry (not the com | 5 | 0.185 | -1.316 | 1.501 |
| 38 | Local support is important for the successful implementation | 38 | 0.429 | -0.870 | 1.299 |
| 22 | Government should be able to go ahead anyway when local auth | 22 | -0.429 | -1.695 | 1.266 |
| 10 | The input from the public during a public participation proc | 10 | 1.369 | 0.245 | 1.123 |
| 30 | If good arguments exist for constructing a wind farm in a lo | 30 | 0.534 | -0.535 | 1.069 |
| 3 | Public participation makes the decision making process more | 3 | 0.220 | -0.781 | 1.000 |
| 43 | Offering financial participation in wind projects or green e | 43 | 0.469 | -0.379 | 0.848 |
| 7 | It is not participation in decision making that is important | 7 | 0.537 | -0.290 | 0.827 |
| 33 | In the end, it is the cost of oil and electricity that will | 33 | -0.198 | -0.624 | 0.426 |
| 45 | Local government does not seem capable of properly handling | 45 | -0.318 | -0.736 | 0.418 |
| 44 | It is mainly environmental organisations that frustrate the | 44 | -0.730 | -1.115 | 0.385 |
| 27 | The compromise of the Bahrija landscape is a sacrifice that | 27 | 0.452 | 0.134 | 0.319 |
| 28 | The local community should be able to exert its influence in | 28 | 0.594 | 0.290 | 0.304 |
| 20 | People are not fooled by public meetings, environmental impa | 20 | 0.037 | -0.201 | 0.237 |
| 40 | Local opposition to wind farms is mostly caused by the lack | 40 | -0.127 | -0.334 | 0.208 |
| 11 | Local opposition to a wind farm is nothing more than defendi | 11 | 0.156 | -0.045 | 0.200 |
| 25 | Decisions on wind farms cannot be made by governments alone, | 25 | 1.492 | 1.561 | -0.069 |
| 29 | Planning processes must be carried out rapidly in order to n | 29 | -0.575 | -0.290 | -0.285 |
| 32 | The problem with public input is that it is mainly based on | 32 | -0.090 | 0.201 | -0.291 |
| 9 | Government should give priority to the environment first and | 9 | -0.259 | 0.045 | -0.304 |
| 8 | Opponents of wind farms are not willing to compromise so it | 8 | -1.617 | -1.070 | -0.547 |
| 36 | Everyone prefers that new infrastructure like wind farms are | 36 | 0.966 | 1.650 | -0.684 |
| 37 | We cannot do anything about climate change anyway, so it is | 37 | -1.949 | -1.227 | -0.723 |
| 17 | It is useless to try and exert influence on the implementati | 17 | -1.244 | -0.491 | -0.753 |
| 46 | Local interests are not taken into account at the national l | 46 | -0.440 | 0.334 | -0.774 |
| 13 | Decision making surrounding wind energy is an unpredictable | 13 | -0.815 | 0.000 | -0.815 |
| 23 | It is wrong to take decisions without giving neighbouring re | 23 | 0.145 | 1.026 | -0.881 |
| 34 | Financial support geared towards solar energy is better than | 34 | -0.947 | -0.045 | -0.902 |
| 35 | Initiators of wind farm projects underestimate the value of | 35 | -0.212 | 0.781 | -0.993 |
| 26 | Every local authority would rather have wind farms built in | 26 | -0.264 | 0.781 | -1.045 |
| 48 | Public participation determines whether conflicts are solved | 48 | -0.238 | 0.825 | -1.063 |
| 14 | Residents do not want to pay for the nation’s energy problem | 14 | 0.000 | 1.070 | -1.070 |
| 18 | Before building wind farms all over the country, energy effi | 18 | 1.592 | 2.676 | -1.084 |

| | | | | | |
|---|---|---|---|---|---|
| 1 | It is usually individuals, like landowners, that block the c | 1 | 0.231 | 1.316 | -1.084 |
| 39 | It is mainly local community groups that try to thwart the c | 39 | -0.579 | 0.870 | -1.448 |
| 12 | Local power companies have no understanding of public partic | 12 | -1.243 | 0.334 | -1.578 |
| 41 | Wind farms should go in built up areas where people live or | 41 | -1.492 | 0.134 | -1.626 |
| 6 | Most of the time, stakeholders are insufficiently involved d | 6 | -1.061 | 0.736 | -1.797 |
| 49 | The small amount of clean energy that wind farms generate do | 49 | -1.297 | 0.736 | -2.033 |
| 42 | Onshore wind energy plans should be abandoned in Malta. The | 42 | -0.761 | 2.141 | -2.901 |
| 4 | Wind farms are noisy and visually unacceptable. | 4 | -2.178 | 0.870 | -3.048 |



Descending Array of Differences Between Factors 4 and 7

| No. | Statement | No. | Type 4 | Type 7 | Difference |
|---|---|---|---|---|---|
| 10 | The input from the public during a public participation proc | 10 | 1.369 | -1.760 | 3.128 |
| 16 | Decisions made with the approval of the local community are | 16 | 2.021 | -0.880 | 2.901 |
| 31 | Professional and scientific expertise ought to play a decisi | 31 | 1.757 | -0.880 | 2.637 |
| 28 | The local community should be able to exert its influence in | 28 | 0.594 | -1.760 | 2.353 |
| 23 | It is wrong to take decisions without giving neighbouring re | 23 | 0.145 | -2.200 | 2.345 |
| 21 | The 12 wind turbines planned will look better than the 20 di | 21 | 1.334 | -0.880 | 2.214 |
| 15 | Slow implementation of wind energy is usually a result of un | 15 | 1.111 | -0.440 | 1.551 |
| 38 | Local support is important for the successful implementation | 38 | 0.429 | -0.880 | 1.309 |
| 19 | Involving potential opponents to a wind farm in a timely man | 19 | 1.273 | 0.000 | 1.273 |
| 40 | Local opposition to wind farms is mostly caused by the lack | 40 | -0.127 | -1.320 | 1.193 |
| 18 | Before building wind farms all over the country, energy effi | 18 | 1.592 | 0.440 | 1.152 |
| 7 | It is not participation in decision making that is important | 7 | 0.537 | -0.440 | 0.977 |
| 43 | Offering financial participation in wind projects or green e | 43 | 0.469 | -0.440 | 0.909 |
| 22 | Government should be able to go ahead anyway when local auth | 22 | -0.429 | -1.320 | 0.891 |
| 1 | It is usually individuals, like landowners, that block the c | 1 | 0.231 | -0.440 | 0.671 |
| 25 | Decisions on wind farms cannot be made by governments alone, | 25 | 1.492 | 0.880 | 0.612 |
| 44 | It is mainly environmental organisations that frustrate the | 44 | -0.730 | -1.320 | 0.589 |
| 30 | If good arguments exist for constructing a wind farm in a lo | 30 | 0.534 | 0.000 | 0.534 |
| 47 | More citizen participation leads to even more opposition tow | 47 | -0.367 | -0.880 | 0.513 |
| 27 | The compromise of the Bahrija landscape is a sacrifice that | 27 | 0.452 | 0.000 | 0.452 |
| 14 | Residents do not want to pay for the nation’s energy problem | 14 | 0.000 | -0.440 | 0.440 |
| 32 | The problem with public input is that it is mainly based on | 32 | -0.090 | -0.440 | 0.350 |
| 24 | Growing energy demand and increasing environmental problems | 24 | 1.557 | 1.320 | 0.237 |
| 3 | Public participation makes the decision making process more | 3 | 0.220 | 0.000 | 0.220 |
| 11 | Local opposition to a wind farm is nothing more than defendi | 11 | 0.156 | 0.000 | 0.156 |

| | | | | | |
|---|---|---|---|---|---|
| 29 | Planning processes must be carried out rapidly in order to n | 29 | -0.575 | -0.440 | -0.135 |
| 41 | Wind farms should go in built up areas where people live or | 41 | -1.492 | -1.320 | -0.172 |
| 2 | Although local opposition to wind projects is quite normal, | 2 | 0.971 | 1.320 | -0.349 |
| 36 | Everyone prefers that new infrastructure like wind farms are | 36 | 0.966 | 1.320 | -0.354 |
| 20 | People are not fooled by public meetings, environmental impa | 20 | 0.037 | 0.440 | -0.403 |
| 39 | It is mainly local community groups that try to thwart the c | 39 | -0.579 | 0.000 | -0.579 |
| 35 | Initiators of wind farm projects underestimate the value of | 35 | -0.212 | 0.440 | -0.652 |
| 5 | Incentives should be given to the wind industry (not the com | 5 | 0.185 | 0.880 | -0.695 |
| 9 | Government should give priority to the environment first and | 9 | -0.259 | 0.440 | -0.699 |
| 8 | Opponents of wind farms are not willing to compromise so it | 8 | -1.617 | -0.880 | -0.738 |
| 45 | Local government does not seem capable of properly handling | 45 | -0.318 | 0.440 | -0.758 |
| 13 | Decision making surrounding wind energy is an unpredictable | 13 | -0.815 | 0.000 | -0.815 |
| 26 | Every local authority would rather have wind farms built in | 26 | -0.264 | 0.880 | -1.144 |
| 49 | The small amount of clean energy that wind farms generate do | 49 | -1.297 | 0.000 | -1.297 |
| 42 | Onshore wind energy plans should be abandoned in Malta. The | 42 | -0.761 | 0.880 | -1.640 |
| 12 | Local power companies have no understanding of public partic | 12 | -1.243 | 0.440 | -1.683 |
| 17 | It is useless to try and exert influence on the implementati | 17 | -1.244 | 0.440 | -1.684 |
| 46 | Local interests are not taken into account at the national l | 46 | -0.440 | 1.320 | -1.760 |
| 34 | Financial support geared towards solar energy is better than | 34 | -0.947 | 0.880 | -1.827 |
| 6 | Most of the time, stakeholders are insufficiently involved d | 6 | -1.061 | 0.880 | -1.941 |
| 37 | We cannot do anything about climate change anyway, so it is | 37 | -1.949 | 0.000 | -1.949 |
| 48 | Public participation determines whether conflicts are solved | 48 | -0.238 | 1.760 | -1.998 |
| 33 | In the end, it is the cost of oil and electricity that will | 33 | -0.198 | 2.200 | -2.398 |
| 4 | Wind farms are noisy and visually unacceptable. | 4 | -2.178 | 1.760 | -3.938 |



Descending Array of Differences Between Factors 4 and 8

| No. | Statement | No. | Type 4 | Type 8 | Difference |
|---|---|---|---|---|---|
| 18 | Before building wind farms all over the country, energy effi | 18 | 1.592 | -1.842 | 3.434 |
| 25 | Decisions on wind farms cannot be made by governments alone, | 25 | 1.492 | -1.553 | 3.046 |
| 31 | Professional and scientific expertise ought to play a decisi | 31 | 1.757 | -0.688 | 2.445 |
| 16 | Decisions made with the approval of the local community are | 16 | 2.021 | 0.055 | 1.966 |
| 28 | The local community should be able to exert its influence in | 28 | 0.594 | -1.265 | 1.859 |
| 47 | More citizen participation leads to even more opposition tow | 47 | -0.367 | -2.186 | 1.819 |
| 10 | The input from the public during a public participation proc | 10 | 1.369 | -0.289 | 1.657 |
| 19 | Involving potential opponents to a wind farm in a timely man | 19 | 1.273 | -0.344 | 1.617 |
| 7 | It is not participation in decision making that is important | 7 | 0.537 | -0.921 | 1.458 |

| | | | | | |
|---|---|---|---|---|---|
| 27 | The compromise of the Bahrija landscape is a sacrifice that | 27 | 0.452 | -0.921 | 1.373 |
| 3 | Public participation makes the decision making process more | 3 | 0.220 | -1.032 | 1.251 |
| 24 | Growing energy demand and increasing environmental problems | 24 | 1.557 | 0.399 | 1.157 |
| 2 | Although local opposition to wind projects is quite normal, | 2 | 0.971 | 0.166 | 0.805 |
| 48 | Public participation determines whether conflicts are solved | 48 | -0.238 | -1.032 | 0.794 |
| 29 | Planning processes must be carried out rapidly in order to n | 29 | -0.575 | -1.210 | 0.635 |
| 26 | Every local authority would rather have wind farms built in | 26 | -0.264 | -0.755 | 0.491 |
| 38 | Local support is important for the successful implementation | 38 | 0.429 | 0.111 | 0.318 |
| 46 | Local interests are not taken into account at the national l | 46 | -0.440 | -0.632 | 0.193 |
| 22 | Government should be able to go ahead anyway when local auth | 22 | -0.429 | -0.522 | 0.093 |
| 11 | Local opposition to a wind farm is nothing more than defendi | 11 | 0.156 | 0.111 | 0.045 |
| 20 | People are not fooled by public meetings, environmental impa | 20 | 0.037 | 0.000 | 0.037 |
| 9 | Government should give priority to the environment first and | 9 | -0.259 | -0.289 | 0.030 |
| 15 | Slow implementation of wind energy is usually a result of un | 15 | 1.111 | 1.087 | 0.024 |
| 43 | Offering financial participation in wind projects or green e | 43 | 0.469 | 0.688 | -0.219 |
| 14 | Residents do not want to pay for the nation's energy problem | 14 | 0.000 | 0.233 | -0.233 |
| 8 | Opponents of wind farms are not willing to compromise so it | 8 | -1.617 | -1.376 | -0.242 |
| 45 | Local government does not seem capable of properly handling | 45 | -0.318 | 0.000 | -0.318 |
| 41 | Wind farms should go in built up areas where people live or | 41 | -1.492 | -1.143 | -0.349 |
| 36 | Everyone prefers that new infrastructure like wind farms are | 36 | 0.966 | 1.320 | -0.354 |
| 34 | Financial support geared towards solar energy is better than | 34 | -0.947 | -0.577 | -0.370 |
| 30 | If good arguments exist for constructing a wind farm in a lo | 30 | 0.534 | 0.921 | -0.387 |
| 5 | Incentives should be given to the wind industry (not the com | 5 | 0.185 | 0.632 | -0.447 |
| 23 | It is wrong to take decisions without giving neighbouring re | 23 | 0.145 | 0.632 | -0.488 |
| 1 | It is usually individuals, like landowners, that block the c | 1 | 0.231 | 0.866 | -0.634 |
| 44 | It is mainly environmental organisations that frustrate the | 44 | -0.730 | -0.055 | -0.675 |
| 33 | In the end, it is the cost of oil and electricity that will | 33 | -0.198 | 0.866 | -1.064 |
| 35 | Initiators of wind farm projects underestimate the value of | 35 | -0.212 | 0.921 | -1.133 |
| 49 | The small amount of clean energy that wind farms generate do | 49 | -1.297 | -0.111 | -1.186 |
| 40 | Local opposition to wind farms is mostly caused by the lack | 40 | -0.127 | 1.087 | -1.214 |
| 6 | Most of the time, stakeholders are insufficiently involved d | 6 | -1.061 | 0.178 | -1.239 |
| 17 | It is useless to try and exert influence on the implementati | 17 | -1.244 | 0.000 | -1.244 |
| 21 | The 12 wind turbines planned will look better than the 20 di | 21 | 1.334 | 2.585 | -1.251 |
| 42 | Onshore wind energy plans should be abandoned in Malta. The | 42 | -0.761 | 0.632 | -1.393 |
| 4 | Wind farms are noisy and visually unacceptable. | 4 | -2.178 | -0.455 | -1.723 |
| 39 | It is mainly local community groups that try to thwart the c | 39 | -0.579 | 1.320 | -1.899 |
| 13 | Decision making surrounding wind energy is an unpredictable | 13 | -0.815 | 1.154 | -1.969 |
| 37 | We cannot do anything about climate change anyway, so it is | 37 | -1.949 | 0.067 | -2.016 |
| 12 | Local power companies have no understanding of public partic | 12 | -1.243 | 0.976 | -2.220 |
| 32 | The problem with public input is that it is mainly based on | 32 | -0.090 | 2.186 | -2.276 |

Descending Array of Differences Between Factors 5 and 6

| No. | Statement | No. | Type 5 | Type 6 | Difference |
|---|---|---|---|---|---|
| 16 | Decisions made with the approval of the local community are | 16 | 2.200 | -0.491 | 2.690 |
| 47 | More citizen participation leads to even more opposition tow | 47 | 0.000 | -2.141 | 2.141 |
| 21 | The 12 wind turbines planned will look better than the 20 di | 21 | 0.440 | -1.561 | 2.001 |
| 38 | Local support is important for the successful implementation | 38 | 0.880 | -0.870 | 1.750 |
| 19 | Involving potential opponents to a wind farm in a timely man | 19 | 1.320 | -0.334 | 1.654 |
| 41 | Wind farms should go in built up areas where people live or | 41 | 1.760 | 0.134 | 1.626 |
| 5 | Incentives should be given to the wind industry (not the com | 5 | 0.000 | -1.316 | 1.316 |
| 9 | Government should give priority to the environment first and | 9 | 1.320 | 0.045 | 1.275 |
| 40 | Local opposition to wind farms is mostly caused by the lack | 40 | 0.880 | -0.334 | 1.214 |
| 32 | The problem with public input is that it is mainly based on | 32 | 1.320 | 0.201 | 1.119 |
| 34 | Financial support geared towards solar energy is better than | 34 | 0.880 | -0.045 | 0.924 |
| 24 | Growing energy demand and increasing environmental problems | 24 | 0.880 | 0.000 | 0.880 |
| 15 | Slow implementation of wind energy is usually a result of un | 15 | -0.880 | -1.650 | 0.770 |
| 7 | It is not participation in decision making that is important | 7 | 0.440 | -0.290 | 0.730 |
| 8 | Opponents of wind farms are not willing to compromise so it | 8 | -0.440 | -1.070 | 0.631 |
| 2 | Although local opposition to wind projects is quite normal, | 2 | 0.000 | -0.580 | 0.580 |
| 17 | It is useless to try and exert influence on the implementati | 17 | 0.000 | -0.491 | 0.491 |
| 11 | Local opposition to a wind farm is nothing more than defendi | 11 | 0.440 | -0.045 | 0.485 |
| 43 | Offering financial participation in wind projects or green e | 43 | 0.000 | -0.379 | 0.379 |
| 22 | Government should be able to go ahead anyway when local auth | 22 | -1.320 | -1.695 | 0.375 |
| 3 | Public participation makes the decision making process more | 3 | -0.440 | -0.781 | 0.341 |
| 29 | Planning processes must be carried out rapidly in order to n | 29 | 0.000 | -0.290 | 0.290 |
| 44 | It is mainly environmental organisations that frustrate the | 44 | -0.880 | -1.115 | 0.235 |
| 28 | The local community should be able to exert its influence in | 28 | 0.440 | 0.290 | 0.150 |
| 46 | Local interests are not taken into account at the national l | 46 | 0.440 | 0.334 | 0.105 |
| 31 | Professional and scientific expertise ought to play a decisi | 31 | 0.000 | 0.045 | -0.045 |
| 45 | Local government does not seem capable of properly handling | 45 | -0.880 | -0.736 | -0.144 |
| 23 | It is wrong to take decisions without giving neighbouring re | 23 | 0.880 | 1.026 | -0.146 |
| 25 | Decisions on wind farms cannot be made by governments alone, | 25 | 1.320 | 1.561 | -0.241 |
| 33 | In the end, it is the cost of oil and electricity that will | 33 | -0.880 | -0.624 | -0.256 |
| 12 | Local power companies have no understanding of public partic | 12 | 0.000 | 0.334 | -0.334 |
| 4 | Wind farms are noisy and visually unacceptable. | 4 | 0.440 | 0.870 | -0.430 |
| 37 | We cannot do anything about climate change anyway, so it is | 37 | -1.760 | -1.227 | -0.533 |
| 27 | The compromise of the Bahrija landscape is a sacrifice that | 27 | -0.440 | 0.134 | -0.574 |
| 30 | If good arguments exist for constructing a wind farm in a lo | 30 | -1.320 | -0.535 | -0.785 |

| | | | | | |
|---|---|---|---|---|---|
| 48 | Public participation determines whether conflicts are solved | 48 | 0.000 | 0.825 | -0.825 |
| 1 | It is usually individuals, like landowners, that block the c | 1 | 0.440 | 1.316 | -0.876 |
| 13 | Decision making surrounding wind energy is an unpredictable | 13 | -0.880 | 0.000 | -0.880 |
| 18 | Before building wind farms all over the country, energy effi | 18 | 1.760 | 2.676 | -0.916 |
| 20 | People are not fooled by public meetings, environmental impa | 20 | -1.320 | -0.201 | -1.119 |
| 49 | The small amount of clean energy that wind farms generate do | 49 | -0.440 | 0.736 | -1.176 |
| 35 | Initiators of wind farm projects underestimate the value of | 35 | -0.440 | 0.781 | -1.220 |
| 42 | Onshore wind energy plans should be abandoned in Malta. The | 42 | 0.880 | 2.141 | -1.261 |
| 39 | It is mainly local community groups that try to thwart the c | 39 | -0.440 | 0.870 | -1.310 |
| 14 | Residents do not want to pay for the nation's energy problem | 14 | -0.440 | 1.070 | -1.510 |
| 10 | The input from the public during a public participation proc | 10 | -1.320 | 0.245 | -1.565 |
| 26 | Every local authority would rather have wind farms built in | 26 | -0.880 | 0.781 | -1.660 |
| 6 | Most of the time, stakeholders are insufficiently involved d | 6 | -2.200 | 0.736 | -2.936 |
| 36 | Everyone prefers that new infrastructure like wind farms are | 36 | -1.760 | 1.650 | -3.410 |



Descending Array of Differences Between Factors 5 and 7

| No. | Statement | No. | Type 5 | Type 7 | Difference |
|---|---|---|---|---|---|
| 16 | Decisions made with the approval of the local community are | 16 | 2.200 | -0.880 | 3.080 |
| 23 | It is wrong to take decisions without giving neighbouring re | 23 | 0.880 | -2.200 | 3.080 |
| 41 | Wind farms should go in built up areas where people live or | 41 | 1.760 | -1.320 | 3.080 |
| 28 | The local community should be able to exert its influence in | 28 | 0.440 | -1.760 | 2.200 |
| 40 | Local opposition to wind farms is mostly caused by the lack | 40 | 0.880 | -1.320 | 2.200 |
| 38 | Local support is important for the successful implementation | 38 | 0.880 | -0.880 | 1.760 |
| 32 | The problem with public input is that it is mainly based on | 32 | 1.320 | -0.440 | 1.760 |
| 18 | Before building wind farms all over the country, energy effi | 18 | 1.760 | 0.440 | 1.320 |
| 21 | The 12 wind turbines planned will look better than the 20 di | 21 | 0.440 | -0.880 | 1.320 |
| 19 | Involving potential opponents to a wind farm in a timely man | 19 | 1.320 | 0.000 | 1.320 |
| 1 | It is usually individuals, like landowners, that block the c | 1 | 0.440 | -0.440 | 0.880 |
| 31 | Professional and scientific expertise ought to play a decisi | 31 | 0.000 | -0.880 | 0.880 |
| 7 | It is not participation in decision making that is important | 7 | 0.440 | -0.440 | 0.880 |
| 47 | More citizen participation leads to even more opposition tow | 47 | 0.000 | -0.880 | 0.880 |
| 9 | Government should give priority to the environment first and | 9 | 1.320 | 0.440 | 0.880 |
| 10 | The input from the public during a public participation proc | 10 | -1.320 | -1.760 | 0.440 |
| 8 | Opponents of wind farms are not willing to compromise so it | 8 | -0.440 | -0.880 | 0.440 |
| 29 | Planning processes must be carried out rapidly in order to n | 29 | 0.000 | -0.440 | 0.440 |
| 43 | Offering financial participation in wind projects or green e | 43 | 0.000 | -0.440 | 0.440 |

| | | | | | |
|---|---|---|---|---|---|
| 44 | It is mainly environmental organisations that frustrate the | 44 | -0.880 | -1.320 | 0.440 |
| 11 | Local opposition to a wind farm is nothing more than defendi | 11 | 0.440 | 0.000 | 0.440 |
| 25 | Decisions on wind farms cannot be made by governments alone, | 25 | 1.320 | 0.880 | 0.440 |
| 14 | Residents do not want to pay for the nation's energy problem | 14 | -0.440 | -0.440 | 0.000 |
| 22 | Government should be able to go ahead anyway when local auth | 22 | -1.320 | -1.320 | 0.000 |
| 34 | Financial support geared towards solar energy is better than | 34 | 0.880 | 0.880 | 0.000 |
| 42 | Onshore wind energy plans should be abandoned in Malta. The | 42 | 0.880 | 0.880 | 0.000 |
| 15 | Slow implementation of wind energy is usually a result of un | 15 | -0.880 | -0.440 | -0.440 |
| 39 | It is mainly local community groups that try to thwart the c | 39 | -0.440 | 0.000 | -0.440 |
| 3 | Public participation makes the decision making process more | 3 | -0.440 | 0.000 | -0.440 |
| 27 | The compromise of the Bahrija landscape is a sacrifice that | 27 | -0.440 | 0.000 | -0.440 |
| 49 | The small amount of clean energy that wind farms generate do | 49 | -0.440 | 0.000 | -0.440 |
| 24 | Growing energy demand and increasing environmental problems | 24 | 0.880 | 1.320 | -0.440 |
| 17 | It is useless to try and exert influence on the implementati | 17 | 0.000 | 0.440 | -0.440 |
| 12 | Local power companies have no understanding of public partic | 12 | 0.000 | 0.440 | -0.440 |
| 13 | Decision making surrounding wind energy is an unpredictable | 13 | -0.880 | 0.000 | -0.880 |
| 5 | Incentives should be given to the wind industry (not the com | 5 | 0.000 | 0.880 | -0.880 |
| 46 | Local interests are not taken into account at the national l | 46 | 0.440 | 1.320 | -0.880 |
| 35 | Initiators of wind farm projects underestimate the value of | 35 | -0.440 | 0.440 | -0.880 |
| 30 | If good arguments exist for constructing a wind farm in a lo | 30 | -1.320 | 0.000 | -1.320 |
| 45 | Local government does not seem capable of properly handling | 45 | -0.880 | 0.440 | -1.320 |
| 2 | Although local opposition to wind projects is quite normal, | 2 | 0.000 | 1.320 | -1.320 |
| 4 | Wind farms are noisy and visually unacceptable. | 4 | 0.440 | 1.760 | -1.320 |
| 37 | We cannot do anything about climate change anyway, so it is | 37 | -1.760 | 0.000 | -1.760 |
| 20 | People are not fooled by public meetings, environmental impa | 20 | -1.320 | 0.440 | -1.760 |
| 26 | Every local authority would rather have wind farms built in | 26 | -0.880 | 0.880 | -1.760 |
| 48 | Public participation determines whether conflicts are solved | 48 | 0.000 | 1.760 | -1.760 |
| 33 | In the end, it is the cost of oil and electricity that will | 33 | -0.880 | 2.200 | -3.080 |
| 36 | Everyone prefers that new infrastructure like wind farms are | 36 | -1.760 | 1.320 | -3.080 |
| 6 | Most of the time, stakeholders are insufficiently involved d | 6 | -2.200 | 0.880 | -3.080 |



Descending Array of Differences Between Factors 5 and 8

| No. | Statement | No. | Type 5 | Type 8 | Difference |
|---|---|---|---|---|---|
| 18 | Before building wind farms all over the country, energy effi | 18 | 1.760 | -1.842 | 3.602 |
| 41 | Wind farms should go in built up areas where people live or | 41 | 1.760 | -1.143 | 2.902 |
| 25 | Decisions on wind farms cannot be made by governments alone, | 25 | 1.320 | -1.553 | 2.873 |

| | | | | | |
|---|---|---|---|---|---|
| 47 | More citizen participation leads to even more opposition tow | 47 | 0.000 | -2.186 | 2.186 |
| 16 | Decisions made with the approval of the local community are | 16 | 2.200 | 0.055 | 2.144 |
| 28 | The local community should be able to exert its influence in | 28 | 0.440 | -1.265 | 1.705 |
| 19 | Involving potential opponents to a wind farm in a timely man | 19 | 1.320 | -0.344 | 1.664 |
| 9 | Government should give priority to the environment first and | 9 | 1.320 | -0.289 | 1.608 |
| 34 | Financial support geared towards solar energy is better than | 34 | 0.880 | -0.577 | 1.457 |
| 7 | It is not participation in decision making that is important | 7 | 0.440 | -0.921 | 1.361 |
| 29 | Planning processes must be carried out rapidly in order to n | 29 | 0.000 | -1.210 | 1.210 |
| 46 | Local interests are not taken into account at the national l | 46 | 0.440 | -0.632 | 1.072 |
| 48 | Public participation determines whether conflicts are solved | 48 | 0.000 | -1.032 | 1.032 |
| 8 | Opponents of wind farms are not willing to compromise so it | 8 | -0.440 | -1.376 | 0.936 |
| 4 | Wind farms are noisy and visually unacceptable. | 4 | 0.440 | -0.455 | 0.895 |
| 38 | Local support is important for the successful implementation | 38 | 0.880 | 0.111 | 0.769 |
| 31 | Professional and scientific expertise ought to play a decisi | 31 | 0.000 | -0.688 | 0.688 |
| 3 | Public participation makes the decision making process more | 3 | -0.440 | -1.032 | 0.592 |
| 27 | The compromise of the Bahrija landscape is a sacrifice that | 27 | -0.440 | -0.921 | 0.481 |
| 24 | Growing energy demand and increasing environmental problems | 24 | 0.880 | 0.399 | 0.481 |
| 11 | Local opposition to a wind farm is nothing more than defendi | 11 | 0.440 | 0.111 | 0.329 |
| 23 | It is wrong to take decisions without giving neighbouring re | 23 | 0.880 | 0.632 | 0.247 |
| 42 | Onshore wind energy plans should be abandoned in Malta. The | 42 | 0.880 | 0.632 | 0.247 |
| 17 | It is useless to try and exert influence on the implementati | 17 | 0.000 | 0.000 | 0.000 |
| 26 | Every local authority would rather have wind farms built in | 26 | -0.880 | -0.755 | -0.125 |
| 2 | Although local opposition to wind projects is quite normal, | 2 | 0.000 | 0.166 | -0.166 |
| 40 | Local opposition to wind farms is mostly caused by the lack | 40 | 0.880 | 1.087 | -0.207 |
| 49 | The small amount of clean energy that wind farms generate do | 49 | -0.440 | -0.111 | -0.329 |
| 1 | It is usually individuals, like landowners, that block the c | 1 | 0.440 | 0.866 | -0.426 |
| 5 | Incentives should be given to the wind industry (not the com | 5 | 0.000 | 0.632 | -0.632 |
| 14 | Residents do not want to pay for the nation’s energy problem | 14 | -0.440 | 0.233 | -0.673 |
| 43 | Offering financial participation in wind projects or green e | 43 | 0.000 | 0.688 | -0.688 |
| 22 | Government should be able to go ahead anyway when local auth | 22 | -1.320 | -0.522 | -0.798 |
| 44 | It is mainly environmental organisations that frustrate the | 44 | -0.880 | -0.055 | -0.824 |
| 32 | The problem with public input is that it is mainly based on | 32 | 1.320 | 2.186 | -0.866 |
| 45 | Local government does not seem capable of properly handling | 45 | -0.880 | 0.000 | -0.880 |
| 12 | Local power companies have no understanding of public partic | 12 | 0.000 | 0.976 | -0.976 |
| 10 | The input from the public during a public participation proc | 10 | -1.320 | -0.289 | -1.031 |
| 20 | People are not fooled by public meetings, environmental impa | 20 | -1.320 | 0.000 | -1.320 |
| 35 | Initiators of wind farm projects underestimate the value of | 35 | -0.440 | 0.921 | -1.361 |
| 33 | In the end, it is the cost of oil and electricity that will | 33 | -0.880 | 0.866 | -1.745 |
| 39 | It is mainly local community groups that try to thwart the c | 39 | -0.440 | 1.320 | -1.760 |
| 37 | We cannot do anything about  climate change anyway, so it is | 37 | -1.760 | 0.067 | -1.827 |
| 15 | Slow implementation of wind energy is usually a result of un | 15 | -0.880 | 1.087 | -1.967 |
| 13 | Decision making surrounding wind energy is an unpredictable | 13 | -0.880 | 1.154 | -2.034 |

| | | | | | |
|---|---|---|---|---|---|
| 21 | The 12 wind turbines planned will look better than the 20 di | 21 | 0.440 | 2.585 | -2.145 |
| 30 | If good arguments exist for constructing a wind farm in a lo | 30 | -1.320 | 0.921 | -2.241 |
| 6 | Most of the time, stakeholders are insufficiently involved d | 6 | -2.200 | 0.178 | -2.377 |
| 36 | Everyone prefers that new infrastructure like wind farms are | 36 | -1.760 | 1.320 | -3.080 |



Descending Array of Differences Between Factors 6 and 7

| No. | Statement | No. | Type 6 | Type 7 | Difference |
|---|---|---|---|---|---|
| 23 | It is wrong to take decisions without giving neighbouring re | 23 | 1.026 | -2.200 | 3.226 |
| 18 | Before building wind farms all over the country, energy effi | 18 | 2.676 | 0.440 | 2.236 |
| 28 | The local community should be able to exert its influence in | 28 | 0.290 | -1.760 | 2.050 |
| 10 | The input from the public during a public participation proc | 10 | 0.245 | -1.760 | 2.005 |
| 1 | It is usually individuals, like landowners, that block the c | 1 | 1.316 | -0.440 | 1.756 |
| 14 | Residents do not want to pay for the nation's energy problem | 14 | 1.070 | -0.440 | 1.510 |
| 41 | Wind farms should go in built up areas where people live or | 41 | 0.134 | -1.320 | 1.454 |
| 42 | Onshore wind energy plans should be abandoned in Malta. The | 42 | 2.141 | 0.880 | 1.261 |
| 40 | Local opposition to wind farms is mostly caused by the lack | 40 | -0.334 | -1.320 | 0.985 |
| 31 | Professional and scientific expertise ought to play a decisi | 31 | 0.045 | -0.880 | 0.924 |
| 39 | It is mainly local community groups that try to thwart the c | 39 | 0.870 | 0.000 | 0.870 |
| 49 | The small amount of clean energy that wind farms generate do | 49 | 0.736 | 0.000 | 0.736 |
| 25 | Decisions on wind farms cannot be made by governments alone, | 25 | 1.561 | 0.880 | 0.681 |
| 32 | The problem with public input is that it is mainly based on | 32 | 0.201 | -0.440 | 0.641 |
| 16 | Decisions made with the approval of the local community are | 16 | -0.491 | -0.880 | 0.389 |
| 35 | Initiators of wind farm projects underestimate the value of | 35 | 0.781 | 0.440 | 0.341 |
| 36 | Everyone prefers that new infrastructure like wind farms are | 36 | 1.650 | 1.320 | 0.330 |
| 44 | It is mainly environmental organisations that frustrate the | 44 | -1.115 | -1.320 | 0.205 |
| 29 | Planning processes must be carried out rapidly in order to n | 29 | -0.290 | -0.440 | 0.150 |
| 7 | It is not participation in decision making that is important | 7 | -0.290 | -0.440 | 0.150 |
| 27 | The compromise of the Bahrija landscape is a sacrifice that | 27 | 0.134 | 0.000 | 0.134 |
| 43 | Offering financial participation in wind projects or green e | 43 | -0.379 | -0.440 | 0.061 |
| 38 | Local support is important for the successful implementation | 38 | -0.870 | -0.880 | 0.010 |
| 13 | Decision making surrounding wind energy is an unpredictable | 13 | 0.000 | 0.000 | 0.000 |
| 11 | Local opposition to a wind farm is nothing more than defendi | 11 | -0.045 | 0.000 | -0.045 |
| 26 | Every local authority would rather have wind farms built in | 26 | 0.781 | 0.880 | -0.099 |
| 12 | Local power companies have no understanding of public partic | 12 | 0.334 | 0.440 | -0.105 |
| 6 | Most of the time, stakeholders are insufficiently involved d | 6 | 0.736 | 0.880 | -0.144 |
| 8 | Opponents of wind farms are not willing to compromise so it | 8 | -1.070 | -0.880 | -0.191 |

| | | | | | |
|---|---|---|---|---|---|
| 19 | Involving potential opponents to a wind farm in a timely man | 19 | -0.334 | 0.000 | -0.334 |
| 22 | Government should be able to go ahead anyway when local auth | 22 | -1.695 | -1.320 | -0.375 |
| 9 | Government should give priority to the environment first and | 9 | 0.045 | 0.440 | -0.395 |
| 30 | If good arguments exist for constructing a wind farm in a lo | 30 | -0.535 | 0.000 | -0.535 |
| 20 | People are not fooled by public meetings, environmental impa | 20 | -0.201 | 0.440 | -0.641 |
| 21 | The 12 wind turbines planned will look better than the 20 di | 21 | -1.561 | -0.880 | -0.681 |
| 3 | Public participation makes the decision making process more | 3 | -0.781 | 0.000 | -0.781 |
| 4 | Wind farms are noisy and visually unacceptable. | 4 | 0.870 | 1.760 | -0.890 |
| 34 | Financial support geared towards solar energy is better than | 34 | -0.045 | 0.880 | -0.924 |
| 17 | It is useless to try and exert influence on the implementati | 17 | -0.491 | 0.440 | -0.931 |
| 48 | Public participation determines whether conflicts are solved | 48 | 0.825 | 1.760 | -0.935 |
| 46 | Local interests are not taken into account at the national l | 46 | 0.334 | 1.320 | -0.985 |
| 45 | Local government does not seem capable of properly handling | 45 | -0.736 | 0.440 | -1.176 |
| 15 | Slow implementation of wind energy is usually a result of un | 15 | -1.650 | -0.440 | -1.210 |
| 37 | We cannot do anything about climate change anyway, so it is | 37 | -1.227 | 0.000 | -1.227 |
| 47 | More citizen participation leads to even more opposition tow | 47 | -2.141 | -0.880 | -1.261 |
| 24 | Growing energy demand and increasing environmental problems | 24 | 0.000 | 1.320 | -1.320 |
| 2 | Although local opposition to wind projects is quite normal, | 2 | -0.580 | 1.320 | -1.900 |
| 5 | Incentives should be given to the wind industry (not the com | 5 | -1.316 | 0.880 | -2.196 |
| 33 | In the end, it is the cost of oil and electricity that will | 33 | -0.624 | 2.200 | -2.824 |



Descending Array of Differences Between Factors 6 and 8

| No. | Statement | No. | Type 6 | Type 8 | Difference |
|---|---|---|---|---|---|
| 18 | Before building wind farms all over the country, energy effi | 18 | 2.676 | -1.842 | 4.518 |
| 25 | Decisions on wind farms cannot be made by governments alone, | 25 | 1.561 | -1.553 | 3.115 |
| 48 | Public participation determines whether conflicts are solved | 48 | 0.825 | -1.032 | 1.857 |
| 28 | The local community should be able to exert its influence in | 28 | 0.290 | -1.265 | 1.555 |
| 26 | Every local authority would rather have wind farms built in | 26 | 0.781 | -0.755 | 1.535 |
| 42 | Onshore wind energy plans should be abandoned in Malta. The | 42 | 2.141 | 0.632 | 1.508 |
| 4 | Wind farms are noisy and visually unacceptable. | 4 | 0.870 | -0.455 | 1.324 |
| 41 | Wind farms should go in built up areas where people live or | 41 | 0.134 | -1.143 | 1.276 |
| 27 | The compromise of the Bahrija landscape is a sacrifice that | 27 | 0.134 | -0.921 | 1.055 |
| 46 | Local interests are not taken into account at the national l | 46 | 0.334 | -0.632 | 0.967 |
| 29 | Planning processes must be carried out rapidly in order to n | 29 | -0.290 | -1.210 | 0.920 |
| 49 | The small amount of clean energy that wind farms generate do | 49 | 0.736 | -0.111 | 0.847 |

| | | | | | |
|---|---|---|---|---|---|
| 14 | Residents do not want to pay for the nation's energy problem | 14 | 1.070 | 0.233 | 0.837 |
| 31 | Professional and scientific expertise ought to play a decisi | 31 | 0.045 | -0.688 | 0.732 |
| 7 | It is not participation in decision making that is important | 7 | -0.290 | -0.921 | 0.631 |
| 6 | Most of the time, stakeholders are insufficiently involved d | 6 | 0.736 | 0.178 | 0.558 |
| 10 | The input from the public during a public participation proc | 10 | 0.245 | -0.289 | 0.534 |
| 34 | Financial support geared towards solar energy is better than | 34 | -0.045 | -0.577 | 0.533 |
| 1 | It is usually individuals, like landowners, that block the c | 1 | 1.316 | 0.866 | 0.450 |
| 23 | It is wrong to take decisions without giving neighbouring re | 23 | 1.026 | 0.632 | 0.393 |
| 9 | Government should give priority to the environment first and | 9 | 0.045 | -0.289 | 0.333 |
| 36 | Everyone prefers that new infrastructure like wind farms are | 36 | 1.650 | 1.320 | 0.330 |
| 8 | Opponents of wind farms are not willing to compromise so it | 8 | -1.070 | -1.376 | 0.305 |
| 3 | Public participation makes the decision making process more | 3 | -0.781 | -1.032 | 0.251 |
| 47 | More citizen participation leads to even more opposition tow | 47 | -2.141 | -2.186 | 0.045 |
| 19 | Involving potential opponents to a wind farm in a timely man | 19 | -0.334 | -0.344 | 0.009 |
| 35 | Initiators of wind farm projects underestimate the value of | 35 | 0.781 | 0.921 | -0.140 |
| 11 | Local opposition to a wind farm is nothing more than defendi | 11 | -0.045 | 0.111 | -0.155 |
| 20 | People are not fooled by public meetings, environmental impa | 20 | -0.201 | 0.000 | -0.201 |
| 24 | Growing energy demand and increasing environmental problems | 24 | 0.000 | 0.399 | -0.399 |
| 39 | It is mainly local community groups that try to thwart the c | 39 | 0.870 | 1.320 | -0.451 |
| 17 | It is useless to try and exert influence on the implementati | 17 | -0.491 | 0.000 | -0.491 |
| 16 | Decisions made with the approval of the local community are | 16 | -0.491 | 0.055 | -0.546 |
| 12 | Local power companies have no understanding of public partic | 12 | 0.334 | 0.976 | -0.642 |
| 45 | Local government does not seem capable of properly handling | 45 | -0.736 | 0.000 | -0.736 |
| 2 | Although local opposition to wind projects is quite normal, | 2 | -0.580 | 0.166 | -0.746 |
| 38 | Local support is important for the successful implementation | 38 | -0.870 | 0.111 | -0.980 |
| 44 | It is mainly environmental organisations that frustrate the | 44 | -1.115 | -0.055 | -1.060 |
| 43 | Offering financial participation in wind projects or green e | 43 | -0.379 | 0.688 | -1.067 |
| 13 | Decision making surrounding wind energy is an unpredictable | 13 | 0.000 | 1.154 | -1.154 |
| 22 | Government should be able to go ahead anyway when local auth | 22 | -1.695 | -0.522 | -1.173 |
| 37 | We cannot do anything about climate change anyway, so it is | 37 | -1.227 | 0.067 | -1.294 |
| 40 | Local opposition to wind farms is mostly caused by the lack | 40 | -0.334 | 1.087 | -1.422 |
| 30 | If good arguments exist for constructing a wind farm in a lo | 30 | -0.535 | 0.921 | -1.456 |
| 33 | In the end, it is the cost of oil and electricity that will | 33 | -0.624 | 0.866 | -1.490 |
| 5 | Incentives should be given to the wind industry (not the com | 5 | -1.316 | 0.632 | -1.948 |
| 32 | The problem with public input is that it is mainly based on | 32 | 0.201 | 2.186 | -1.985 |
| 15 | Slow implementation of wind energy is usually a result of un | 15 | -1.650 | 1.087 | -2.737 |
| 21 | The 12 wind turbines planned will look better than the 20 di | 21 | -1.561 | 2.585 | -4.146 |

Descending Array of Differences Between Factors 7 and 8

| No. | Statement | No. | Type 7 | Type 8 | Difference |
|---|---|---|---|---|---|
| 48 | Public participation determines whether conflicts are solved | 48 | 1.760 | -1.032 | 2.792 |
| 25 | Decisions on wind farms cannot be made by governments alone, | 25 | 0.880 | -1.553 | 2.433 |
| 18 | Before building wind farms all over the country, energy effi | 18 | 0.440 | -1.842 | 2.282 |
| 4 | Wind farms are noisy and visually unacceptable. | 4 | 1.760 | -0.455 | 2.215 |
| 46 | Local interests are not taken into account at the national l | 46 | 1.320 | -0.632 | 1.952 |
| 26 | Every local authority would rather have wind farms built in | 26 | 0.880 | -0.755 | 1.635 |
| 34 | Financial support geared towards solar energy is better than | 34 | 0.880 | -0.577 | 1.457 |
| 33 | In the end, it is the cost of oil and electricity that will | 33 | 2.200 | 0.866 | 1.334 |
| 47 | More citizen participation leads to even more opposition tow | 47 | -0.880 | -2.186 | 1.306 |
| 2 | Although local opposition to wind projects is quite normal, | 2 | 1.320 | 0.166 | 1.154 |
| 3 | Public participation makes the decision making process more | 3 | 0.000 | -1.032 | 1.032 |
| 27 | The compromise of the Bahrija landscape is a sacrifice that | 27 | 0.000 | -0.921 | 0.921 |
| 24 | Growing energy demand and increasing environmental problems | 24 | 1.320 | 0.399 | 0.920 |
| 29 | Planning processes must be carried out rapidly in order to n | 29 | -0.440 | -1.210 | 0.770 |
| 9 | Government should give priority to the environment first and | 9 | 0.440 | -0.289 | 0.728 |
| 6 | Most of the time, stakeholders are insufficiently involved d | 6 | 0.880 | 0.178 | 0.702 |
| 8 | Opponents of wind farms are not willing to compromise so it | 8 | -0.880 | -1.376 | 0.496 |
| 7 | It is not participation in decision making that is important | 7 | -0.440 | -0.921 | 0.481 |
| 20 | People are not fooled by public meetings, environmental impa | 20 | 0.440 | 0.000 | 0.440 |
| 17 | It is useless to try and exert influence on the implementati | 17 | 0.440 | 0.000 | 0.440 |
| 45 | Local government does not seem capable of properly handling | 45 | 0.440 | 0.000 | 0.440 |
| 19 | Involving potential opponents to a wind farm in a timely man | 19 | 0.000 | -0.344 | 0.344 |
| 42 | Onshore wind energy plans should be abandoned in Malta. The | 42 | 0.880 | 0.632 | 0.247 |
| 5 | Incentives should be given to the wind industry (not the com | 5 | 0.880 | 0.632 | 0.247 |
| 49 | The small amount of clean energy that wind farms generate do | 49 | 0.000 | -0.111 | 0.111 |
| 36 | Everyone prefers that new infrastructure like wind farms are | 36 | 1.320 | 1.320 | -0.001 |
| 37 | We cannot do anything about climate change anyway, so it is | 37 | 0.000 | 0.067 | -0.067 |
| 11 | Local opposition to a wind farm is nothing more than defendi | 11 | 0.000 | 0.111 | -0.111 |
| 41 | Wind farms should go in built up areas where people live or | 41 | -1.320 | -1.143 | -0.177 |
| 31 | Professional and scientific expertise ought to play a decisi | 31 | -0.880 | -0.688 | -0.192 |
| 35 | Initiators of wind farm projects underestimate the value of | 35 | 0.440 | 0.921 | -0.481 |
| 28 | The local community should be able to exert its influence in | 28 | -1.760 | -1.265 | -0.495 |
| 12 | Local power companies have no understanding of public partic | 12 | 0.440 | 0.976 | -0.536 |
| 14 | Residents do not want to pay for the nation's energy problem | 14 | -0.440 | 0.233 | -0.673 |
| 22 | Government should be able to go ahead anyway when local auth | 22 | -1.320 | -0.522 | -0.798 |
| 30 | If good arguments exist for constructing a wind farm in a lo | 30 | 0.000 | 0.921 | -0.921 |
| 16 | Decisions made with the approval of the local community are | 16 | -0.880 | 0.055 | -0.935 |
| 38 | Local support is important for the successful implementation | 38 | -0.880 | 0.111 | -0.991 |

| | | | | | |
|---|---|---|---|---|---|
| 43 | Offering financial participation in wind projects or green e | 43 | -0.440 | 0.688 | -1.128 |
| 13 | Decision making surrounding wind energy is an unpredictable | 13 | 0.000 | 1.154 | -1.154 |
| 44 | It is mainly environmental organisations that frustrate the | 44 | -1.320 | -0.055 | -1.264 |
| 1 | It is usually individuals, like landowners, that block the c | 1 | -0.440 | 0.866 | -1.306 |
| 39 | It is mainly local community groups that try to thwart the c | 39 | 0.000 | 1.320 | -1.320 |
| 10 | The input from the public during a public participation proc | 10 | -1.760 | -0.289 | -1.471 |
| 15 | Slow implementation of wind energy is usually a result of un | 15 | -0.440 | 1.087 | -1.527 |
| 40 | Local opposition to wind farms is mostly caused by the lack | 40 | -1.320 | 1.087 | -2.407 |
| 32 | The problem with public input is that it is mainly based on | 32 | -0.440 | 2.186 | -2.626 |
| 23 | It is wrong to take decisions without giving neighbouring re | 23 | -2.200 | 0.632 | -2.832 |
| 21 | The 12 wind turbines planned will look better than the 20 di | 21 | -0.880 | 2.585 | -3.465 |



Factor Q-Sort Values for Each Statement

| | | | Factor Arrays | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| No. | Statement | No. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 1 | It is usually individuals, like landowners, that block the c | 1 | -1 | 0 | -1 | 1 | 1 | 3 | -1 | 2 |
| 2 | Although local opposition to wind projects is quite normal, | 2 | 3 | -2 | 0 | 2 | 0 | -2 | 3 | 1 |
| 3 | Public participation makes the decision making process more | 3 | -2 | -3 | 2 | 1 | -1 | -2 | 0 | -2 |
| 4 | Wind farms are noisy and visually unacceptable. | 4 | -3 | 4 | -4 | -5 | 1 | 2 | 4 | -1 |
| 5 | Incentives should be given to the wind industry (not the com | 5 | -2 | -1 | 1 | 1 | 0 | -3 | 2 | 1 |
| 6 | Most of the time, stakeholders are insufficiently involved d | 6 | 5 | 3 | -1 | -2 | -5 | 1 | 2 | 1 |
| 7 | It is not participation in decision making that is important | 7 | -2 | -3 | 2 | 2 | 1 | -1 | -1 | -2 |
| 8 | Opponents of wind farms are not willing to compromise so it | 8 | -4 | -3 | 0 | -4 | -1 | -2 | -2 | -3 |
| 9 | Government should give priority to the environment first and | 9 | -1 | 1 | -2 | -1 | 3 | 0 | 1 | -1 |
| 10 | The input from the public during a public participation proc | 10 | 1 | 0 | 1 | 3 | -3 | 1 | -4 | -1 |
| 11 | Local opposition to a wind farm is nothing more than defendi | 11 | 0 | -4 | 0 | 0 | 1 | 0 | 0 | 0 |
| 12 | Local power companies have no understanding of public partic | 12 | 1 | 2 | -1 | -3 | 0 | 1 | 1 | 2 |
| 13 | Decision making surrounding wind energy is an unpredictable | 13 | -2 | 0 | -5 | -2 | -2 | 0 | 0 | 3 |
| 14 | Residents do not want to pay for the nation’s energy problem | 14 | 0 | 0 | 2 | 0 | -1 | 3 | -1 | 1 |
| 15 | Slow implementation of wind energy is usually a result of un | 15 | -3 | -2 | 0 | 2 | -2 | -4 | -1 | 3 |
| 16 | Decisions made with the approval of the local community are | 16 | 2 | 2 | -2 | 5 | 5 | -1 | -2 | 0 |
| 17 | It is useless to try and exert influence on the implementati | 17 | -1 | 2 | 0 | -3 | 0 | -1 | 1 | 0 |
| 18 | Before building wind farms all over the country, energy effi | 18 | 4 | 4 | 4 | 4 | 4 | 5 | 1 | -4 |
| 19 | Involving potential opponents to a wind farm in a timely man | 19 | 3 | 0 | -2 | 2 | 3 | -1 | 0 | -1 |
| 20 | People are not fooled by public meetings, environmental impa | 20 | -1 | 1 | -2 | 0 | -3 | 0 | 1 | 0 |
| 21 | The 12 wind turbines planned will look better than the 20 di | 21 | 2 | -1 | 2 | 3 | 1 | -3 | -2 | 5 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 22 | Government should be able to go ahead anyway when local auth | 22 | -1 | -4 | 1 | -1 | -3 | -4 | -3 | -1 |
| 23 | It is wrong to take decisions without giving neighbouring re | 23 | 0 | 1 | -2 | 0 | 2 | 3 | -5 | 1 |
| 24 | Growing energy demand and increasing environmental problems | 24 | 2 | 1 | 4 | 3 | 2 | 0 | 3 | 1 |
| 25 | Decisions on wind farms cannot be made by governments alone, | 25 | 3 | 2 | 0 | 3 | 3 | 3 | 2 | -4 |
| 26 | Every local authority would rather have wind farms built in | 26 | 2 | -1 | -1 | -1 | -2 | 2 | 2 | -2 |
| 27 | The compromise of the Bahrija landscape is a sacrifice that | 27 | 2 | -5 | -3 | 1 | -1 | 0 | 0 | -2 |
| 28 | The local community should be able to exert its influence in | 28 | -1 | 1 | -1 | 2 | 1 | 1 | -4 | -3 |
| 29 | Planning processes must be carried out rapidly in order to n | 29 | 0 | -2 | 3 | -1 | 0 | -1 | -1 | -3 |
| 30 | If good arguments exist for constructing a wind farm in a lo | 30 | 0 | -2 | 1 | 1 | -3 | -1 | 0 | 2 |
| 31 | Professional and scientific expertise ought to play a decisi | 31 | 4 | 0 | 5 | 4 | 0 | 0 | -2 | -2 |
| 32 | The problem with public input is that it is mainly based on | 32 | 1 | -2 | 3 | 0 | 3 | 1 | -1 | 4 |
| 33 | In the end, it is the cost of oil and electricity that will | 33 | 0 | 0 | 3 | 0 | -2 | -2 | 5 | 2 |
| 34 | Financial support geared towards solar energy is better than | 34 | -1 | 3 | 2 | -2 | 2 | 0 | 2 | -1 |
| 35 | Initiators of wind farm projects underestimate the value of | 35 | -2 | 3 | 0 | 0 | -1 | 2 | 1 | 2 |
| 36 | Everyone prefers that new infrastructure like wind farms are | 36 | 0 | 1 | 1 | 2 | -4 | 4 | 3 | 3 |
| 37 | We cannot do anything about  climate change anyway, so it is | 37 | -5 | 0 | -3 | -4 | -4 | -3 | 0 | 0 |
| 38 | Local support is important for the successful implementation | 38 | 1 | 0 | -1 | 1 | 2 | -2 | -2 | 0 |
| 39 | It is mainly local community groups that try to thwart the c | 39 | 0 | -1 | -1 | -2 | -1 | 2 | 0 | 3 |
| 40 | Local opposition to wind farms is mostly caused by the lack | 40 | 3 | -3 | 1 | 0 | 2 | -1 | -3 | 3 |
| 41 | Wind farms should go in built up areas where people live or | 41 | -2 | 1 | 0 | -3 | 4 | 0 | -3 | -3 |
| 42 | Onshore wind energy plans should be abandoned in Malta. The | 42 | -3 | 1 | -4 | -2 | 2 | 4 | 2 | 1 |
| 43 | Offering financial participation in wind projects or green e | 43 | 2 | -1 | 3 | 1 | 0 | -1 | -1 | 2 |
| 44 | It is mainly environmental organisations that frustrate the | 44 | 0 | -2 | -3 | -2 | -2 | -3 | -3 | 0 |
| 45 | Local government does not seem capable of properly handling | 45 | 1 | 3 | 2 | -1 | -2 | -2 | 1 | 0 |
| 46 | Local interests are not taken into account at the national l | 46 | 1 | 2 | 1 | -1 | 1 | 1 | 3 | -1 |
| 47 | More citizen participation leads to even more opposition tow | 47 | -4 | -1 | 0 | -1 | 0 | -5 | -2 | -5 |
| 48 | Public participation determines whether conflicts are solved | 48 | 1 | -1 | -3 | 0 | 0 | 2 | 4 | -2 |
| 49 | The small amount of clean energy that wind farms generate do | 49 | -3 | 5 | -2 | -3 | -1 | 1 | 0 | 0 |

Variance =  5.061  St. Dev. =  2.250



Factor Q-Sort Values for Statements sorted by Consensus vs. Disagreement (Variance across normalised Factor Scores)

| | | | Factor Arrays | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| No. | Statement | No. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 44 | It is mainly environmental organisations that frustrate the | 44 | 0 | -2 | -3 | -2 | -2 | -3 | -3 | 0 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 14 | Residents do not want to pay for the nation's energy problem | 14 | 0 | 0 | 2 | 0 | -1 | 3 | -1 | 1 |
| 8 | Opponents of wind farms are not willing to compromise so it | 8 | -4 | -3 | 0 | -4 | -1 | -2 | -2 | -3 |
| 20 | People are not fooled by public meetings, environmental impa | 20 | -1 | 1 | -2 | 0 | -3 | 0 | 1 | 0 |
| 9 | Government should give priority to the environment first and | 9 | -1 | 1 | -2 | -1 | 3 | 0 | 1 | -1 |
| 24 | Growing energy demand and increasing environmental problems | 24 | 2 | 1 | 4 | 3 | 2 | 0 | 3 | 1 |
| 11 | Local opposition to a wind farm is nothing more than defendi | 11 | 0 | -4 | 0 | 0 | 1 | 0 | 0 | 0 |
| 43 | Offering financial participation in wind projects or green e | 43 | 2 | -1 | 3 | 1 | 0 | -1 | -1 | 2 |
| 46 | Local interests are not taken into account at the national l | 46 | 1 | 2 | 1 | -1 | 1 | 1 | 3 | -1 |
| 38 | Local support is important for the successful implementation | 38 | 1 | 0 | -1 | 1 | 2 | -2 | -2 | 0 |
| 35 | Initiators of wind farm projects underestimate the value of | 35 | -2 | 3 | 0 | 0 | -1 | 2 | 1 | 2 |
| 1 | It is usually individuals, like landowners, that block the c | 1 | -1 | 0 | -1 | 1 | 1 | 3 | -1 | 2 |
| 29 | Planning processes must be carried out rapidly in order to n | 29 | 0 | -2 | 3 | -1 | 0 | -1 | -1 | -3 |
| 17 | It is useless to try and exert influence on the implementati | 17 | -1 | 2 | 0 | -3 | 0 | -1 | 1 | 0 |
| 39 | It is mainly local community groups that try to thwart the c | 39 | 0 | -1 | -1 | -2 | -1 | 2 | 0 | 3 |
| 45 | Local government does not seem capable of properly handling | 45 | 1 | 3 | 2 | -1 | -2 | -2 | 1 | 0 |
| 12 | Local power companies have no understanding of public partic | 12 | 1 | 2 | -1 | -3 | 0 | 1 | 1 | 2 |
| 22 | Government should be able to go ahead anyway when local auth | 22 | -1 | -4 | 1 | -1 | -3 | -4 | -3 | -1 |
| 26 | Every local authority would rather have wind farms built in | 26 | 2 | -1 | -1 | -1 | -2 | 2 | 2 | -2 |
| 3 | Public participation makes the decision making process more | 3 | -2 | -3 | 2 | 1 | -1 | -2 | 0 | -2 |
| 34 | Financial support geared towards solar energy is better than | 34 | -1 | 3 | 2 | -2 | 2 | 0 | 2 | -1 |
| 5 | Incentives should be given to the wind industry (not the com | 5 | -2 | -1 | 1 | 1 | 0 | -3 | 2 | 1 |
| 30 | If good arguments exist for constructing a wind farm in a lo | 30 | 0 | -2 | 1 | 1 | -3 | -1 | 0 | 2 |
| 2 | Although local opposition to wind projects is quite normal, | 2 | 3 | -2 | 0 | 2 | 0 | -2 | 3 | 1 |
| 7 | It is not participation in decision making that is important | 7 | -2 | -3 | 2 | 2 | 1 | -1 | -1 | -2 |
| 19 | Involving potential opponents to a wind farm in a timely man | 19 | 3 | 0 | -2 | 2 | 3 | -1 | 0 | -1 |
| 28 | The local community should be able to exert its influence in | 28 | -1 | 1 | -1 | 2 | 1 | 1 | -4 | -3 |
| 13 | Decision making surrounding wind energy is an unpredictable | 13 | -2 | 0 | -5 | -2 | -2 | 0 | 0 | 3 |
| 47 | More citizen participation leads to even more opposition tow | 47 | -4 | -1 | 0 | -1 | 0 | -5 | -2 | -5 |
| 27 | The compromise of the Bahrija landscape is a sacrifice that | 27 | 2 | -5 | -3 | 1 | -1 | 0 | 0 | -2 |
| 37 | We cannot do anything about climate change anyway, so it is | 37 | -5 | 0 | -3 | -4 | -4 | -3 | 0 | 0 |
| 10 | The input from the public during a public participation proc | 10 | 1 | 0 | 1 | 3 | -3 | 1 | -4 | -1 |
| 32 | The problem with public input is that it is mainly based on | 32 | 1 | -2 | 3 | 0 | 3 | 1 | -1 | 4 |
| 48 | Public participation determines whether conflicts are solved | 48 | 1 | -1 | -3 | 0 | 0 | 2 | 4 | -2 |
| 15 | Slow implementation of wind energy is usually a result of un | 15 | -3 | -2 | 0 | 2 | -2 | -4 | -1 | 3 |
| 40 | Local opposition to wind farms is mostly caused by the lack | 40 | 3 | -3 | 1 | 0 | 2 | -1 | -3 | 3 |
| 33 | In the end, it is the cost of oil and electricity that will | 33 | 0 | 0 | 3 | 0 | -2 | -2 | 5 | 2 |
| 23 | It is wrong to take decisions without giving neighbouring re | 23 | 0 | 1 | -2 | 0 | 2 | 3 | -5 | 1 |
| 25 | Decisions on wind farms cannot be made by governments alone, | 25 | 3 | 2 | 0 | 3 | 3 | 3 | 2 | -4 |
| 36 | Everyone prefers that new infrastructure like wind farms are | 36 | 0 | 1 | 1 | 2 | -4 | 4 | 3 | 3 |
| 41 | Wind farms should go in built up areas where people live or | 41 | -2 | 1 | 0 | -3 | 4 | 0 | -3 | -3 |
| 49 | The small amount of clean energy that wind farms generate do | 49 | -3 | 5 | -2 | -3 | -1 | 1 | 0 | 0 |
| 16 | Decisions made with the approval of the local community are | 16 | 2 | 2 | -2 | 5 | 5 | -1 | -2 | 0 |

| | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| 31 | Professional and scientific expertise ought to play a decisi | 31 | 4 | 0 | 5 | 4 | 0 | 0 | -2 | -2 |



| | | | Factor Arrays | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| No. | Statement | No. | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| 42 | Onshore wind energy plans should be abandoned in Malta. The | 42 | -3 | 1 | -4 | -2 | 2 | 4 | 2 | 1 |
| 21 | The 12 wind turbines planned will look better than the 20 di | 21 | 2 | -1 | 2 | 3 | 1 | -3 | -2 | 5 |
| 6 | Most of the time, stakeholders are insufficiently involved d | 6 | 5 | 3 | -1 | -2 | -5 | 1 | 2 | 1 |
| 18 | Before building wind farms all over the country, energy effi | 18 | 4 | 4 | 4 | 4 | 4 | 5 | 1 | -4 |
| 4 | Wind farms are noisy and visually unacceptable. | 4 | -3 | 4 | -4 | -5 | 1 | 2 | 4 | -1 |

Factor Characteristics

| | Factors | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| No. of Defining Variables | 8 | 3 | 4 | 4 | 1 | 2 | 1 | 2 |
| Average Rel. Coef. | 0.800 | 0.800 | 0.800 | 0.800 | 0.800 | 0.800 | 0.800 | 0.800 |
| Composite Reliability | 0.970 | 0.923 | 0.941 | 0.941 | 0.800 | 0.889 | 0.800 | 0.889 |
| S.E. of Factor Scores | 0.174 | 0.277 | 0.243 | 0.243 | 0.447 | 0.333 | 0.447 | 0.333 |

Standard Errors for Differences in Normalised Factor Scores

(Diagonal Entries Are S.E. Within Factors)

| Factors | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
|---|---|---|---|---|---|---|---|---|
| 1 | 0.246 | 0.327 | 0.299 | 0.299 | 0.480 | 0.376 | 0.480 | 0.376 |
| 2 | 0.327 | 0.392 | 0.368 | 0.368 | 0.526 | 0.434 | 0.526 | 0.434 |
| 3 | 0.299 | 0.368 | 0.343 | 0.343 | 0.509 | 0.412 | 0.509 | 0.412 |

| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 4 | 0.299 | 0.368 | 0.343 | 0.343 | 0.509 | 0.412 | 0.509 | 0.412 |
| 5 | 0.480 | 0.526 | 0.509 | 0.509 | 0.632 | 0.558 | 0.632 | 0.558 |
| 6 | 0.376 | 0.434 | 0.412 | 0.412 | 0.558 | 0.471 | 0.558 | 0.471 |
| 7 | 0.480 | 0.526 | 0.509 | 0.509 | 0.632 | 0.558 | 0.632 | 0.558 |
| 8 | 0.376 | 0.434 | 0.412 | 0.412 | 0.558 | 0.471 | 0.558 | 0.471 |



Distinguishing Statements for Factor 1

(P < .05 ; Asterisk (*) Indicates Significance at P < .01)

Both the Factor Q-Sort Value and the Normalised Score are Shown.

| | | Factors | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1 | | 2 | | 3 | | 4 | | 5 | | 6 | | 7 | | 8 | |
| No. | Statement | No. | RNK | SCORE | RNK | SCORE | RNK | SCORE | RNK | SCORE | RNK | SCORE | RNK | SCORE | RNK | SCORE | RNK SCORE |
| 6 | Most of the time, stak ... | 6 | 5 | 1.92 | 3 | 1.10 | -1 | -0.37 | -2 | -1.06 | -5 | -2.20 | 1 | 0.74 | 2 | 0.88 | 1 0.18 |

Distinguishing Statements for Factor 2

(P < .05 ; Asterisk (*) Indicates Significance at P < .01)

Both the Factor Q-Sort Value and the Normalised Score are Shown.

| | | Factors | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |

| No. | Statement | No. | RNK | SCORE | RNK | SCORE | RNK | SCORE | RNK | SCORE | RNK | SCORE | RNK | SCORE | RNK | SCORE | RNK | SCORE |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 49 | The small amount of cl ... | 49 | -3 | -1.48 | 5 | 2.02* | -2 | -0.85 | -3 | -1.30 | -1 | -0.44 | 1 | 0.74 | 0 | 0.00 | 0 | -0.11 |
| 11 | Local opposition to a ... | 11 | 0 | -0.17 | -4 | -1.61* | 0 | 0.00 | 0 | 0.16 | 1 | 0.44 | 0 | -0.04 | 0 | 0.00 | 0 | 0.11 |
| 27 | The compromise of the ... | 27 | 2 | 0.65 | -5 | -2.20 | -3 | -1.36 | 1 | 0.45 | -1 | -0.44 | 0 | 0.13 | 0 | 0.00 | -2 | -0.92 |



Distinguishing Statements for Factor 3

(P < .05 ; Asterisk (*) Indicates Significance at P < .01)

Both the Factor Q-Sort Value and the Normalised Score are Shown.

| | | | Factors | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1 | | 2 | | 3 | | 4 | | 5 | | 6 | | 7 | | 8 | |
| No. | Statement | No. | RNK | SCORE | RNK | SCORE | RNK | SCORE | RNK | SCORE | RNK | SCORE | RNK | SCORE | RNK | SCORE | RNK | SCORE |
| 31 | Professional and scien ... | 31 | 4 | 1.79 | 0 | 0.00 | 5 | 2.52 | 4 | 1.76 | 0 | 0.00 | 0 | 0.04 | -2 | -0.88 | -2 | -0.69 |
| 23 | It is wrong to take de ... | 23 | 0 | 0.12 | 1 | 0.83 | -2 | -0.54 | 0 | 0.14 | 2 | 0.88 | 3 | 1.03 | -5 | -2.20 | 1 | 0.63 |
| 42 | Onshore wind energy pl ... | 42 | -3 | -1.15 | 1 | 0.75 | -4 | -1.82 | -2 | -0.76 | 2 | 0.88 | 4 | 2.14 | 2 | 0.88 | 1 | 0.63 |
| 13 | Decision making surrou ... | 13 | -2 | -0.67 | 0 | -0.11 | -5 | -2.07 | -2 | -0.82 | -2 | -0.88 | 0 | 0.00 | 0 | 0.00 | 3 | 1.15 |

Distinguishing Statements for Factor 4

(P < .05 ; Asterisk (*) Indicates Significance at P < .01)

Both the Factor Q-Sort Value and the Normalised Score are Shown.

| | | Factors | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1 | | 2 | | 3 | | 4 | | 5 | | 6 | | 7 | | 8 |
| No. | Statement | No. | RNK | SCORE | RNK | SCORE | RNK | SCORE | RNK | SCORE | RNK | SCORE | RNK | SCORE | RNK | SCORE | RNK SCORE |
| 10 | The input from the pub ... | 10 | 1 | 0.23 | 0 | 0.16 | 1 | 0.54 | 3 | 1.37 | -3 | -1.32 | 1 | 0.25 | -4 | -1.76 | -1 -0.29 |
| 6 | Most of the time, stak ... | 6 | 5 | 1.92 | 3 | 1.10 | -1 | -0.37 | -2 | -1.06 | -5 | -2.20 | 1 | 0.74 | 2 | 0.88 | 1 0.18 |
| 12 | Local power companies ... | 12 | 1 | 0.29 | 2 | 0.92 | -1 | -0.37 | -3 | -1.24 | 0 | 0.00 | 1 | 0.33 | 1 | 0.44 | 2 0.98 |



Distinguishing Statements for Factor 5

(P < .05 ; Asterisk (*) Indicates Significance at P < .01)

Both the Factor Q-Sort Value and the Normalised Score are Shown.

| | | Factors | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | 1 | | 2 | | 3 | | 4 | | 5 | | 6 | | 7 | | 8 |
| No. | Statement | No. | RNK | SCORE | RNK | SCORE | RNK | SCORE | RNK | SCORE | RNK | SCORE | RNK | SCORE | RNK | SCORE | RNK SCORE |
| 41 | Wind farms should go i ... | 41 | -2 | -0.64 | 1 | 0.43 | 0 | 0.12 | -3 | -1.49 | 4 | 1.76 | 0 | 0.13 | -3 | -1.32 | -3 -1.14 |
| 36 | Everyone prefers that ... | 36 | 0 | 0.04 | 1 | 0.83 | 1 | 0.16 | 2 | 0.97 | -4 | -1.76* | 4 | 1.65 | 3 | 1.32 | 3 1.32 |
| 6 | Most of the time, stak ... | 6 | 5 | 1.92 | 3 | 1.10 | -1 | -0.37 | -2 | -1.06 | -5 | -2.20 | 1 | 0.74 | 2 | 0.88 | 1 0.18 |

Distinguishing Statements for Factor 6

(P < .05 ; Asterisk (*) Indicates Significance at P < .01)

Both the Factor Q-Sort Value and the Normalised Score are Shown.

| | | Factors | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1 | | 2 | | 3 | | 4 | | 5 | | 6 | | 7 | | 8 | |
| No. | Statement | No. | RNK | SCORE | RNK | SCORE | RNK | SCORE | RNK | SCORE | RNK | SCORE | RNK | SCORE | RNK | SCORE | RNK | SCORE |
| 42 | Onshore wind energy pl ... | 42 | -3 | -1.15 | 1 | 0.75 | -4 | -1.82 | -2 | -0.76 | 2 | 0.88 | 4 | 2.14 | 2 | 0.88 | 1 | 0.63 |



Distinguishing Statements for Factor 7

(P < .05 ; Asterisk (*) Indicates Significance at P < .01)

Both the Factor Q-Sort Value and the Normalised Score are Shown.

| | | Factors | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | 1 | | 2 | | 3 | | 4 | | 5 | | 6 | | 7 | | 8 | |
| No. | Statement | No. | RNK | SCORE | RNK | SCORE | RNK | SCORE | RNK | SCORE | RNK | SCORE | RNK | SCORE | RNK | SCORE | RNK | SCORE |
| 18 | Before building wind f ... | 18 | 4 | 1.74 | 4 | 1.76 | 4 | 2.31 | 4 | 1.59 | 4 | 1.76 | 5 | 2.68 | 1 | 0.44 | -4 | -1.84 |
| 23 | It is wrong to take de ... | 23 | 0 | 0.12 | 1 | 0.83 | -2 | -0.54 | 0 | 0.14 | 2 | 0.88 | 3 | 1.03 | -5 | -2.20* | 1 | 0.63 |

Distinguishing Statements for Factor 8

(P < .05 ; Asterisk (*) Indicates Significance at P < .01)

Both the Factor Q-Sort Value and the Normalised Score are Shown.

| | | Factors | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |

| No. | Statement | No. | RNK | SCORE | RNK | SCORE | RNK | SCORE | RNK | SCORE | RNK | SCORE | RNK | SCORE | RNK | SCORE | RNK |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 21 | The 12 wind turbines p ... | 21 | 2 | 0.92 | -1 | -0.31 | 2 | 0.75 | 3 | 1.33 | 1 | 0.44 | -3 | -1.56 | -2 | -0.88 | 5 |
| 2.59* | | | | | | | | | | | | | | | | | |
| 13 | Decision making surrou ... | 13 | -2 | -0.67 | 0 | -0.11 | -5 | -2.07 | -2 | -0.82 | -2 | -0.88 | 0 | 0.00 | 0 | 0.00 | 3 |
| 1.15 | | | | | | | | | | | | | | | | | |
| 25 | Decisions on wind farm ... | 25 | 3 | 1.43 | 2 | 0.98 | 0 | -0.09 | 3 | 1.49 | 3 | 1.32 | 3 | 1.56 | 2 | 0.88 | -4 |
| 1.55* | | | | | | | | | | | | | | | | | |
| 18 | Before building wind f ... | 18 | 4 | 1.74 | 4 | 1.76 | 4 | 2.31 | 4 | 1.59 | 4 | 1.76 | 5 | 2.68 | 1 | 0.44 | -4 |
| 1.84* | | | | | | | | | | | | | | | | | |



Consensus Statements -- Those That Do Not Distinguish Between ANY Pair of Factors.

All Listed Statements are Non-Significant at P>.01, and Those Flagged With an * are also Non-Significant at P>.05.

Factors

| No. | Statement | No. | 1 RNK | 1 SCORE | 2 RNK | 2 SCORE | 3 RNK | 3 SCORE | 4 RNK | 4 SCORE | 5 RNK | 5 SCORE | 6 RNK | 6 SCORE | 7 RNK | 7 SCORE | 8 RNK |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| SCORE | | | | | | | | | | | | | | | | | |

There Were NO Consensus Statements

QANALYZE was completet at 18:54:00

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