THE QUESTIONNAIRE - SHAPE ENERGY Call for Evidence

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SHAPEENERGY

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 731264.

Authors

Chris Foulds*, Anglia Ruskin University (UK)
Rosie Robison, Anglia Ruskin University (UK)
Lenke Balint, Anglia Ruskin University (UK)
Osman Arrobbio, Politecnico di Torino (Italy)
Giulia Sonetti, Politecnico di Torino (Italy)

*chris.foulds@anglia.ac.uk

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SHAPE ENERGY Call for Evidence

SHAPE ENERGY – Social sciences and Humanities for Advancing Policy in European Energy – represents a new €2m European platform for energy-related Social Sciences and Humanities (energy-SSH) research. Energy-SSH has played less of a role to date in shaping (European) energy policy than Science, Technology, Engineering and Mathematics (STEM) disciplines and, as such, the SHAPE ENERGY platform aims to develop Europe's interdisciplinary expertise in using and applying energy-SSH.

The two-year SHAPE ENERGY project began in February 2017 and is coordinated by Anglia Ruskin University (UK). As part of its initial scoping work, this Call for Evidence aims to identify current understandings and future priorities from a wide range of research, policy and practitioner communities across Europe. As such, this call is not solely intended for energy-SSH researchers; we are keen to engage with energy-STEM and non-energy-SSH researchers – as well as those from policy, industry and beyond – who may be keen to utilise energy-SSH research in the future.

This Call for Evidence is primarily intended for those working in the European Union and other Horizon 2020 associated countries: Albania, Armenia, Austria, Belgium, Bosnia and Herzegovina, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Faroe Islands, Finland, France, Georgia, Germany, Greece, Hungary, Iceland, Ireland, Israel, Italy, Latvia, Lithuania, Luxembourg, Malta, Moldova, Montenegro, The Netherlands, Norway, Poland, Portugal, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Tunisia, Turkey, Ukraine, the United Kingdom, and the former Yugoslav Republic of Macedonia.

This call is intentionally designed to be easy to do (only four core questions, 5-10mins). Responses will be anonymised and made publicly available free-of-charge in summer 2017 (via www.shapeenergy.eu - not yet launched). There will also be an accompanying SHAPE ENERGY reflective summary, on the basis of those responses.

Should you have any queries about this Call for Evidence (or the SHAPE ENERGY project more widely), please contact chris.foulds@anglia.ac.uk and rosie.robison@anglia.ac.uk. You are free to withdraw within two weeks of completion by emailing these addresses.

☐ Please tick to confirm you understand information submitted to this call will be anonymised and made publicly available online.

☐ Please tick to confirm you are at least 18 years old.

☐ Data Protection: Please tick to confirm you understand that data may be shared with SHAPE ENERGY partners, some of whom are based outside the EU, but all of whom are contractually bound to abide by EU data protection law. Personal data will be held for a maximum of 2 years after the end of the project (i.e. up to 31 January 2021), after which time it will be destroyed

Professional details

Name:

Email address:

Gender (please tick):

- ◯ Male
- ◯ Female
- ◯ Other

Job title:

Organisation name:

Organisation type (please tick):

- ◯ Academic
- ◯ Policy
- ◯ Industry
- ◯ Non-Governmental Organisation
- ◯ Citizen
- ◯ Other (please state:)

Country (where your organisation is based):

Which disciplines would you say you represent (e.g. Economics, History, Sociology)? If more than one, please rank:

The SHAPE ENERGY platform's work covers four, broad, energy topics. Please indicate which, if any, your work aligns to (you can select more than one):

- ◯ Energy efficiency and using less
- ◯ Competitive, secure, low-carbon energy supply
- ◯ Energy system optimisation and smart technologies
- ◯ Transport sector decarbonisation
- ◯ Other (please state:)

Current landscape for interdisciplinary energy research

1. In what ways do you think research from across the Social Sciences and Humanities is contributing to energy policy priorities?

Supporting future interdisciplinary energy research

We welcome your ideas in this section - e.g. in the context of topic area(s) you are working in, such as 'transport sector decarbonisation' - but possible areas for reflection may include: recognition of certain disciplinary differences; metrics for evaluating research excellence; peer review/publishing processes; policy-research interactions; funding expectations; etc.

2a. If you are working broadly within the energy-related Social Sciences and Humanities: how could novel energy-SSH research be best supported?

2b. If you are not working broadly within the energy-related Social Sciences and Humanities: how would you like to engage with energy-SSH in the future and is there anything that could help with this?

Priorities for future interdisciplinary energy research

3. Looking beyond the EU Horizon 2020 funding programme (thus 2021 onwards), what are the main energy challenges that should be given more funding?

Relevant communities

4. Are there any relevant networks, professional associations, large projects or even individuals that you think may be interested in the SHAPE ENERGY project? Please note your involvement in these, if appropriate.

Additional comments

Please use this space to tell us anything else that you think we should take note of.

Keeping in touch

You may be interested to stay in touch with us. For instance, over the next two years, SHAPE ENERGY will be running: 18 multi-stakeholder workshops across Europe; Horizon 2020 sandpits; a PhD summer school; PhD secondments to Horizon 2020 energy projects; funding for collaborative think pieces; funding for an innovative 'research design challenge'; and online policymaker-citizen debates. We will also be publishing various reviews of the energy-SSH research landscape, including the outputs from this call.

☐ Please tick if you do NOT want to included on the SHAPE ENERGY mailing list.

☐ Please tick if you WOULD NOT be willing to be contacted to undertake an informal follow-up interview on these themes (by phone).

☐ Please tick if you WOULD NOT like your organisation (or name, if no organisation) to be included in the acknowledgements of SHAPE ENERGY outputs (not associated with individual responses).

Acknowledgements

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 731264.

Anglia Ruskin University | Global Sustainability Institute

KIT Karlsruhe Institute of Technology

POLITECNICO DI TORINO

LAET

NTNU Norwegian University of Science and Technology

ORTA DOĞU TEKNİK ÜNİVERSİTESİ MIDDLE EAST TECHNICAL UNIVERSITY

Tomas Bata University in Zlín Faculty of Management and Economics

BSERC black sea energy research centre

energycities

friends of europe

DuneWorks research & advice for sustainability

acento comunicación

ecee

THE RESPONSES

SHAPE ENERGY Call for Evidence

SHAPEENERGY

This project has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 731264.

Authors

Lenke Balint*, Anglia Ruskin University (UK)
Chris Foulds, Anglia Ruskin University (UK)
Steven Ward, Anglia Ruskin University (UK)

*lenke.balint@anglia.ac.uk

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Contents

List of tables

Table of figures

Acknowledgements

The SHAPE ENERGY Call for Evidence questionnaire aimed to identify understandings of current and future energy research from a wide range of practitioner, policy and research communities across Europe. The Call intended to engage with those who may utilise energy-related Social Sciences and Humanities research in the future, including those working in industry, policy, non-governmental organisations and research institutions. The list of contributors to the Call for Evidence reflects this wide spectrum of respondents the questionnaire intended to reach. The full structure and list of all questions can be found in the archived version of the questionnaire[1].

We are also grateful to Rosie Robison for her insightful review comments. However, in particular, we owe a debt of gratitude to all the individuals from the following institutions for their contributions:

Aalborg University; Acento Comunciación; Airbus SAS; Anglia Ruskin University; Atos; AzzeroCO2; Bauhaus Aviation; Black Sea Energy Research Centre; Cardiff University; Centre for International Climate and Environmental Research; Community Research and Development Information Service; Danish Energy Agency; Demonstrating an integrated Renovation approach for Energy Efficiency At the Multi-building scale; DuneWorks; Durham University; EDF Energy; Eindhoven University of Technology; Energy and Water Utilities Regulatory Authority; Energy Cities; EnergyGO; Eötvös Loránd University; Estonian University of Life Sciences; European Commission - Directorate General for Energy; European Academy of Bozen/Bolzano; European Council for an Energy Efficient Economy; European Institute for Energy Research; Francisc I. Rainer Institute of Anthropology; Fraunhofer Institute for Systems and Innovation Research; Freiberg University of Mining and Technology; French Environment and Energy Management Agency; Friends of Europe; Future Carbon Australia; German Aerospace Center; Government of the United Kingdom; Grand Union Community Energy Ltd.; Graz Energy Agency; Greater Cambridge Greater Peterborough Enterprise Partnership; Grenoble Ecole de Management; Hanze University of Applied Sciences; Hebrew University of Jerusalem; Homi; IEA Demand Side Management Energy Efficiency Technology Collaboration Program; Imperial College London; Institute for Living and Environment; International Conference on Electricity Distribution; International network for Social Studies of Marine Energy; Karlsruhe Institute of Technology; Keele University; Leuphana University of Lüneburg; Lichte Bries; Maastricht University; Malmö University; Manchester Climate Change Agency; Marchena Management Services Ltd.; Middle East Technical University; Mindfulness and Social Change Network; Municipal office of Granada; National Research Council Canada; Norwegian University of Science and Technology; Norwegian Water Resources and Energy Directorate; Nottingham Trent University; Oxford Brookes University; Paris Institute of Political Studies; Polytechnic University of Turin; Radboud University; Rennes Institute of Political Studies; Sapienza University of Rome; Scottish Association for Marine Science; Siemens; Singapore-MIT Alliance for Research and Technology; Sustainable Energy Authority of Ireland; Swedish Energy Agency; Swiss Federal Institute of Technology in Zurich; Technology University of Wien; The University of Sheffield; Tomas Bata University in Zlin; University College Cork; University of Academy of Sciences of Moldova; University of Bath; University of Belgrade; University of Bonn; University of Brussels; University of Cambridge; University of Clermont Auvergne; University of Coimbra; University of Coimbra; University of Dublin; University of Durham; University of Edinburgh; University of Lausanne; University of Leeds; University of Lyon; University of Manchester; University of Oslo; University of Oxford; University of Pisa; University of St Andrews; University of Sussex; University of Tampere; University of the West of England; University of Turin; University of Vermont; University of York; Ural Federal University; Utrecht University; Wageningen University and Research; Warmworks Scotland and Wuppertal Institute for Climate and Environment and Energy.[2]

1 Foulds, C., Robison, R., Balint, L., Arrobbio, O. and Sonetti, G., 2017. *The questionnaire - SHAPE ENERGY Call for Evidence*. Cambridge: SHAPE ENERGY.

2 Please note that all responses collected represent individual answers and in no way reflect organisational responses.

1. Call for Evidence number of responses

The SHAPE ENERGY Call for Evidence was launched in April 2017 and attracted 204 responses in total, which were collected from 11 April to 12 July 2017.

The questionnaire was intentionally designed to be easy-to-use and contains four core open questions about the current and future landscape for interdisciplinary energy research. The questionnaire also contains a number of closed questions regarding some personal and professional details of respondents. These additional closed questions refer to the name, job title, organisation name, organisation type, country, disciplinary background, and the respondents' interest in four energy topics. All responses have been anonymised.

Table 1 presents a simple breakdown of the number of responses per question.

*Table 1: Number and percentage of respondents per question (n=204)**

QUESTION	NUMBER (AND %) OF RESPONDENTS
1. In what ways do you think research from across the Social Sciences and Humanities is contributing to energy policy priorities?	197 (96%)
2a. If you are working broadly within the energy-Social Sciences and Humanities: how could novel energy-SSH research be best supported?	140 (68%)
2b. If you are not working broadly within the energy-related Social Sciences and Humanities: how would you like to engage with energy-SSH in the future and is there anything that could help with this?	93 (45%)
3. Looking beyond the EU Horizon 2020 funding programme (thus 2021 onwards), what are the main energy challenges that should be given more funding?	193 (94%)
4. Are there any relevant networks, professional associations, large projects or even individuals that you think may be interested in the SHAPE ENERGY project? Please note your involvement in these, if appropriate.	136 (66%)
Please use this space to tell us anything else that you think we should take note of.	52 (25%)

* *Please note that only fields left blank were considered non-answers (we included responses such as 'no'; 'N/A', 'not an expert in this area' in the count)*

2. Gender distribution of respondents

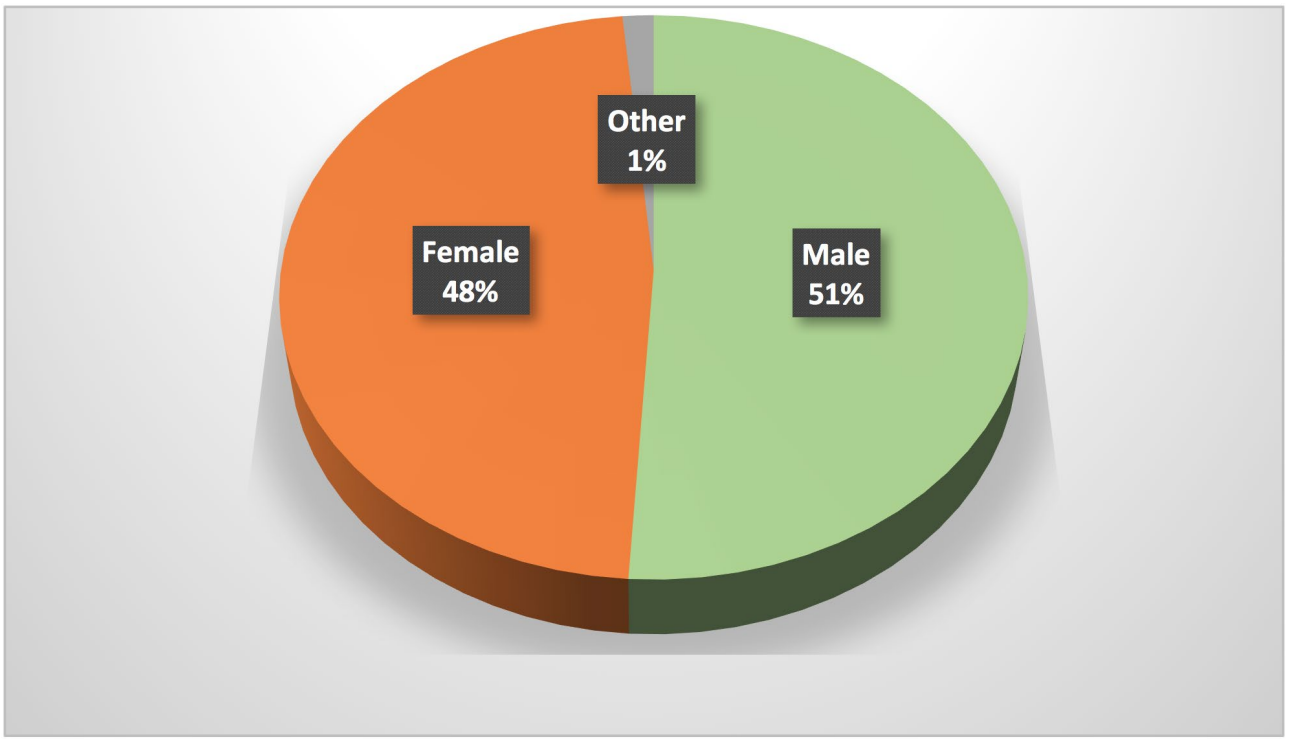
[Original question in the survey: 'Gender']

The gender distribution of the 204 respondents is detailed in Table 2 and Figure 1.

Table 2: Gender distribution of respondents (n=204)

Gender	Number (and %) of respondents
Male	104 (50.7%)
Female	98 (47.8%)
Other	3 (1.5%)

Figure 1: Gender distribution of respondents (n=204)



3. Job titles of respondents

[Original question in the survey: 'Job title']

A number of different job titles were indicated in the 197 total responses for this question/section. For ease of presenting these data, please note that a number of similar job titles have been combined (such as 'PhD Student' and 'PhD Researcher', for example). The aggregated list is presented below, in Table 3, in alphabetical order.

For transparency and completeness, the full list of original responses is presented in Annex 1.

Table 3: Aggregated table of job titles indicated in the questionnaire (n=197)

Job title	Number of respondents
Academic	2
Advisor (energy and environment, technology) and Senior adviser	4
Analyst	2
Assistant Professor	6
Associate Professor	5
Audiovisual editor	1
Carer/Tutor	1
CEO and Senior Researcher	1
Chair	1
Chartered Accountant	1
Communications and Design Professional	2
Coordinator of sociological studies and UX (user experience)	1
Co-organiser	1
Deputy Head of Energy Sector	1
Director	6
Dr.	1
Expert, including in Energy Policy and Economics	2
Engineer and Senior engineer	5
EU Project Assistant	1
Freelancer social & sustainable impact	1
Graduate Fellow	1
Group Co-ordinator	2
Head of Energy & Transport Market	1
Head of Sustainability	1
international Development Manager	1
Journalist	1
Lecturer and senior lecturers	4

Manager	1
Operating Agent	1
Ph.D Candidate	24
Policy Officer	1
Post-doctoral Researcher	8
Principal Investigator In Ecological Economics	1
Professor	17
Programme Assistant - Climate and Energy	1
Programme Director	1
Programme Manager	2
Project Developer, BSc in Mechanical Engineering	1
Project Manager, including project coordinator	9
Research Assistant	4
Research Associate	5
Research Engineer	3
Research Fellow and Senior Research Fellows	18
Research Institute Manager	1
Researcher, including Junior and Senior Researcher	30
Retired - ex civil service psychologist	1
Secretary	1
Sociologist	1
Student, including Master's students	6
Sustainable Energy Specialist	1
Teacher/PhD Student	1
Technician of Local Agenda 21	1

4. Types of organisations respondents represent

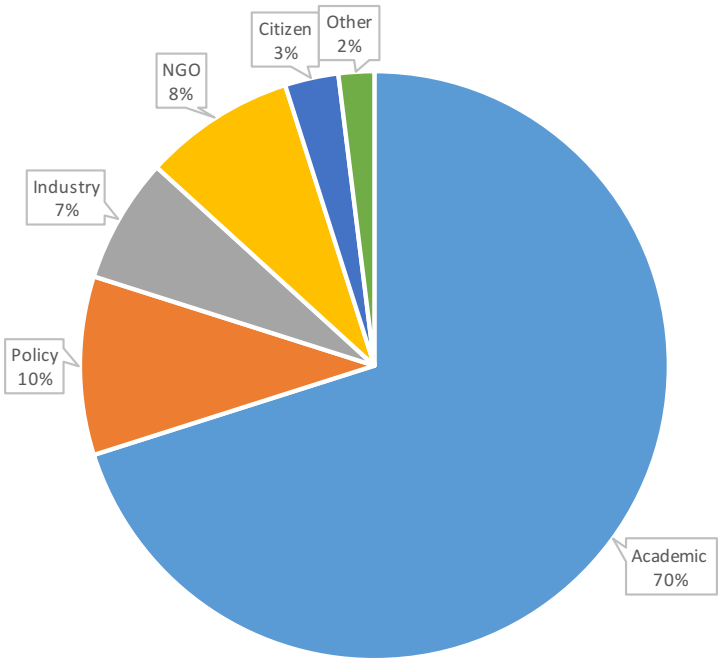
[Original question in the survey: 'Organisation type']

There were 204 responses for this section. For ease of presenting these data, an aggregated pie chart (Figure 2) and table (Table 4) of the responses are presented, according to the five organisational categories the questionnaire originally contained. Please note that there were four other responses that could not be included in the five main categories included in the survey as these were not organisation types (these have been marked as 'Other' in Table 4).

Table 4: Aggregated table of organisation types (n=204)

Organisation type	Number of respondents
Academic	143
Policy	20
Industry	14
NGO	17
Citizen	6
Other	4

Figure 2: Breakdown of organisation types (n=204)



The full list of responses for this question/section is presented in Annex 2, in alphabetical order.

5. Country distribution

[Original question in the survey: 'Country where your organisation is based']

There were 204 responses for this question/section. Table 5 shows the number of responses per country, in alphabetical order. The table is primarily structured according to the list of countries eligible for the European Union's Horizon 2020 funding programme. There were a small number of responses from outside Europe, which are also indicated in Table 5.

*Table 5: List of countries and number of responses (n=204)**

Countries	Number of responses
Horizon 2020 eligible countries that were represented:	
Austria	2
Belgium	7
Bulgaria	3
Czech Republic	5
Denmark	4
Estonia	1
Finland	1
France	19
Germany	16
Hungary	1
Ireland	5
Israel	1
Italy	14
Macedonia	1
Moldova	1
Netherlands	17
Norway	14
Portugal	2
Romania	1
Russian Federation	1
Serbia	1
Spain	6
Sweden	3
Switzerland	3
Turkey	4
United Kingdom	61
Other countries that were represented:	
Australia	1
Canada	2
New Zealand	1
Singapore	1
Tanzania	1

* *Note that there were three other responses that could not be included in this table, as the answers were not countries.*

6. SHAPE ENERGY disciplines

[Original question in the survey: 'Which disciplines would you say you represent (e.g. economics, history, sociology? If more than one, please rank']

There were 204 responses for this question/section. For ease of presenting these data and for consistency across the project data categories, an aggregated table of the responses is presented according to the list of Social Sciences and Humanities disciplines covered by SHAPE ENERGY (Table 6). These were also the categories according to which we have built our online Researcher Database[3]. We have only included the primary disciplines (indicated as being ranked first in the responses) in Table 6.

For a list of all disciplines mentioned in the responses, please see Annex 3.

Table 6: SHAPE ENERGY disciplines and their frequency in answers (n=204)

Social Sciences and Humanities disciplines covered by SHAPE ENERGY	Number (primary discipline only)
Business	3
Communication Studies	5
Development	1
Economics	31
Education	3
Environmental Social Science	20
Gender	1
History	1
Human Geography	9
Law	1
Philosophy	0
Planning	4
Politics	14
Psychology	6
Science and Technology Studies	22
Social Anthropology	10
Social Policy	0
Sociology	21
Theology	1
Other	51

Please note that whilst some of the disciplines have been sorted according to the respondent explicitly stating it, a number of other stated disciplines have been re-labelled (for the purposes of Table 6 only) in accordance with the SHAPE ENERGY disciplinary categories. We have provided all the originally stated disciplines in Annex 3 for transparency and completeness.

Moreover, there were 51 other responses that could not be included within Table 6's list of disciplinary categories and, as such, have been marked as 'Other' in Table 6 (these mostly included energy-related disciplines associated with the Science, Technology, Engineering and Mathematics subjects as well as some Social Sciences and Humanities ones that did not easily fit into the SHAPE ENERGY disciplinary categories).

3 The SHAPE ENERGY online energy-related Social Sciences and Humanities (energy-SSH) researcher database can be accessed via https://shapeenergy.eu/index.php/researcher-database/.

7. SHAPE ENERGY topics

[Original question in the survey: 'The SHAPE ENERGY platform's work covers four broad energy topics. Please indicate which, if any, your work aligns to (you can select more than one)']

There were 194 responses for this question/section. For ease of presenting these data and consistency across the project data categories, the aggregated totals for the responses are presented in Figure 3, according to the four energy topics covered by SHAPE ENERGY.

Since respondents were allowed to choose more than one topic and these were not ranked in any particular order, we also present these data in two tables. Table 7 presents the frequency of how many respondents have chosen one or two energy topics only. Table 8 presents the frequency of how many respondents have chosen three or more energy topics. Please note that there were 23 responses that could not be included in the four SHAPE ENERGY broad energy topics and have been marked as 'Other' in Figure 3 below.

For a list of all SHAPE ENERGY topics originally provided in the responses, please see Annex 4.

Figure 3: Frequency of how often one of the given SHAPE ENERGY topics were chosen (n=194)

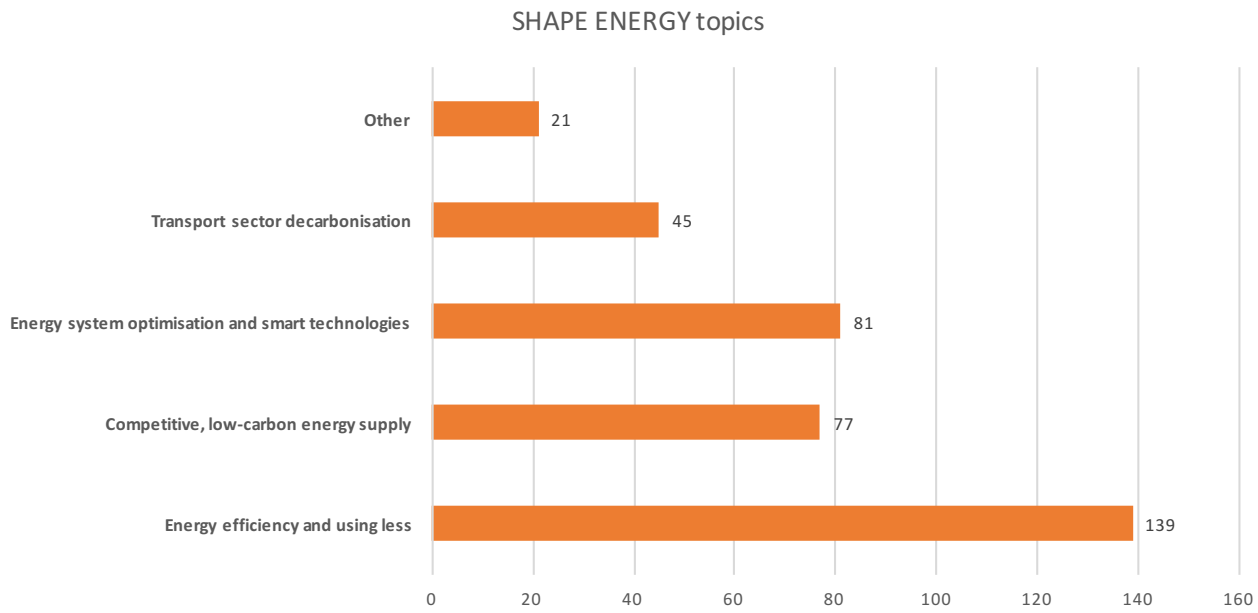


*Table 7: Number of those respondents who chose one or two energy topics only (n=135)**

SHAPE ENERGY TOPICS	Energy efficiency and using less	Competitive, low-carbon energy supply	Energy system optimisation and smart technologies	Transport sector decarbonisation	Other
Energy efficiency and using less	39	13	17	6	7
Competitive, low-carbon energy supply	[13]	10	6	1	1
Energy system optimisation and smart technologies	[17]	[6]	8	1	0
Transport sector decarbonisation	[6]	[1]	[1]	3	0
Other	[7]	[1]	[0]	[0]	23

**Please note that the numbers in squared brackets should not be counted towards the total answers as they are a mirror-image of the other side of the table.*

Table 8: Number of those respondents who chose three or more energy topics (n=59)

SHAPE ENERGY TOPICS	FREQUENCY
Competitive, secure, low-carbon energy supply; Energy system optimisation and smart technologies; Transport sector decarbonisation.	1
Competitive, secure, low-carbon supply; Transport sector decarbonisation; Other.	1
Energy efficiency and using less; Competitive, secure, low-carbon energy supply; Other.	1
Energy efficiency and using less; Competitive, secure, low-carbon energy supply; Energy system optimisation and smart technologies.	16
Energy efficiency and using less; Transport sector decarbonisation; Other.	1
Energy efficiency and using less; Competitive, secure, low-carbon energy supply; Other.	2
Energy efficiency and using less; Competitive, secure, low-carbon energy supply; Transport sector decarbonisation.	4
Energy efficiency and using less; Competitive, secure, low-carbon energy supply; Transport sector decarbonisation; Other.	1
Energy efficiency and using less; Energy system optimisation and smart technologies; Other.	5
Energy efficiency and using less; Energy system optimisation and smart technologies; Transport sector decarbonisation.	6
Energy efficiency and using less; Competitive, secure, low-carbon energy supply; Energy system optimisation and smart technologies; Transport sector decarbonisation; Other.	4
Energy efficiency and using less; Energy system optimisation and smart technologies; Transport sector decarbonisation; Other.	1
Energy efficiency and using less; Competitive, secure, low-carbon energy supply; Energy system optimisation and smart technologies; Other.	1
Energy efficiency and using less; Competitive, secure, low-carbon energy supply; Energy system optimisation and smart technologies; Transport sector decarbonisation.	15

8. List of open questions

A list of randomised answers to each of the Call for Evidence open questions can be found in the annexes at the end of this document, as per Table 9:

Table 9: List of open questions and the Annexes containing their randomised answers

QUESTION	RAW DATA FILE
1. In what ways do you think research from across the Social Sciences and Humanities is contributing to energy policy priorities?	Annex 5
2a. If you are working broadly within the energy-Social Sciences and Humanities: how could novel energy-SSH research be best supported?	Annex 6
2b. If you are not working broadly within the energy-related Social Sciences and Humanities: how would you like to engage with energy-SSH in the future and is there anything that could help with this?	Annex 7
3. Looking beyond the EU Horizon 2020 funding programme (thus 2021 onwards), what are the main energy challenges that should be given more funding?	Annex 8
4. Are there any relevant networks, professional associations, large projects or even individuals that you think may be interested in the SHAPE ENERGY project? Please note your involvement in these, if appropriate.	Annex 9
5. Please use this space to tell us anything else that you think we should take note of.	Annex 10

Annex 1 – List of all job titles given in the responses

Job title
Academic (2)
Academic Researcher
Advisor energy and environment
Advisor Technology
Analyst
Ass. Professor
Assist. Prof. Dr.
Assistant Professor (8)
Associate Professor of Business, Organisations and Sustainability
Audiovisual editor
B2T Coordinator - PhD Candidate
Carer/Tutor
CEO and senior researcher
Chair
Chartered Accountant
Chief Advisor
Communication officer
Communications Director
Consulting researcher
Coordinator of sociological studies and UX (user experience)
Co-organiser
Deputy Head of Energy Sector
Director (6)
Doctoral Student in Power Networks.
Dr.
Education for Sustainability Coordinator
Energy analyst
Energy Policy and Economics expert
Engineer (2)
Eu project assistant (H2020 project EnerSHIFT)
Expert
Freelancer social & sustainable impact
Graduate Fellow
Graphic Designer
Group co-ordinator
Head of Energy & Transport Market
Head of Sustainability
Interdisciplinary researcher economy-energy-environment
international Development Manager
Journalist
Junior Researcher
Junior researcher and advisor
Lecturer
Lecturer in Social Anthropology
Manager
Master's Student
Master's student (or citizen)
Operating Agent
Ph.D Candidate (6)
Ph.D student and Teaching Assistant
PhD
PhD candidate / researcher
PhD Candidate in Energetics
PhD environmental sc.
PhD Fellow
PhD Researcher (3)
PhD Research Student
PhD student (6)
Policy Officer
Political science researcher
Post doctoral researcher
Post-doc (3)
Post-doc / visiting researcher
Postdoc researcher
Postdoctoral Associate
Post-doctoral research fellow
Principal Investigator In Ecological Economics
Prof.
Professor (12)
Professor Emeritus
Professor in Energy and Climate Policy
Professor of Human behaviour and Sustainable Development
Professor of Transport& Energy
Programme Assistant - Climate and Energy
Programme Director
Programme Manager
Programme Manager - Energy Modelling
Project Coordinator
Project developer, BSc in Mechanical Engineering
Project management on energy efficiency
Project Manager (7)
Reader in Sociology
Research Affiliate
Research Assistant (3)
Research assistant/ PhD candidate
Research Associate (4)
Research engineer / PhD student
Research Fellow (12)
Research Fellow in Sustainable Business
Research group leader
Research Ingeneer
Research Insitute Manager
Research Intern
Research scholarship
Researcher (12)
Researcher & advisor
Researcher / advisor
Retired - ex civil service psychologist
Secretary
Senior advisor
Senior engineer
Senior Lecturer is Sustainability
Senior Lecturer, Researcher
Senior Research Fellow (4)
Senior Research Officer
Senior Researcher (5)
Senior researcher/advisor
Senior Scientist (2)
Sociologist
Student (2)
Student Internship & Self Employed
Sustainable Energy Specialist
Teacher/PhD Student
Technician of Local Agenda 21
Visiting Fellow
Water and sanitation engineer

Annex 2 – List of organisation types given in the responses

ORGANISATION TYPE
Academic (139)
Academic or Citizen
Academic, Industry
Citizen (6)
Civil service
Communication
Communication Agency
Communication/media
Company limited liability
Consultancy - advice+support expertise to set policy development+ implementation
Delivery partnership
EC co-funded project
Energy and Water Utilities Regulatory Authority (EWURA)
Engineering company
For benefit SME
Industry (9)
Municipality
Non-academic research, not for profit
None for now, academic otherwise
Non-Governmental Organisation (12)
Non-profit company
Policy (11)
Private, Non for profit
Professional network and community of practice
R&D (2)
Research centre
Small firm
SME
SME doing both (action) research; giving advice and designing interventions
Social enterprise
Think Tank (3)

Annex 3 – List of disciplines given in the responses

WHICH DISCIPLINES WOULD YOU SAY YOU REPRESENT (E.G. ECONOMICS, HISTORY, SOCIOLOGY)? IF MORE THAN ONE, PLEASE RANK:
Renewable energy and environment • Energy efficiency • Reforestation
1) IR 2) Political science
1) Policy 2) Economics 3) Geography 4) Environment
1) Political sciences, 2) Geography
1) Science and Technology Studies 2) Political Science 3) Sociology
1) Science and technology studies, 2) sociology
1)Economics 2)Engineering Management
1. Design; 2. Psychology; 3. Sociology.
1. Environmental science; 2. Geography; 3. Economics; 4. Mathematics.
1. Environmental Social Science; 2. Sociology; 3. Science & Technology Studies
1. Landscape Architecture, 2. Sociology
1. Management studies; 2. Social behaviour; 3. Economics
1. Organisational behaviour (psychology); 2. Business management; 3. Organisations and the natural environment
1. Social science; 2. geography; 3. psychology; 4. sociology; 5. education.
1. sociology 2. Human Geography
1. Sociology 2. Political science
1. Sociology; 2. Design; 3. Business
1. Technology assessment; 2. Energy & the environment; 3. Engineering
1: Science and Technology Studies, 2: Sociology
1st Political science 2nd economics 3rd sociology
Agriculture
Anthropology (5)
Anthropology and Environmental History
Anthropology, sociology
Architecture
Architecture, environmental sciences
Architecture, social sciences
Assessment in sustainable development
Building engineering
Chemistry
civil engineering, energy engineering
Communication (2)

Communication Studies (2)
Community energy
Complex Systems, energy efficiency, communication & engagement
Ecological economics, environmental social science
Ecology Environment
Economic and social anthropology
Economics (14)
Economics - Engineering - Energy - Agriculture - Finance
Economics and Political Science
Economics, Decision Making, Urban Planning
Economics, energy policy
Economics, engineering
Economics, Environmental data Analysis
Economics, marketing
Economics, political economy, energy geographies
Economics, science
Economics, sociology, philosophy, business development
Economics. Sociology
Economics/ Business
Economy, science, ecology
Education, Social Sciences
Energy
Energy
Energy economics (2)
Energy efficiency
Energy efficient buildings
Energy engineering, building physics, architecture
Energy, economics
Energy, power systems, economics, climate
Engineering (9)
Engineering - water and sanitation
Engineering, energy economics
Engineering, Planning, Governance
Engineering, Social Science, Geography, Geology
Engineering, Sociology
Engineering + social sciences (SSH)
Engineering, law

Environmental management
Environmental Management, Science & Technology Studies, Resource Management, Public Policy, Spatial Planning, Law, Anthropology, Geography, Economics, Sociology
Environmental politics, international development,
Environmental Science (2)
Environmental Science/ Energy Efficiency
Environmental sciences
Environmental social science (3)
Environmental social science, psychology, psycho-social studies, maths
Environmental, economics
Ethics
European Policy, Economics and Politics
Finance (2)
Geography (2)
Geography, Ecology, NGOs
Geography, Social Psychology
Health /Mathematics education
Help to understand: consumption; how policy works- or not work; why the 'economic' man is wrong.
Human geography, sociology
Humanities
I don't have a disciplinary starting point. I have studied and am interested in solutions for a low-carbon built environment. That brings in (in no particular order): architecture, engineering, sociology, economics, policy studies and other things.
I research energy& sustainability from an interdisciplinary perspective. Honestly can't answer.
ICT, Energy
Information Technology
Innovation science
Innovation Sciences (science and technology studies)
Interdisciplinary
Interdisciplinary: marine social science, marine social ecology, marine policy
International Relations, International Political Economy
Law; policy; sociology
Marine ecology, behavioural sciences
Marine planning and management
Media sociology
Natural resources, remote sensing/GIS, planning, anthropology
None
None (I am not an academic or researcher)

Operational research/ decision support/ electrical engineering
Physics, physical chemistry
Policy
Policy development, education, stakeholder engagement, communications, project development
Political science
Political science / social sciences
Political science; spatial planning and geography; sociology; innovation studies
Politics (3)
Politics, psychology, sociology, geography
Prospective-Economics-Sociology-Engineering
Psychology (4)
Psychology, sociology, economics, politics
Public administration and Political Science
Religious studies, Environmental humanities
Risk and Society (inherently interdisciplinary)
Science and Technology studies (3)
Science and technology studies (sociology/philosophy/history)
Science and Technology Studies, Sociology (2)
Science and technology studies, sociology, engineering
Science and technology studies/ sociology/ political science
Social Anthropology (2)
Social anthropology, interdisciplinary
Social science, geography
Social sciences
Social sciences, education, sustainability
Sociology (9)
Sociology / Geography
Sociology and user experience design
Sociology, anthropology
Sociology, Criminology, Social Studies of Science and Technology
Sociology, economics, marketing, ecosystem research
Sociology, Engineering
Sociology, environmental psychology
Sociology, political science, communications, STS
Sociology+ environmental science
Soil Science
STS (2)

STS, anthropology, sociology
STS/sociology
Sustainability science, policy, economics, finance
Sustainability transitions
System Dynamics economics
Technology Assessment, social science, transportation research
Urban environmental management and planning, Psychology, Economics
Urban planning evaluation
Urban Planning, Sustainability Evaluation, Energy Policy
Urbanism, town planning
World politics, political science

Annex 4 - Randomised list of SHAPE ENERGY topics

THE SHAPE ENERGY PLATFORM'S WORK COVERS FOUR, BROAD, ENERGY TOPICS. PLEASE INDICATE WHICH, IF ANY, YOUR WORK ALIGNS TO (YOU CAN SELECT MORE THAN ONE):
Energy efficiency and using less, Competitive, secure, low-carbon energy supply, Energy system optimisation and smart technologies, Transport sector decarbonisation
Transport sector decarbonisation
Energy efficiency and using less, Competitive, secure, low-carbon energy supply, Energy system optimisation and smart technologies, Transport sector decarbonisation
Energy efficiency and using less, Competitive, secure, low-carbon energy supply, Energy system optimisation and smart technologies, Transport sector decarbonisation
Competitive, secure, low-carbon energy supply, Energy system optimisation and smart technologies
Energy efficiency and using less, Energy system optimisation and smart technologies, Transport sector decarbonisation
Energy efficiency and using less, Competitive, secure, low-carbon energy supply
Energy efficiency and using less
Energy efficiency and using less
Energy efficiency and using less, Energy system optimisation and smart technologies
Energy and its impact on rural communities
Energy efficiency and using less
Energy efficiency and using less, Energy system optimisation and smart technologies
Energy efficiency and using less
Energy efficiency and using less, Competitive, secure, low-carbon energy supply, Energy system optimisation and smart technologies
Energy efficiency and using less, Transport sector decarbonisation
Energy efficiency and using less, Competitive, secure, low-carbon energy supply, Energy system optimisation and smart technologies
Energy efficiency and using less, Competitive, secure, low-carbon energy supply, Energy system optimisation and smart technologies, Heat; local energy; energy planning
Renewable and community energy
Energy efficiency and using less
Energy efficiency and using less, Competitive, secure, low-carbon energy supply
Energy efficiency and using less, Representations and social uses of all kind of energies
Energy efficiency and using less
Impact of extractive practices
Social effects of the renewable energy systems
Energy efficiency and using less, Transport sector decarbonisation
Energy efficiency and using less
Energy efficiency and using less, sustainable urban development, energy sufficiency in buildings
Energy efficiency and using less

Energy efficiency and using less, Competitive, secure, low-carbon energy supply, Energy system optimisation and smart technologies, Transport sector decarbonisation, education in sustainable energy
Energy efficiency and using less, Energy system optimisation and smart technologies
Competitive, secure, low-carbon energy supply, Transport sector decarbonisation
Energy efficiency and using less, Competitive, secure, low-carbon energy supply, Energy system optimisation and smart technologies
Communication
Energy efficiency and using less
Energy efficiency and using less, Competitive, secure, low-carbon energy supply, Energy system optimisation and smart technologies
Energy efficiency and using less, Energy system optimisation and smart technologies
Competitive, secure, low-carbon energy supply
Energy efficiency and using less, Competitive, secure, low-carbon energy supply
Energy efficiency and using less
Competitive, secure, low-carbon energy supply, sustainability, business plans, economic efficiency
Energy efficiency and using less, Competitive, secure, low-carbon energy supply
Energy efficiency and using less, Competitive, secure, low-carbon energy supply, Energy system optimisation and smart technologies
Energy poverty
Energy, economy, environment and society
Energy efficiency and using less, Competitive, secure, low-carbon energy supply
Energy efficiency and using less
Conservation
Energy efficiency and using less, Competitive, secure, low-carbon energy supply, Energy system optimisation and smart technologies, Transport sector decarbonisation
Energy efficiency and using less
Energy poverty
Energy efficiency and using less
Energy efficiency and using less, Competitive, secure, low-carbon energy supply, Energy system optimisation and smart technologies, Transport sector decarbonisation
Energy system optimisation and smart technologies
Energy efficiency and using less
Energy efficiency and using less
Competitive, secure, low-carbon energy supply, Energy system optimisation and smart technologies
Energy efficiency and using less
Energy efficiency and using less, Competitive, secure, low-carbon energy supply, Energy system optimisation and smart technologies
Energy efficiency and using less, Energy system optimisation and smart technologies
Competitive, secure, low-carbon energy supply

Energy efficiency and using less, Competitive, secure, low-carbon energy supply, Energy system optimisation and smart technologies
Competitive, secure, low-carbon energy supply
Energy efficiency and using less
Energy efficiency and using less, Competitive, secure, low-carbon energy supply
Energy efficiency and using less
Energy efficiency and using less, Energy system optimisation and smart technologies, Transport sector decarbonisation
Energy efficiency and using less
Energy efficiency and using less, Competitive, secure, low-carbon energy supply, Energy system optimisation and smart technologies
Energy efficiency and using less, Competitive, secure, low-carbon energy supply, Energy system optimisation and smart technologies, Transport sector decarbonisation
Renewable energy technologies/ Energy markets functioning
Energy efficiency and using less, Competitive, secure, low-carbon energy supply, Energy system optimisation and smart technologies
Energy efficiency and using less, Competitive, secure, low-carbon energy supply, Energy system optimisation and smart technologies, Transport sector decarbonisation
Energy efficiency and using less, Energy system optimisation and smart technologies, Energy value of indoor environmental quality
Energy efficiency and using less
Energy efficiency and using less, Competitive, secure, low-carbon energy supply, Energy system optimisation and smart technologies
Energy efficiency and using less, Competitive, secure, low-carbon energy supply, Energy system optimisation and smart technologies
Energy efficiency and using less, Transport sector decarbonisation
Energy efficiency and using less, Energy system optimisation and smart technologies
Energy efficiency and using less, Competitive, secure, low-carbon energy supply, Energy system optimisation and smart technologies, Transport sector decarbonisation
Energy efficiency and using less, Competitive, secure, low-carbon energy supply, Energy system optimisation and smart technologies
Energy efficiency and using less
Energy efficiency and using less
Energy efficiency and using less, Energy system optimisation and smart technologies
Energy system optimisation and smart technologies, Transport sector decarbonisation
Energy efficiency and using less, Energy system optimisation and smart technologies
Energy system optimisation and smart technologies
Energy efficiency and using less, Energy system optimisation and smart technologies, decarbonisation in general
Energy system optimisation and smart technologies
Energy risk resilience

Energy efficiency and using less, Energy system optimisation and smart technologies
Energy efficiency and using less, Energy system optimisation and smart technologies
Energy efficiency and using less, Energy system optimisation and smart technologies, consumer behaviour
Energy efficiency and using less
Competitive, secure, low-carbon energy supply
Women's empowerment through energy
Energy efficiency and using less, Energy savings Through food waste reduction
Energy efficiency and using less
Energy efficiency and using less, Energy system optimisation and smart technologies
Competitive, secure, low-carbon energy supply, Transport sector decarbonisation, sustainability transitions
Energy efficiency and using less, Competitive, secure, low-carbon energy supply, Energy system optimisation and smart technologies, Transport sector decarbonisation
Energy efficiency and using less
Energy efficiency and using less, Energy system optimisation and smart technologies, Transport sector decarbonisation
Transport sector decarbonisation
Energy efficiency and using less, Competitive, secure, low-carbon energy supply, Energy system optimisation and smart technologies, Transport sector decarbonisation, Innovative storage, distribution and supply
Energy efficiency and using less, Competitive, secure, low-carbon energy supply
Energy efficiency and using less, Competitive, secure, low-carbon energy supply, Energy system optimisation and smart technologies, Transport sector decarbonisation
Energy efficiency and using less, Competitive, secure, low-carbon energy supply, Energy system optimisation and smart technologies
Competitive, secure, low-carbon energy supply
Energy efficiency and using less, Competitive, secure, low-carbon energy supply
Competitive, secure, low-carbon energy supply, Energy system optimisation and smart technologies
Energy efficiency and using less, Transport sector decarbonisation
N/A
Energy efficiency and using less, Competitive, secure, low-carbon energy supply
Energy efficiency and using less, Energy system optimisation and smart technologies
Energy efficiency and using less
Energy efficiency and using less, Energy system optimisation and smart technologies, Transport sector decarbonisation
Competitive, secure, low-carbon energy supply, Energy system optimisation and smart technologies
Competitive, secure, low-carbon energy supply, Energy system optimisation and smart technologies, Transport sector decarbonisation
Competitive, secure, low-carbon energy supply, Energy system optimisation and smart technologies
Energy efficiency and using less

Energy systems, energy security, energy access
My work has not been specifically aligned to energy to date but is nonetheless relevant as it involves exploring how the articulation of culturally-embedded relationships between people and place can facilitate engagement with the related policy environment.
Energy Security, Global Energy Market, Energy Diplomacy
Energy efficiency and using less, Competitive, secure, low-carbon energy supply, Energy system optimisation and smart technologies, Transport sector decarbonisation, New technologies (shale gas) and public perspectives
Energy efficiency and using less, Energy system optimisation and smart technologies, Transport sector decarbonisation, Behaviour Change
Competitive, secure, low-carbon energy supply
Competitive, secure, low-carbon energy supply
Energy system optimisation and smart technologies
My own role is supporting a team of researchers that work on all four of the topics above.
Energy efficiency and using less, Competitive, secure, low-carbon energy supply, Transport sector decarbonisation
Energy system optimisation and smart technologies
Energy efficiency and using less, Competitive, secure, low-carbon energy supply, Transport sector decarbonisation
Energy efficiency and using less, Competitive, secure, low-carbon energy supply, Energy system optimisation and smart technologies
Energy efficiency and using less, Competitive, secure, low-carbon energy supply
Competitive, secure, low-carbon energy supply
Energy efficiency and using less, Energy system optimisation and smart technologies, Political context
Energy efficiency and using less, Energy system optimisation and smart technologies, energy transiation (political, institutional and end-user aspects)
Energy efficiency and using less
Citizen's discussion platform on various topics
Energy efficiency and using less
Energy efficiency and using less, degrowth, downscaling, etc.
Energy efficiency and using less
Competitive, secure, low-carbon energy supply, Energy system optimisation and smart technologies
Energy efficiency and using less
Energy efficiency and using less, Energy system optimisation and smart technologies, Transport sector decarbonisation
Energy Economy Transition and Governance
Energy efficiency and using less
Values, worldviews, ideology
Energy efficiency and using less, Competitive, secure, low-carbon energy supply, Energy system optimisation and smart technologies

Energy system optimisation and smart technologies
Energy efficiency and using less, Competitive, secure, low-carbon energy supply, Transport sector decarbonisation
Energy efficiency and using less
Energy efficiency and using less, Competitive, secure, low-carbon energy supply, Transport sector decarbonisation, Public engagement, gender issues
Energy efficiency and using less, Energy system optimisation and smart technologies, Transport sector decarbonisation
Energy efficiency and using less
Energy efficiency and using less, Competitive, secure, low-carbon energy supply, Energy system optimisation and smart technologies, Transport sector decarbonisation
Energy efficiency and using less, Competitive, secure, low-carbon energy supply, Energy system optimisation and smart technologies, Transport sector decarbonisation
Energy efficiency and using less, Competitive, secure, low-carbon energy supply, Energy system optimisation and smart technologies, Transport sector decarbonisation, Ethics of energy
Energy efficiency and using less, Competitive, secure, low-carbon energy supply, Energy system optimisation and smart technologies, Transport sector decarbonisation
Energy efficiency and using less, Competitive, secure, low-carbon energy supply, Social impacts of implementing energy polcy tools
Environmental governance
Energy efficiency and using less, Slowing consumption / consumer behaviour
Energy efficiency and using less, Sustainability issues in general (including energy)
Energy efficiency and using less
Sociology of Science and Technology
Energy efficiency and using less, Competitive, secure, low-carbon energy supply, Energy system optimisation and smart technologies, Transport sector decarbonisation
Energy efficiency and using less, Energy system optimisation and smart technologies
Energy efficiency and using less, Competitive, secure, low-carbon energy supply
Energy efficiency and using less, Energy system optimisation and smart technologies
Energy efficiency and using less
Energy efficiency and using less, Transport sector decarbonisation
Energy efficiency and using less
Energy efficiency and using less, Energy system optimisation and smart technologies
Cultures of energy
Energy efficiency and using less, Transport sector decarbonisation
Energy efficiency and using less, innovation ecosystems
Energy efficiency and using less, Competitive, secure, low-carbon energy supply, New Energy System Emergence and Governance
Energy efficiency and using less, Energy system optimisation and smart technologies
Energy system optimisation and smart technologies

Energy efficiency and using less, Transport sector decarbonisation, cross-over with air quality and carbon management
Energy efficiency and using less, Competitive, secure, low-carbon energy supply
Competitive, secure, low-carbon energy supply
Energy efficiency and using less
Energy efficiency and using less, Competitive, secure, low-carbon energy supply, Energy system optimisation and smart technologies
Energy efficiency and using less, Energy system optimisation and smart technologies
Energy system (broadly)
Energy efficiency and using less, Competitive, secure, low-carbon energy supply, Energy system optimisation and smart technologies, Transport sector decarbonisation
Competitive, secure, low-carbon energy supply
Transport sector decarbonisation
Energy efficiency and using less, Competitive, secure, low-carbon energy supply, Transport sector decarbonisation
Energy efficiency and using less, Competitive, secure, low-carbon energy supply
Energy efficiency and using less
Energy system optimisation and smart technologies
Energy efficiency and using less, Competitive, secure, low-carbon energy supply, Climate policy, actors, vested interests, path-dependence

Annex 5 – Randomised list of answers to Question 1

In what ways do you think research from across the Social Sciences and Humanities is contributing to energy policy priorities?
Changing energy use and promoting energy saving is a matter of both technology and behaviour: without consumer's acknowledgment it's not possible to change people's attitute toward energy consumption
Not at all, other than rational choice paradigm based economics and neoliberal economics.
Social and human sciences researchers must bring their expertise to help public policy in decision-making about the energy transition and social inequalities of users
The concequences of unefficient energy use are located primarily in the health sector, negatively influencing competitivness in industry and SMEs and overall insecurity of the society. On the basis of households (as a basic societal entity), the energy related problems (ineficiency and problems with high energy bills) have profound consequences on overall well being of its members (physical and psyhological)
Demand is influenced by many factors which are studied by SSH. Consumer behaviour and decision-making processes can also be better understood with the help of SSH. Communication is an essential activity for making a policy acceptable in the eyes of people and get this support/commitment.
My personal experience at the moment is ad-hoc, being promoted by people interested. We are really just getting started @ SEAL: Bevahioural economics unit (BEU) - being established now. Commend a couple of conferences. Set-up a LinkedIn group.
Give insight into consumer aspirations and acceptance.
At the moment in the area of offshore renewable energy there is limited social science and humanities research contributing to energy policy in those specific technologies. The focus is primarily on technical issues. There needs to be more of a focus on social acceptance as that is probably one of the key challenges relating to future development of offshore energy. There is also a need for research on socio-economic benefits.
Understanding people's practices and habits related to energy consumption with a particular focus on cultural practices
Raising awareness about the importance of finding solutions that address the human aspects of energy choices. However the actual contribution to address them is still limited
I am not an expert on this topic
That research helps in (slowly) getting more attention for more that merely the techno-economic dimensions of energy innovation. But there is still a long way to go. And energy policy is often not searching for the type of knowledge that ssh is providing.
Critique, reflection, resistance
Big picture, network approach.
From my point of view, current energy policies are driven by economic interests, and are not focusing on people, their needs, health... hence the importance of the social sciences and humanities. Focus on people, not macroeconomics.
In a better understanding of pros and cons that influence the development of new energy technologies. SSH can provide prompts to help to find out the ways improvment can be applied and accepted by population and politicians. It can influence decisions by giving evidences of behaviours and of public opinion concerning this issue.

I think it contributes important insights for real-world solutions, but it is chronically under-funded and low-prestige.
- in shaping pro-people policies - potential for policies to make manufacturers/producers/businesses/policymakers create strategies wherein the 'convenience of adoption' is focused.
Enabling us to better engage citizens in creating their own source of sustainable energy
To be able to solve the challenges that we are facing we need to get society involved in the solutions. Social sciences and humanities focus on energy from this point of view, taking into account people´s demands and needs, and connecting technological/scientific developments with society. I think this is the right approach to develop good energy policies.
It is crucial knowledge to inform policy making so that transitions may happen
Not enough (in a general way) because too often the entry point is the 'techno'/supply side. However, it necessary required understanding of how social systems work.
SSH research can be considered of great importance to the future of Europe.
By providing deeper insights into human motivations, values, worldviews and choices
By better understanding the interplay between technologies and final users. By better understanding broader social evolutions that impact energy trends. By better understanding how policy is made.
The main obstacles for a local energy transition seem to be of a social nature. Local governance, political will, consumption behaviours are seen as crucial, but do not provide yet satisfactory solutions.
Better understanding of occupant behaviour: introduction of psychological and social key factors that drive the humans/building occupants to behave in a certain (energy-related) way. There is still a lot of work to do. Another important aspect is the translation of scientific procedures/outcomes into understandable knowledge for the end user.
The research in Social Science and Humanity can contribute to evaluate and solve the difficult socio-economic challenges that we are facing, increasing the knowledge of the causes and looking for possible shared solutions and recommendations. Infact the economic, social and environmental scenarios impacts the growth, employment and competitiveness of the society and of citizens, that is reflected on the energy sector development and policies.
Inform policy makers on social impacts
Raising awareness about the possibility to combine cultural attitudes to energy use with energy efficiency technologies
Increasingly. Insight from SSH-shape communication strategy. Adjust 'standard' pal. instr.
SSH are essential for understanding and empowering users and stakehoders in policy making
Understanding tenants' complex habits of consumption + representations on energy market/supply and billing process. Adapting policies to real-life of people thanks to in-depth inquiries of how people live, consume and how people change their behaviour (ideally integrate this knowledge in support of particular user-friendly technologies).
- Understanding how behavioural change effects demands for goods and services and then understanding the link between industrial energy use and energy embedded in these goods and services. - We can calculate the energy reduction associated with demand-side policy.
Techonology and markets alone will not solve the "climate problem", or many other pressing sustainability topics. Energy-SSH can provide knowledge on vested interests, path-dependencies, social acceptance and several other issues affecting energy policies.

By understanding how energy policies can affect behaviour change and how that change may or may be not accepted and how effective those policies are in shaping a low-energy, low-carbon future.
Urban and social development
To better understand the custumers' needs and expectations
I'm not sure that it is. I would assume some geography is involved in working out viability of certain renewable projects, and I would hope there are studies from behavioural psychologists and sociologists in encouraging people to address their energy consumption habits influencing policy but I wouldn't count on it
By identifying gaps between policies and the practice on the ground and developing recommendations for policy-making to generate greater change
The Attitude Behaviour Choice paradigm as advocated by Psychologists and Economists is very present in the design of policy measures in my field of work. To put it in very simple terms: if only we make energy saving financially attractive and we make people aware of its positive effects, that individuals will renovate their homes, take the trains instead of air travel and eat vegetables instead of meat. So the current contribution of SSH to policies is clearly insufficient in my opinion
More attention is being paid to needs, social norms and the differences between groups of people.
A better understanding of the real dynamics of how energy systems, and all their components, work and interact.
This research could help to coordinate the consumption and the production/availability better.
Research from social sciences and humanities can contribute to energy policy priorities by three axes: 1) Analysing localised problematics by carrying out a survey on a special topic of any kind of energy and providing these informations to help decisions makers to design adapted policies which will answer to the situation 2) Large Scale Contextualisation (History of practices around a type of energy) 3)Mediation between people - social sciences can bring very interesting tools to manage relation between the project and the people by communication or gathering points of views of consulted groups of people.
At present, SSH is contributing very little to energy policy priorities. If one was to include economics within the definition of SSH (which is very debatable!), then there is influence there though... indeed, economics (and its related rational choice assumptions) has been the main society-relevant evidence basis for energy policy, which I would suggest is because its thinking aligns well with current policy approaches and the status quo (as reliance on 'efficiency drivers' and 'market forces' allow society to continue doing what it is doing). Saying all this, there is some evidence of other SSH research having influence, but that again is predominantly individualistic in nature (e.g. psychology). Finally, I would say that whilst certain social scientific disciplines do play a role, the energy-related humanities play almost no role whatsoever.
I don't know enough to answer this.
I think that differs, both between contexts, and between disciplines. I have a feeling economics are quite good at contributing to enegy policy priorities at european, national and local levels, probably because they give clear recommendations based on relatively simple numerical representations of reality. While policy makers are beginging to realize there is more to transforming the energy system than making it "cheap enough", I think sociology, anthropology, history etc. have a long way to go before they can claim contributing directly to policy. I think, however, that representatives from these disciplines can be very important for shaping local policies.
Economics is very influential: eg. cost-benefit analyses, policy impact analyses. Policy instruments mostly get legitimacy from economics. Transition research affects policy strategies w.r.t. intervention points (eg niche creation)
Very little, to my knowledge

Very limited at present. But strong emerging signs of a more holistic societal perspective+ approach being adopted where the full package of (co-benefits plus EE) makes the 'business case' to policy makers. In Ireland = new behavioural economics unit in SSH reseach into health benefits of EE retrofitting of buildings - including fuel poverty alleviation
Making renewable energy attractive in the face of government inertia
to understand user behaviour and motivate enhanced building use (re-shape energy load profiles, towards building energy flexibility)
Social issues are (should be) part of the work in European energy-related research projects. According to my knowledge, such tasks are often concerned with potential social impacts (risks, benefits) associated with the technology that is developed in the respective project. More generally, I think social issues are fundamental for energy-related R&D, as the energy system transformation is a huge task the global society. The transformation is pushed by social as well as environmental drivers (which are inter-related). Issues like social acceptance of new energy systems/technologies, the societal need of supply security, the need for employment etc. are key for a successful energy transformation and should therefore play an important role in energy-related research efforts which are traditionally mostly technical in their focus.
Very often policies are designed based upon very simplistic and often economic theories that do not very well reflect the needs, preferences and practices in the real world. social sciences and humanities may contribute to developing policies and interventions that fit better within the real-world people live and work in.
Social and environmental justice. End-users / citizens inclusion
Help to formulate the energy policy
It should be a parameter in sustainable local decitions
Understanding energy practices underpinning energy transitions; analysing the politics of carbon market mechanisms
From what I've read, environmental psychology (social sciences) looks at behaviour change and interventions e.g. why certain interventions might be more/less effective e.g. at reducing energy use/ uptake of smart technologies
Identification of vulnerable groups (eg. energy poverty)
So far, not enough to guarantee a bigger slice to social scientists, who could be more powerful in prioritising social topics in demand-sided energy policies, or ask for more qualitative data to support the decisions of energy policy makers.
Give an other point of view compare to technical approach
Maximum the wellbeing of the whole Society
Research, development of new technologies, scenario analyses based on development of calculated demand.
Research across social sciences and humanities has been still rather disadvantaged by energy policy-makers although some promising social scientific advancements have been already taking place. SSH research can be considered of great importance to the future of Europe.
Research on consumer behaviour can help in understanding the barriers to adoption of new technologies. Research on attitudes to, and understandings of, climate change can inform design of policies aimed at mitigation/shift towards low-carbon energy production.
Contributing to policymakers' decisions, but to a lesser extent than STEM
There is currently a strong trend & need for behavioural research. Interesting and important tension between behaviour and framing consumption.
I do not think that to the date much work has been done on this issue in this way

- I think it does... ish... gut often through obscure and opaque processes – i.e. high level meetings by eminent professors etc. with policymakers/NGOs. - I think it's still very difficult to achieve high-profile research in SSH energy, without some from of existing link/sponsor. - We are lucky to have the Green Alliance on board here.
The energy systems in all European countries (and actually worldwide) have undergone dramatic evolutions for the recent couple of years. We can observe an energy transition, which could be only partially considered "managed" and a result of policy initiatives. The technological developments and solutions are enablers of energy transitions, but what are the real drivers are changes in the demand-patterns of the consumer, whose role and preferences are getting more and more important as well as changes of the beliefs, values or cognitive routines of the society. Social science can fill existing gaps among polices in several ways: 1) emphasizing the significance of a bottom-up approach in managing energy transitions and helping policy makers to communicate effectively their policy initiatives with the society; 2) stimulating more inclusive decision-making processes; 3) studying the impact of non-governmental actors/ networks on the policy-making process; 4) giving insights on the public acceptance of new technologies and social barriers for their employment; 5) harmonization of policies on EU level considering the national cultural and historical differences; 6) understanding the role of both formal and informal institutions for improved energy policy realization.
1. In a biased way - favouring numerate disciplines+ ones with flowcharts. 2. Not enough
In understanding 1) how to most effectively reduce energy-related pollution, by taking into account what motivates and enables individuals, communities, cities, provinces, states... to joining in and what prevents them from doing so; 2) the potential of international collaboration.
- Understanding human/organisational behaviour à key factors influencing energy behaviour. - Understanding how systems work à identifying key barriers, challenges, opportunities.
It helps to feed in further information on the origins of Energy policy and also provide in depth analysis on how these policies may affect different stakeholders. Energy SSH can help better shape energy policies so that a wider range of stakeholder needs are taken into account.
Guiding how best to implement the changes identified by more 'technical disciplines'. As well as identifying and communicating drivers and barriers to such changes.
There is recognition of the psychological aspects of (trying to) change energy use patterns. Money is invested in user trials of new technologies, but often after policy pathways have been chosen. There is input from SSH via 'evidence check' type policy hearings. However, it is often hard for the full range of SSH learnings to be incorporated, and some disciplines arguably receive greater attention than others, or are more aligned with existing policy directions.
Identifying opportunities for innovative solutions to complex inter-disciplinary challenges which span across wider energy policy and practice networks
in more efficient formulation of energy priorities, communication issues, knowledge sharing and more efficient strategy planning
In my view, SSH are challenging the conventional notions of energy consumption and demand. They are highlighting the importance of social structures and constructs in the energy discourse, which is very much focused on economic and psychological paradigm.
By providing a critical approach
The research provides valuable inputs for both policy definition and policy implementation. The most relevant research field is (energy) consumer behavior. The research contributes mainly to the policy at EU level, currently not much at national (Bulgaria) or local level.

I don't know
- Identifying causes of demand & how changes in supply may be affected by reaction of users. - What so users of energy services actually want/use?
Necessary to take people (and the way they are using equipment, buildings, vehicles...) into consideration when designing energy policies.
SSH research is invaluable in understanding what drives our (human) demand for energy, how human behaviours/practices create requirements for energy and perhaps identifying interventions points. Fills in the detail of how humans interact with the physical environment to create energy demand à Which can then elucidate the priorities for energy policy.
It is mainly feeding into existing governance practices, giving some input and or advise on level of consumer behavior. It is not addressing enough the challenges of transition towards new collective practices or new social / economic arrangements, not at government level, nor at corporate level. One reason for this might be that the humanities and the natural sciences have become split off and therefor moved into separate directions.
Learning about the behaviours of individuals and groups and how those have an impact on their use of energy.
Understanding the psycho-social, behavioural, cultural, political, ethical and economic dimensions to energy transitions. Research that promotes a systemic approach to change that explores interventions across systems from production to distribution to consumption and demand. Highlighting the ethical imperatives and dilemmas of climate change and energy transitions in terms of justice within and between generations, and between humans and non-human species.
Understanding public and stakeholder values, preferences and behaviour; understanding social and political dynamics around governance, including the need for legitimacy and stakeholder/community participation and support; understanding economic impacts
Research may be one of the only space where long term issues can be investigated and discussed..It offers a different perspective than the technocratic management which public policies often boil down to.
In terms of legislation, behavioural aspects and change in the attitudes of people in terms of use, development and acceptance of public transport services, understanding of user needs and consumption patterns.
Social science research is mostly focused on the consumer, therefore i'd think energy policy is primarily interested in consumer behaviour
In my view SSH research is hardly affecting energy policy at all. Policy focuses on technological innovation and implementation, potentially accompanied by fiscal or other financial incentives for users. Occasionally, SSH research is involved (on international, national, provincial or local policy level) to provide "end of pipe" solutions to smoothen and support implementation processes.
Social science's researches in the field of energy can actually help shape policy in a variety of aspects, combined with other sciences. The need to understand how energy is integrated into people's lives, whether in terms of economic or political aspects, is critical in order to promote the use of energies of various kinds and to bring about different developments. Energy is ultimately intended for human use and energy policy is also determined by humans. Therefore, it is necessary to understand the relationship between the two, whether economically or politically. For example, this field of research can help bring about a smarter and more efficient deployment of different energy facilities in a way that better suits the demand characteristices and the supply features.
They contribute with a more holistic and 'systemic' perspective focusing on the social aspects, humans and other perspectives often neglected in energy policy and in technical and economical energy research.
It does influence policy decisions, like what policy instruments to use to support renewables and how to ensure social accept for new technologies.

As far as energy policy makers really take up social science research: focus on education, orientation of awareness raising campaigns, considering behaviour of people e.g. for changing electricity suppliers and related market design aspects, uptake of certain (smart) technologies, acceptance of (smart) technologies; for sure there are many more aspects ...
Integrate issues of fairness and distribution
Providing valuable insights on public perceptions of energy transitions, social framing on energy demand, insights from political science into governance and institutions and their role in the low carbon transition, to name a few.
Politicians must show they can base decisions on SSH but is not great at giving simple answers. This is a challenge. Good case studies are helpful.
I think it has a strong influence
For any policy to succeed societal acceptance is crucial. To assess the effectiveness of energy policy societal impacts must be considered in addition to economic and environmental impacts. Research in social sciences and humanities illuminate the areas that were previously overshadowed by economic outcomes.
Different insights - the social pillar of sustainability. - human behaviour e.g., and the impact on energy demand reduction. - assessment of interdisciplinary working.
- Through strong linkages wit policy makers and knowledge exchange. - Providing evidence and data. - Providing analysis of potential costs and opportunities of future policies/scenarios.
Contribution to 1) Change of behaviour towards efficient use of energy 2) participation in Demand Site Response supporting better operation of power system 3) Using distributed energy resources - solar, wind, biomass 4) Limiting the inextinguishable striving to comfort .....
Policies addressing purchasing behavious/ investment behaviour. Energy policies aiming at specific population groups.
In too little extent it contributes, at least from my perspective and discipline. Energy policy recommendations are dominated by social economics thinking and economists, while other perspectives and SSH disciplines are often overlooked. This gives a too narrow scope.
in many ways: better understanding of potentials for transitions/change, insight into attitudes and perceptions towards energy policies, better understanding potential of behavioural change, better understanding of actors interests and strategies
Better targeting and advertising of energy policies Get closer to the people priorities and concerns over energy use Understanding how energy is really consumed Understanding and correcting social/cultural/gender inequalities in energy access Support collective and local forms of energy management (energy cooperatives, participatory budgets, etc.) Raise awareness about energy challenges and policies

SSH research provdes 'people-near' knowledge of the uses of energy in specific contexts and analyses the social dimension of systems of provision. An important part of such results is that energy is not produced or consumed in social vacuums, but rather that energy is highly socio-culturally conditioned. These messages sometimes reach politicians and policy makers, but it seems difficult to translate such Insights into changing policies for energy that take into consideration the social aspects. One of the causes is the lack of cross-sectoral emphasis. The lack of SHH focus in policy results in energy policies that keep focusing on changing people's "attitudes" through information (not effective), rely on market mechanisms (sometimes not trusted and not understood) and promote smart technologies in the attempt to change consumption patterns (with rebound effects and also social implications).
Through gradually developing a collaborative realistic appreciation of 'future energy requirements', allowing for individuals from separate specialist backgrounds to understand the reality of energy issues from differing disciplinary perspectives.
It seems that biggest obstacles faced by the energy transition towards a fossil/nuclear free energy system lies within the organisation of our societies and can only be adressed by SSH.
First, the human behaviour and users habits count a lot in energy efficiency of buildings. Second, as described by the innovation spreading and adoption rate, social sciences are fundamental to engage people to adopt smart and innovative technologies for energy efficiency.
There is some useful work on transport and energy use which has the potential to improve discussion of behaviour change. Also there is important historical work on the development of high-carbon societies. Lastly sociology and history has much to contribute to discussion of futures and understanding of time, time horizons etc.
Sociocultural context will help us understand how people view and experience energy production and consumption. Policy only works if it connects well to people's daily lives.
In terms of different conceptualizations and understandings of energy-related definitions
it clarifies the societal embeddeness of technologies
By complementing what can be deterministic pathway approaches to energy transition. By making the socio- in sociotechnical more credible.
I think social science and humanities plays a subordinate role that helps to reinforce the STEM technical solutions and market-oriented approaches that dominate the EU largely by modelling technocratic interventions and assisting in targeting individualised behavioural change. This as an incremental approach to behaviour change and not sufficient for holistic energy transition. Part of the reason why it plays this role is because the social sciences that are selected for research projects are generally business and management and economics, followed by psychology. These social sciences have become very prominent in the past few decades largely as a consequence of how they reflect the dominant political economic status quo.
Effectively informing people on what to do to reduce their carbon footprint
SSH research is only marginally contributing to energy policy priorities. Innovation studies and the multi-level perspective have been applied to understanding energy transitions, but insights have not really informed policy.
By informing policy makers directly. By publishing research. By presenting stories that show alternative futures/societies. By sharing how change comes about. By pointing at inequalities or injustice (unfair) societal org. today and how this can change.
I believe the most important way that social sciences and humanities are contributing to energy policy priorities is by the participation of a wide range of stakeholders. For instance, engaging citizens, NGOs, academia, consumers (users), government and all public organizations as well as private business and entrepreneurs have shown good results in terms of transition to a low-carbon economy.
In a way of making stakeholders understand social and consumer related issues in setting priorities

Not really enough in what it is not being listened to by policy makers
Research across SSH contributes to energy policy priorities as it helps understand how social behaviors may influence decisions from policy makers. It is relevant to understand how policies in the future may be shaped by such disciplines as they cover a broad range of aspects that might not be looked at first. Trying to link SSH to energy policies in the future can have great outcomes on establishing priorities of research and thus on the resulting outcomes.
Directly in the form of BIT centers, and indirectly through policy briefs and action research on local level
Through increasing knowledge of how to consume efficiently and consequently less. And also through eliminating energy poverty
Economic modeling is at the core of energy policy priorities. Very little other social science or humanities are contributing.
I think it contributes (to some extend) in two ways: First, it contributes towards a better understanding about behavioral decisions that are relevant for a energy transition - on both the energy supply and energy demand side. For example, wrt. to the energy demand sector: It helps to understand how and why consumer's use energy, why they could use less or different energy etc; wrt to the energy supply sector, it contributes to a better understanding about the choices of investments in energy infrastructure. Second, it can helps to understand how different systems (e.g. governmental sector and energy sector) are connected with each other. For example in the case of the connection of the energy and governmental sector, there is social reserach that investigates the impacts of lobbying and political direction in the government on the energy system.
Social sciences and humanities have been underrepresented in energy policy research, although this is changing with more and more social scientists engaging with this topic. Social scientists can make valuable contributions in understanding how and why people consume energy, what are the needs of the different stakeholders, and provide economic evidence supporting more sustainable energy practices.
SSH can in my mind perhaps mainly contribute when it comes to understanding the user-side of the energy equation (consumption, practices, energy cultures). In addition I believe an understanding of the movements between knowledge production and policy-making can be crucial when formulating said policies.
Informing demand reduction programs by utilities ("Beat the peak" -type approaches)
Acceptance of enabling devices, such as smart meters in the implementation of smart grids. Empowerment of consumers/ prosumers. Design of more effective programs for the promotion of end-use efficiency.
Researching energy in social science can positively influence both the officials and the public opinion about the best way to achieve energy security and the best energy policies. Furthermore, in case of the European Union, engage energy policy from a social science perspective could help to create an effective and good-working Energy Union.
Understanding user behaviour and needs. Providing knowledge that is easily understandable and convincing for citizens.
Behavioural studies, education
Including social factors into an otherwise economically-oriented world
It is crucial to have social sciences and humanities on board because we need a change of paradigm, which will be in humans' head; we need change of consumption, which is depending on people again; they will be the prosumers of the future etc.
Giving a broader view, debate. Creating answers for some pressing issues: inequality, fuel poverty, consumption and using less - as an opposition or corrective to very techno-optimistic, maybe naive STEM research who are not preoccupied with societal consequences and risks.

By linking energy topics (security of supply, RES, energy efficiency) with social problems (economy development, poverty, quality of education, etc), i.e. energy topics should be placed and analysed in wider social meaning. New approach in energy statistic, followed with quality social surveys should help in definition of policy priorities.
Social science can shed light on public acceptance of policy strategies (current and future perspectives) and consumer perspectives on energy demand.
Insufficiently, small impact.
I guess the most obvious area would be in consumer behaviour or behavioural science in terms of energy demand. There is also lot of literature on the finance or economics of energy (especially related to household income levels, poverty and energy use etc.). Not sure where sustainability would come in as an interdisciplinary discipline but certainly a quite a lot of energy-related work is being done in respect to transitions to low-carbon/carbon negative societies. Also, quite a bit going on in the environmental sector, especially in regards to climate change, carbon targets etc.
Behavioural aspects of energy use in households.
it provides a fundamental basis for understanding all non-technical changes involved in energy transitions and those that happen in close alignment with technical developments like smart grids.
How things should work/ How things actually work. Diff. ways of thinking, defin. assumptions.
By offering empirical, detailed and comprehensive data on people's energy practices
Better understanding the local energy needs and demands, and how new technologies and innovative approaches might be received and deployed.
SSH played a minimum role in the energy policy. If I analyze actual energy law in Italy the only SSH that played a role is economics.
Is it contributing (enough)?
We have been very fortunate in studying heat and local energy at the same time it has risen up the policy agenda in our country. This has opened opportunities for our research to influence policy development that might not have been as accessible in a more established field. The impact of our research has been in mediating understanding of different actors' capacities, in revealing patterns of development and sociotechnical constraints affecting realisation of policy objectives, and supporting policy makers' understanding and exploration of different regulatory models that could be adopted for heat. I think we have been unusually fortunate in being able to see quick impact from our research. I am aware that other sociotechnical research approaches have struggled to catch the ear of policymakers, and many academic insights into how major change across energy systems could be achieved in practice do not get picked up in policymaking. Economists are the exception, and are often very successful in influencing policymaking.
Mainstream (neoliberal) economics dominates policy making. Otherwise, I really don't know.
Not enough. Dominance of economics remains a problem (especially in policy).
Social sciences fill in the missing piece of the energy transition which is currently primarily focused on developing, making available and making affordable of new sustainable energy technologies. The demand of the public and the interest which is necessary to create this demand is crucial for achieving the goals of energy reduction. By creating awareness and urgency, using social sciences (i.e. behavioural psychology, group behaviour, role models) people will want new technologies, change their investing behaviour while improving their home and will (hopefully) elect the right people in order to change the course of politics and full-fill this demand.

They can develop strategies to incentive good behavios related to the energy use and energy production among people.
Behavioural sciences are increasing the understanding of uptake of new technologies, and effects of policies on receivers. Economics is increasing the understanding of possible rebound effects and the relationships between supply and prices.
Long-term policy shaping
By analyzing sociotechnical processes and highlighting transition conditions
The contribution of SSH to energy policies is an important trend, gaining in importance.
Research from the social sciences enables us to understand the mechanisms which encourage society to adopt energy efficiency behaviours and attitudes
Only very little one point is the insights about climate change refugees. IPCC is also interdisciplinary, but social sciences are definitely underrepresented.
Until a decade or so ago, there was very little acknowledgement of the need for non-economic social science contributions to energy policy. I see this as having changed in the intervening years. There is a growing acknowledgement that when the aim is broadened to encompass deep changes in energy use, social and Cultural perspectives are needed. One particular theoretical approach that has gained more purchase in policy is social practice theory.
Increase of understanding
SSH could think of processes to change society. Key word “Nudging”: develop and initiate step-by-step but small and uncontroversial processes to change the behaviour, which in turn promotes changes in attitude, beliefs and norms of the entire society. This may help to foster achieving the bigger goals of protecting climate and environment, our living basis.
- The public consultation aspect of the EIA (Environmental Impact Assessment) may involve consultants using various SSH methods. The EU environmental assessments have no legal requirement for socio-economic impacts, but there are some instances where developers of energy devices and infrastructure have requested this type of assessment from consultancies. In these instances, SSH quantitative and qualitative methods can be used. - Consultation around energy policy setting also involves SSH methods, since this requires direct engagement with publics (e.g. presentations, public meetings, interviews). - In the UK there is a ‘Sustainability Assessment’ which includes the possibility for socio-economic interaction, and thus SSH approaches, but this is not a requirement elsewhere in Europe or globally. - SSH Researchers working with local communities (employed in consultancies, public institutions, industry advocacy, community advocacy, test sites) are involved as both liaison and in supporting communication between policy-makers and local community stakeholders. - Developing energy industries, such as marine renewable energy, draw on SSH expertise to support stakeholder and issue mapping, which has a direct effect on the development of the technology infrastructure (e.g. how will tide/wave energy devices relate to existing mariners). - Artists, authors, and creative practioners, including poets and writers of speculative futures, are shaping the public and political imaginary around energy futures, which has a direct bearing on energy policy. This is both through ‘Sci-Arts’ (projects funded and intended to be artistic engagements with energg futures) as well as work that has more indirect effects (See work in Literary Studies).
Insight in the behaviour and the decision making strategy of people in relation to the adoptation (marketing) of energy efficiency innovations.
I think the SSH research has not significantly been contributing energy policies yet. However there is a tendency to do so.

Slow recognition that without understanding behaviour, technology (adoption+usage) may fail. BUT: tendency to turn to SSH after policy has failed (to work out why) rather than embed in initial policy design. Focus on adoption/uptake of technology rather than what the technology (and demand) is for. Belief that 'behavioural economics' is the answer. But this is misguided because it allows policy makers to focus on small scale changes and not think about bigger transitions.
Development and responsible consumption
In understanding that (energy) consumption is not proportional with well-being. Some energy consumption helps to fulfill basic needs. -> sufficiency
Understanding how (and why) people and communities take up the challenge of the energy transition; how decisions concerning energy efficiency measures are balanced with other values, such as social cohesion and historical values; supporting the community energy movement with knowledge about organisation and effective policies.
It is very important to understand social perception of the adoption of new technologies and how to face customers towards the change in habits and consumption patterns so as to know how to prioritise technologies and solutions
Current changes are often focused too much on technological innovations. however, when changing the world more is needed than new tech and higher efficiencies. Social sciences can emphaze the importance of changing human behaviour in order create a better world; without support of society projects will not be implemented as each change involves also a change of behaviour.
I am not sure about that, because I don't really know how energy policy priorities are set. Do policymakers involve SSH into priorities setting? I don't know. At least the colleagues I'm more in contact with are not involved in this kind of actions. Or they are dissapointed by the fact that their suggestions were not taken into consideration, or that were misunderstood.
Energy has a social and economic impact on different communities. Energy transportation systems but also renewable energy have also environmental impacts. These aspects are still under-researched, as far as I know.
Better understanding of STEM field, support for renewable energy adoption
Help to take into account questions underestimated by policy makers like energy conservation, ownership by local communities... Help to take into account groups that are not well represented and integrated into the policy making: small and medium municipalities, small and medium private companies, local communities, associations...
I do not have a good view of how it actually contributes, but I certainly think it should. As for my own area of ethics, I think that, for example, issues of intergenerational justice should be taken more seriously within energy policy-making.
they should provide guidelines and help defining solutions that take into account people behaviour, way of life; and help people changing their mind, their way of thinking : in terms of consumption, growth, ...
Not enough, simply speaking. There are influences from e.g. behavioural economics but not enough from sociology and associated disciplines, yet. The main influencing disciplines still seem to be neoclassical economics and engineering - these are also often disciplinary backgrounds that end up in policy positions.
My background is not in energy policy so its difficult to make a judgement here.
Through better understanding of behaviors and habits, policies can be improved and target energy use reduction. Furthermore, through combining multiple types of research including integration of social sciences research, larger audiences and the public can be better engaged and both research as well as policies can have a wider impact.

SSH needs to be a critical component of energy policy. Non-technical (behavioural, political, institutional, etc) factors currently present significant barriers to the uptake of low and zero carbon technologies. However, current EU and UK energy policy and funding programmes are very heavily focused on technological solutions. There is insufficient policy and action focused on the adoption of existing and new technologies. Where SSH is part of EU energy policy and funding programmes it typically only allows relatively small and short term projects to be completed (1-3 years). Rather than longitudinal studies that are needed to understand how systemic behaviour change can be achieved.
Focussing on human complexity
The strategies and governance structures needed by the public and private sector for our transition to a low carbon economy, will be determined through research focused on economic and social analysis taking into account the cultural and human dimension.
From my point of view, the researches of social sciences and humanities can make huge contributions to energy policy priorities. Firstly at macro level, they can provide guidance for future sustainable development of energy sector (such as energy market, energy efficiency, energy facilities and low-carbon emission) based on analyzing related social phenomena and their (historical) developing rules. On the other hand at micro level, they can offer numerous evidence in factors affecting energy using behaviors, technology adoption and resource allocation optimization.
- Detailed behaviour patterns established. - Resistance or take-up of behaviour patterns to guide policy interventions.
Providing perspective of silenced stakeholders (e.g. users), thus helping make technologies and practices more pluralistic, and acceptable for more stakeholders.
social science brings a lot to energy research, for instance good accounts for energy demand (why people use energy and for what) and thus potentials for continuity and change (beyond that of technical optimization).
Energy consumption is highly influenced by habits f people and also however great new energy technologies are, they have to be acceptable to people as well. The research across the social sciences help policy makers decide what socials in the future may be acceptable to people.
Not very much, due to the dominant influence of economists.
Understanding human behavior, supporting transition processes
SSH contribute to shaping public policy by informing them about consumption patterns, the place of energy in everyday life and industry, how people deal with it, providing insights for policy making.
I am not sure that it is within rural development. There is a tendency to concentrate on urban or higher density areas. Getting reliable energy out to more isolated areas in an efficient manner is an issue.

Annex 6 – Randomised list of answers to Question 2a

If you are working broadly within the energy-related Social Sciences and Humanities: how could novel energy-SSH research be best supported?
The most important issues are dissemination, social science communication in mainstream newspaper and screen media (rare to absent) and addressing, at the very least discussing, why policy and politicians are not interested in certain insights that SSH could provide.
By issuing new specific research programs for environmental history or for anthropological/sociological approaches to energy; these programs would allow researchers interested in this topic to publish in high-ranked peer-review journals, including journals that aim to policymakers as well, to attend and/or organize conferences on this topic, even exhibitions which would make the wider public aware of different social, economic and political aspects of energy.
I may be way to early in my academic career to give an in-depth answer to this, but time and resources has to be the obvious (too obvious?) answer here. Can't think of anything specific pertaining to energy-SSH research though.
More calls for funding focusing on SSH.
A better design for call for projects. Link demand to supply needs. Policy - research interactions.
By considering radical change of systems providing human needs such as energy efficiency improvements, using less, optimisation or smart technologies are NOT ENOUGH!
Highlighting the part played by renewable energy in developing sustainable communities and local economies
by selecting the most efficient and working platforms, interdisciplinary case studies creation and sharing, multi-stakeholders meetings and workshops
N/A
Novel energy-SSH research does not need special support.
A systemic approach could be helpful, gathering knowledge from various disciplinary fields related to energy topics. So much already known but fragmented. Can we construct coherent stories by combining fragmented multi-disciplinary knowledge?
I am not really working in the SSH aspect of energy
Accepting work from multidisplinary approaches, funding for attending workshops, courses outside their own department, colaboration from different scholars regardless the institution.
Call for projects that include a social dimension mandatorily. There is no innovation in energy efficiency without social innovation. 'Rebound effect' in renovated buildings or misuses of new technologies in passive or positive buildings have proven the importance of social aspects as much as technical aspects in EE projects to guarantee that technologies are used well and so that energy efficiency promises/ targets of new equipments or renovated buildings are really met; and not lowered due to tenants behaviour.
Interdisciplinary work within the social sciences and humanities enrich the assessment of the research question by providing different perspectives. However, I also find collaboration with disciplines outside social sciences and humanities to broaden our understanding of the technicalities in and complexity of the energy-economy-environment-society (E3S) nexus. This enables scholars in social sciences and humanities to propose ways to improve the efficient implementation of technical tools, which may have gone unnoticed by scholars outside our discipline. Although it is very difficult to attain, collaboration with disciplines outside the social sciences bring about a better understanding of technical details, open up new areas of literature, and a more complete picture of the E3S.

- Shift in thinking around funding – at the moment SSH are primarily tacked on (often at the last minute) to existing projects and funding bids which diminishes integration and value. - I would like to see more opportunities to engage with other postdocs in this process, rather than relying on high-level decisions / planning of bids.
Through dedicated funding for interdisciplinary applied research that enables both short-term discrete projects (3-5 year projects) as well as long-term research that works with longitudinal data. Cross-country comparisons and networking are also priorities.
Through inter- and multidisciplinary research projects, in collaboration with STEMs
Metrics for evaluating research excellence; policy-research interactions; funding expectations
Reseach projects focused on behaviour and culture realistically than 'rational actors' should be prioritised. Placements of SSH researchers in government departments etc. would also help.
- Through funding opportunities for interdisciplinary projects that include a social science component. - Also through the creation of network opportunities that showcase the relevance of social science to other energy related disciplines.
Through inter-disciplinary centres that are focused around answering questions as opposed to developing single disciplines.
I think two sets of approaches are needed. - Firstly, explicitly interdisciplinary research should be a feature of almost every large funded (e.g. H2020) project. Admittedly, this fits with the EC's current 'mainstreaming' approach, whereby energy-SSH is (ideally) expected to be a feature of all projects (or at least as many as possible). This is important as every project - however technical - still has foundations, applications, or impact relating to human dimensions of some kind. A issue that funders, and researchers too, must remain reflexive about is the risk of SSH being bolted on to large projects, meaning that integration is poor and multi-disciplinary (not interdisciplinary) work is actually what is funded. - Secondly, explicitly energy-SSH research is needed alongside this. It is not enough to embed energy-SSH in larger (more technical) projects, mainly because disciplinary (or at least SSH) depth is needed to enable cutting-edge thinking to emerge. Essentially, the funding landscape is key as it provides possibilities for research. And thus, relatedly, energy-SSH funding calls should endeavour not to 'close down' its possibilities through the wording (and conceptualisation of energy problems) in the funding call themselves - for too long have funding call been dominanted by economics/psychology wording, which actually then puts off other energy-SSH researchers from applying.
It needs to be integrated in all big programs that address policy development and policy - research interaction, as well as technology and innovation development programs.
Projects to show how important SSH, Firm level incentives to reduce risk of policy change, education to increase awareness.
In my opinion, during the course of the energy-SSH research, the advantages and limitations of different disciplines should be recognized by the researchers who are working together with me. It would be better if our disciplines complement each other with advantages. Therefore, opportunities for communicating and presenting should be provided. For example, regular short meetings could be organized for us to get familiar with each disciplinary. For each topic, there could be a coordinator who is responsible for outlining the main research structure and assigning the specific research questions to individual researchers based on their disciplinary features. One researcher could be assigned more than one questions, and he (or she) is the leader of the group in his (or her) own field. At the same time, he (or she) is the research assistant in other groups. Accordingly, for publications, he (or she) will be the first author or non-first coauthor.
In the world of big data there is a danger of going backwards - i.e. focussing on the 'what' instead of the 'why'. 'Big data' projects must be supported with 'little data' with subset of consumers to really understand what is going on. STEM/engineers to lead SSH projects + vice versa.

Creating a platform for policy and research exchange regarding 'community energy' across EU-countries
Definitely better funding opportunities for this specific kind of research are very much needed.
Research funding for energy-SSH Research is minimal compared to Investments in technical Research funding. In Norway funding has increased from 3% to around 7% over the past decade, but this is still far below what is necessary to make a significant impact on policy
by giving more place to bottom up research and acknowledging the validy of qualitative research
Calls for interdisciplinary research projects with strong social science components; opportunities for new networks
Specific calls for SSH research (to demonstrate at scale the importance of incorporating them and comparing to more economic-technological research outputs).
In-depth discussion with key stakeholders and find acceptable solutions for coresponding policy implementation
Through Calls that go Beyond "energy" to include other societal aspects. Energy poverty has appeared as a topic, and is important, but there are many other dimensions such as gender, migration, life cycle perspectives etc. One problem is also that existing programmes are normative (sustainability), which excludes Critical Research on the sector, its users and beyond.
Within academia it is important to better support multidisciplinary research - including that which proceeds beyond doctoral work, by breaking down academic compartmentalism, for example it is important for editors of journals and organisers of wider academic fora to be more open to multidisciplinary approaches. Outside academia, including in government and industry, extending right to the highest levels, there is a need to acknowledge the value of and give credit more cross-disciplinary courses and qualifications.
I don't think novelty per se is the problem - energy innovation systems involve many interests, among which the influence of the SSH community is inevitably limited. What is at issue, therefore, is how to increase that influence. Nonetheless novel forms of engagement between SSH and incumbent interests would be useful and could be supported, for example, through funding for embedding SSH researchers. Though I wouldn't under-estimate the challenges of this for the researchers, nor over-estimate their likely influence.
insight in the end user and stakeholder involvement in the decision making process. measures to adjust multi stakeholder value propositions in a way that perception changes positivly towards innovations. policy -research interaction. Integral political, energectic, social and technical assessments.
If research is financed by national and European funds, evaluation pannels and scientific and need to consider this interdisciplinary dimension. In Portugal, for example, there is no scientific field abbreviated with energy (no interdisciplinary energy research) to which projects may be submitted to.
SSH policy recommendation, challenge STEM approach. Design research calls to include SSH.
The funding bodies and the way a) they shape research funding calls b) they evaluate the proposals submitted for these calls, are crucial in supporting energy SSH research. I also believe there is a need for more interdisciplinary research.
Recruit more genuinely inter-disciplinary researchers to funders' review panels.
Programme delivery agents give answers to programmes to support research. Health. Show content to decision makers. Credibility. Need social scientists, (not just economists).
More funding for projects and networking grants. Especially for interdisciplinary research where engineers are brought together with social scientists and all the different aspects of the energy system are taken into account.
More focus on implementation

Interdiciplinary and european projects; integraton of SSH into real-world planing and implementation of projects (construction of new infrastructures, smart grids etc.)
The best support for energy-STS research would be to convince policymakers and industrialists that energy STS-research really matters to them. Then they will be willing to support it. Also, creating hybrid forums where non-official stakeholders can express their views and be not only heard but taken into account, would greatly support our research, as it would be an implementation of ideas that STS scholars have been advocating for at least 20 years.
By enabling transdisciplinary research initiatives
Realising that knowledge comes not only from universities and the formal research institutes, but that knowledge production might benefit from collaboration between these and e.g. SMEs (like ourselves) and others (e.g. energy sector; housing corporations; environmental organisations; designers, etc) so that the connection with everyday practice (and the empirical material that offers) is not lost as well as to enable translation of knowledge to practice.
Research funding is usually targeted to applied research, with individualistic and utilitarian assumptions (eg. improving individual energy use/efficiency). More funding should be allocated to research projects looking into collective factors of energy consumption/use. Support projects that aim to understand the importance of energy in daily life, popular culture, history. Social science shouldn't be "used" merely as a way to transform behaviors in a particular way, the role of SSH are also a way to reveal/describe/analyze society as it is (not as it should be). Making the relation between energy and society more visible is already a way to transform the relation. More research on energy arts/cultures/history/heritage.
Energy-SSH research need first to be understood as a key tool for enabling policies to evolve, it needs to be supported by policy makers for them to make sense of such research and implement results in future decisions.
By strict interdisciplinary calls. The challenges ahead are too complex to be solved with one-disciplinary solutions.
I am an engineer and a researcher and I have worked with human factor experts to validate the deployment/ acceptability of energy solutions.
By influencing and getting support from the academia and the governmental bodies in a national contexts, and energy-SSH related bodies on EU level.
Recognition of certain disciplinary differences is very important. Further, better options for policy-research interactions would be of key, so that energy related social science can be more widely recognized and used.
Acknowledgement of impact of SSH-based research & methodologies on energy consumption& demand. Recognising that end-users and social constructs matter in policy as much as technology-centric solutions& providing them on equal footing. Integration of SSH research with political, technical & economic frameworks.
I am not an expert on this topic
Funding for research about behaviour patterns+ ways to change behaviour and about decision-making processes. Eg. Funding of big surveys (and not for market uptake)/ more basic research where users are in the focus of projects (not only satisfaction studies).
Not applicable
More funding and publicity

Beyond financial support that can always help, I think that it is very important to create different cooperations in this field and to learn about what is happening in other countries, which usually deal with similar challenges. This field of study is relatively undeveloped. Accordingly, it is very important to create communication networks in which researchers in this field will be able to exchange thoughts and ideas. In addition, I think that it is crucial to connect researchers in this field to the practical world, so that they can understand how the energy industry acctually works. from my opinion these issues can contribute greatly to the research in the field.
By exchange of results of models for social interaction in neighbourhoods. Examples of the economics to develop and maintain local action. Examples of creating community action. How to get people out of the car, how to improve car sharing, how to facilitate the collective purchase of insulation, solar panels, community heating systems etc.
N/A
Funding is too focused on impact but more qualitative oriented research to gain further understanding is needed (or user behaviour engagement issues). Too much emphasis on economies and models. RRI should be part of ALL STEM energy research.
Results should be promoted stronger+ be made more public visible. Necessity to show the contribution of all disciplines is necessity.
By financing projects that are struggling to get financing, because little by policy and research establishement
Funding for blue sky / part-time projects that enable us to explore these areas as time away from our full-time jobs.
Initially, EU and governmental support will be needed. Academic research needs to be connected to the local business and governments. Analysis of differencies in energy politics between CEE countries and western European countries.
- More interdisciplinary platforms could be provided for discussions, with an emphasis on showing synergies (between disciplines) rather than differences. This could make a difference in combining people from different disciplines. - Recognising boundaries of different disciplines.
Policy research interactions
- Supporting knowledge transfer programmes between academic-business-NGO-social fields like Climate KIC
It seems that in many cases research proposals of which the results are easily quantifiable are more often funded compared to more innovative research proposals of which the expected results are a less clear. So the focus should be more on learning instead of only testing if goals are met.
In fact, I do not really work within the energy-related social sciences, but as energy economist, I am very interested in the research frameworks of those disciplines. Therefore, I would suggest more efforts to be put on their dissemination and platforms to be developed for cooperative work between energy-SSH academic representatives, energy policy researchers, energy economists and practitioners
By integrating them with engineering and technological approaches. By developing better evaluation metrics, criteria and models.
First of all increasing research funds since research in these fields can be time consuming and during this time the researches need proper funding. Then the possibility of providing an environment where there are more policy-research interactions, like workshops or summer schools.
Through engagement with as wide a group of stakeholders as possible, and integration of research groups as well as the general public.
Energy transition - renewable energies

The 'Energy Cultures' research programme that ran for 6 years in New Zealand is a great example for strong inter-disciplinary research that does inform policy and industry as well. The IEA DSM Task 24 I am leading also takes the approach of being open to all disciplines and their various models of understanding behaviour and theories of change. Ultimately, this led to a more human-centred approach to viewing the energy system, and our 'Behaviour Changer Framework' which facilitates multi-stakeholder collaboration.
freedom from disciplinary boundaries, abolition of academic evaluation and similar time wasting activities and instead encouraging researchers to work on real problems and find ways to real solutions.
Appreciation for qualitative methods (understanding how and in what way); integrating SSH early on in research design, rather than bringing in SSH at the end of a project to determine how consumers-citizens can updatke the proposed solutions; contributing to a different paradigm of change (social change, as opposed to individual rational choice).
Directly integrating it into multi-disciplinary approaches (economics, policy analyses, Engineering)
case studies, pilots, surveys
Funding!
Novel energy SSH would need some fundamental theoretical adaptations in theories of society as well as methodical innovations, especially in the digital world. This possibly requires funding increases too.
ideological driving forces for energy production and usage
By creating a network with key actors in different sectors (e.g. academia, NGOs, government, private sector) and at global level
- Multi-disciplinary research consortia working around defined problems (this is an EU compatible mechanism). - Multi-disciplinary research teams (ideally single location – or centres like CIE-MAP) working around defined problems (not a recognised EU-type project).
In the context of heat decarbonisation – fresh challenges are beginning to emerge, particularly in countries where fossil gas is used for heating (around 40% of European final energy demand for heating is gas). Particularly in Northern European countries, the decarbonisation of heating can have hugely significant consequences for the wider energy system, and could be more consequential to electricity than current renewable generation deployment levels. Potentially new infrastructure has to be designed, justified and developed, raising a variety of questions which are best tackled through an interdisciplinary approach (e.g. drawing together engineering, economics, sociotechnical studies, the consumer-engagement end of social sciences, etc.). So: heat decarbonisation is a new grand challenge, and support should focus on interdisciplinary research working collaboratively with public authorities.
- Network building and collaboration. - Special issues?
Long term financial support in a system that has been designed for scientist in social science and humanities and by people understanding the benefits and words used in this research area. Create platforms for researchers in the field to meet each other - both from social science and humanities and from techno economics research disciplines.
By significantly increasing policy and funding to enable SSH research AND ACTION to be delivered - at a level comparable with technological development.

For me, this is not just a question of best (financial) support - it is much more a question of understanding and appreciating the role SSH research could play. Science is transformative but despite decades of SSH research addressing this issue, science and technology R&D (in the energy sector but also more broadly) has still not become more inclusive and democratic. While SSH offers fantastic tools to co-create robust (and hence more efficient and effective) 'solutions', it remains a footnote to energy policy and research. What seems missing is structural and long-term support, embedding SSH in energy policy and research. This would include changing the funding structure (less project-based) and supporting stakeholder groups in taking collective action (on any scale level), i.e. engaging users, producers, business and policy actors in co-developing solutions and accompanying products, services, policies and evaluation methods.
By encouraging and systematising knowledge and practices transfer between academic and key stakeholders, so that the SSH-research implications could be better understood and trusted.
More funding and technology specific calls. All SSH research funding seems to be targeted at energy generally and as such cannot fully address the requirements coming from offshore renewable energy.
Support for participatory transdisciplinary approaches. More emphasis on the 'demand' side. More emphasis on non-economic and integrated economic/non-economic approaches to evaluation
More projects should be lead by researchers from disciplines like sociology or human geography who recognize the socio-technical and systemic nature of energy transition. More should have a leading role in defining the problems and potential solutions from the start rather than the way it currently is which is the other way round. STEM disciplines are not always best suited to understand the very important material-human dimensions that constitute energy problems in the first place. Funding should therefore prioritize more of these arrangements
I do not work in SSH
energy-SSH?
Through partnership with other technical universities to better understand technical limitations of different energy supply system and with futurist/policy scientists/practitioners indicating the way for the next decades on energy supply trends
In general, humanities sciences do not beneficiate of a high visibility and aknowledgment to answer to these kinds of problematics, but social implications in global energies use should make them more confident in their capacities of bringing important data to these questions. Maybe, to gain more visibility, it would be very interesting of anthropologists and sociologists to use mathematics (statistics) and data vizualisation to "speak the same language" with other scientists. This effort would help social sciences to reach a better standardization and understanding in an interdisciplinary perspective, so a better visibility.
policy-research interactions
By appropriate funding.
Below answer may also fit with this one.
More recognition into the European Academic; better funding from the European Union with programs like Shape Energy;
- Recognising the vale of SS methodologies and methods in achieving an understanding of societal changes and transitions. - Through consistent funding of SS research activities at a larger scale. - Perhaps the creation of platforms bridging the knowledge from traditional sciences to social sciences, thus creating a better dialogue between these two strands.
More funding opportunities for social research on energy.
n/a
We have worked in Informed Cities, European Innitiative to relate researchers and decition makers. This program is more complete as is trying to include social oppinion

Recognition of the time needed for in-depth cross-sector working; it is generally not quick, and also can require many interpersonal skills. Many 'non-traditional' career pathways are also emerging, in fields which span many disciplines, like energy research. E.g. research combined with practitioner roles. Developing new communities or institutions to support these groups, perhaps. Metrics based on e.g. high publishing output can also favour quantity over quality.
The Member States need to develop national policies harmonized with the EU Directives. In order to choose the best policy, the Commission could require from Member States to prepare ex-ante policy assessment of different policy alternatives.
- Support of the development of a data-base (e.g. policies in place in each country; financial flows into energy infrastructure in each country; data about "soft" variables (e.g. collected through expert consultation). - Finance of energy research - Platform for collaboration (e.g. platforms that provide information what kind of different institutions work on which questions; and in what kind of collaboration they are interested) - Information about the impact of energy choices towards the society
By integrating those studies within the development of pilots, current projects are very technically oriented and lack of involving humans in activities testing the impact on society
Interdisc. conferences (for peer review with diff. background). Collab with social scientist when making the policy instr. (e.g. EPC energy performance certificate). Not fitting into boxes PhD programs (engin-architecture)
Fund more social science under 'traditional' physical science calls, e.g. EPSRC energy calls.
Making sure that it is central to the shaping of projects - not yet as an add-on (see claircity.eu as an example of H2020 project where social science is central to framing i.e. really transdisciplinary not just interdisciplinary.
Workshops that involve a wide interdisciplinary research community enhancing the collaboration and UNDERSTANDING between engineers/architects and social scientists. In the field of occupant behaviour analysis, in order to extend existing knowledge (mainly based only on measurements of the physical environment), it would be crucial to further boost the combination of expertises in the field of building physics, sociology, psychology and others.
Through introduction in scools and universities of specialised disciplines like clean production energy, by involving society in different scientific experiments on base of existing research institutions, etc.
Interdisciplinary work is often conducted that each discipline develops and presents its own findings. Support for methods of Integrated Knowledge Production could help bring findings together.
Give more recognition to the universities and professional academic world to map out core challenges and research questions. Calls for funding are ofte too narrow -- targeted to solve specific (techno-economic) solutions - while paying little respect to core scientific and broader scholarly debates. Interdisciplinarity is not enough valued and are often sacrificed when competing against more narrow mono-disciplinary studies. There is far too much focus on impact (and measuring impact in qualitative terms).
Exploring how to achieve absolute reductions in energy use (recognising limits to growth and entropy) and not just energy efficiency.
Not sure...
Future calls should be centred on energy-SSH research with engineering/technical solutions as an add on (ie the focus should be on the energy system within a social context rather than a technical fix into a social environment).
Research should be done hand-in-hand with practicioners and stakeholders.

For my area of research, how it could be simplified and somehow taught in schools to younger generations and communicated in a way that is understandable to them
By understanding energy as an output of our daily organisation of our lives. By supporting alternative methodologies/ science communication: eg. from acting, storytelling and other practices including the whole body.
By organising more hybrid fora where different forms of knowledge can interact in solving or addressing societal challenges, by integrating SSH research in publicly funded interventions. By helping researchers better disseminate and translate their findings into relevant knowledge bits for policy and practice. By reorganising the current performance indicators in academia, allowing deviant research to take place.
More funding for SSH research (also for independent scholars); requiring existing or new projects to connect to SSH research(ers) in a serious partnership (frequently it is just to add on to a STEM study); policy makers focus on research by STEM but there would be much to gain to draw on or request SSH research to base policy on (I am not sure how to stimulate this though).
Not directly linking it to the economic perspective of financial incentives and short term results.
First, with a general platform for sharing best practices, idea and projects. Second, an improvement in energy-ssh network around Europe. Third, with open source tools ready-to-use (almost ready) such as Mobil App, online dashboard and so on.
Giving more time to teams from different disciplines to know each other and understand each other's fundamental concepts (longer projects?). Funding preparatory phases for projects to emerge.
Funding and scientific relevance should be given to those studies that go beyond the single case, and accomodate an assortment of methods coming above all from social science researchers, "stories" told by failure cases and different cultural perspective.
Energy SSH research should emphasise on finding ways to disseminate to the greater public.
Due to many different reasons, each discipline develop along its own path. Terminology becomes more and more difficult to understand by people from other disciplines or by people from outside the academia. Interdisciplinarity should be pursued more and more, starting from university lessons.
Fundings for launching and studying voluntary local experiments in energy systems, energy alternatives, etc...
Multi-disciplinary approaches bringing social sciences and engineering/technical researchers together, in for instance to best determine how to plan for the acceptance and build of new low carbon energy sources
New research programs could integrate more multidisciplinary projects with a greater integration of qualitative approaches, less represented.
Through the development of best practice frameworks to foster greater engagement and application of solutions-based approaches
By providing science-based, realistic, technical development limitations in order to supply future trends and scenarios to develop meaningful and reasonable next steps. It must help to identify hypes to exclude them from further considerations.

1) Actual funding must exist, dedicated to SSH, so that SSH can exist on its ow terms, not only as a subordinate add-on to engineering, etc. 2) people with expertise in SSH must be represented in program committees, boards etc., of funding agencies. 3) evaluators must be competent in the approach of the proposed work. Too often you see energy system modellers reviewing qualitative research proposals etc. 4) SSH must also be integrated in close to all technology development projects. This participation should not only be to secure "social accpetance", but should be allowed to engage broader with the role of the technology in society, e.g. thorugh notions of RRI or similar. 5) Policy making actors such as the European commission probably needs to actually recruit SSH trained people (not only economists) for the standing of the disciplines to acheive higher status.

Annex 7 – Randomised list of answers to Question 2b

If you are not working broadly within the energy-related Social Sciences and Humanities: how would you like to engage with energy-SSH in the future and is there anything that could help with this?
Today, from my experience is the lagging exchange of natural sciences and SSH. This must be promoted.
I would like to work on projects that take into account both on-site monitoring and SSH. I think SSH could provide valuable explanations about the energy data we collect on-site.
Adequate joint projects with integral approach to complex energy and social problems should be helpful.
I am interested in energy efficiency and product shared use, namely passenger vehicles and the transition steps needed to move from ownership to service provisions on a larger-scale.
n/a
As a consumer I would like to be consulted about our local issues and be informed about new solutions, developments and alternative ways to overcome difficulties. As a journalist, I would like to help disseminating useful information for citizens.
As I work predominantly in education, I would say it is about ensuring that education provides opportunities for lecturers and teachers to incorporate cross-disciplinary approaches to social sciences, humanities which embed energy-related issues. An example of this could be through a school energy efficiency competition that is championed by student ambassadors. The results of this competition could then be discussed as part of social science and humanity classes, for example in psychology they could discuss the experiences of the student ambassadors when it came to motivating their classmates, the difficulties they encountered and how they overcame these.
More use of cross sectoral frameworks such as ecosystem services
I would like to help spread knowledge about energy, which in many cases are not understood by citizens, or are confusing. Help to contribute opinions and participate in energy policies.
I'm not sure if/ how it would directly impact on my current occupation.
Energy-SSH?
I am not an expert on this topic
I would like to be more engaged in the "raising awareness actions" related to future energy policies
Data sharing, projects and invents together
For energy efficiency I believe SSH could help a lot to understanding the obstacles, drivers, right incentives for energy efficiency investment. Understanding human behaviour is also essential to turn theoretical energy savings into real energy savings.
SSH could provide knowledge about energy transitions and how this could be achieved. This would change how technical analyis and projections are done.
I am researching in my phd thesis the role of the institutions for the development of the renewable energy sector in Europe using the case studies of several European countries. In my study, I recognize the need of applying and combining theories from the institutional economics, policy and social science in order to understand the interplay of different formal and informal institutions, how they enable or hinder the deployment of the new renewable energy technologies. I am open for academic cooperation with researchers from different fields which are interested in the topic and I will be glad to contribute with my research to the project.
I'm already working working with SSH.
Bringing NGOs into contact with scientists energy-SSH. I could send the conclusions of Shape to Setem (this NGO works the responsible consumption in the society).
To persuading consumers that the energy is not given free - that the earth is a small island in space and its future depends on wise the production and use of energy
- By bringing in my perspective.

Social sciences and the examples of project form a blind spot for people aimed at technology and industry. We need means to involve these people and show them the impact of the blind spot and solutions to work on this area from their (technological perspective)
I think that helping people progressing towards a new way of consumptions, of thinking about making profit,... and toward the fact that each person could help it will definitely help putting in place new solutions and having a viable impact. For instance, many people still consider that sustainable growth or circular economics is not viable, ...
N/A
in the field of business model innovation, new way of looking at the problem and its re-formulation, innovation of and within the public sector, creativity in the field of industrial energy needs and transportation sector
integrate sufficiency in reaching live within planetary boundaries
N/A
Increasing energy-SSH's profile through media-engagement methods etc.
Make it clear that there is an active role that energy-SSH can play in the shift to a new economic mode. This is not just studying existing energy behaviour.
Multidiscip - work separately. Interdisciplinary/ transdisciplinary - redefine the problem together. Storytelling - common language for res. from diff.
European laws and norms on Energy efficiency must be analyzed comparing different social situation (economic, education. etc...).
n/a
More funding for inter-disciplinary research in the European programmes. Currently there is a huge difference in the amount of money targeted to technological solutions mainly (e.g. Smart Cities and Communities, research), rather than to soft solutions (citizen involvement, long term visions and planning etc). It is the case in H2020, but also in other EU programmes, such as LIFE. Bridge the gap between academics and people working on the ground in local authorities.
Yes, allocate more financial resources for sustainability transitions research
My research can offer insights into different ways in which marine spaces are conceptualised by users, managers and human-environment interactions, how this relates to marine planning and resource governance and, in particular, what it means for community engagement.
The modern world faces various challenges that require a comprehensive knowledge pertaining to a connection of natural-scientific, technological and SSH disciplines. Creation of effective public policies may support corporate performance.
We can help in spreading the work that is done from now on
Exploring the potential relevance of mindfulness to sustainable consumption and behaviour change that promotes effective responses to climate change. Connecting with researchers interested in this.
For example it could be useful to insert energy-related SSH topics/provide hints into university courses of study of Engineering and Environmental sciences
I can share my experience by reviewing outcomes, by promoting the initiative, by giving advices an research support
I wold like to know how energy-SSH is progressing. Can a short note on progress be sent out periodically?
In international interdisciplinary and disciplinary projects with not too many partners, and with a longer time frame. Projects are often too short and have too little flexibility (time schedules and deliverables should be more flexible).
It might be interesting to integrate anthropological case studies that aim at understanding what prevents individuals, communities, cities... from taking action to reduce energy-related pollution, and what motivates them to do so - funding for such research would be helpful.

Demonstration and action research projects, rather than pure research, to demonstrate how to engage and enable stakeholders (citizens, businesses, public sector, etc) to change their behaviours and implement energy efficiency and low & zero carbon technologies.
Receiving more support (monetary and advisory) from the policy makers and program leaders for doing research and accessing data on consumption patterns or investments.
As a think tank that tries to trigger change, connect people and stimulate debates, I believe it is important for us to engage with such research and introduce it to key policy makers we are working with. In this sense, we will be able to help the Energy-SSH research community use their research as a foundation for future energy policies.
Metrics for measuring the effect/impact of user behaviour on energy demand, energy end-uses stochastic modelling, modelling building use/management value
By contacting perspective partners in formation of H2020 Consortia
Previous experience: EPSRC-funded 'Realising Transition Pathways' Consortium of nine UK universities (PI and Co-Leader); see www.realisingtransitionpathways.org.uk
Opportunities to bring together scientists and policy makers with SSH researchers.
I have been a pensioner for a long time. It seems to me as a group we are large and mostly unlikely to be interested in energy research unless it has some perceivable impact on our lives. I think we need to be better informed how saving energy is made effective; e.g. I look at shops and see apparently tremendous amounts of energy being used. I have the time to be told whether this is being done effectively or not. I need to be persuaded that large organisations are using energy efficiently and not just to maximise productivity and profit.
- I would like to take the results from social sciences and humanities and use them to improve the understanding of social systems in systems modelling and improve the assumptions made during the modelling process for the social system.
I guess here that energy-related social science and humanities need to be slightly better on explaining their contributions in a simple way that everybody can understand because that is not always the case.
Improved connections with those organisations directly involved to better understand and utilise the data collected and interpreted.
I see energy-SSH as the field of research that would help me to contextualize mine and would justify the scale I am working at. For example, I need to know, thanks to energy-SSH researches, how people use energy at home. This is the kind of knowledge linked to energy and ssh I would use. Another interesting point would be to understand how energy's politics work, how do politicians perceive the research led on this topic and how (or if) it influences the choices they may make.
Need a space to rank competing goals from society as a whole.
I would like to use tourism, heritage, museums and the arts to raise awareness about contemporary energy challenges.
We hope to be able to continue with others in this area.
It is important to find links between energy SSH and society stakeholders for which direct benefits can come up. Often, energy SSH seems to only look neutral at issues as an observation object. Energy SSH seem to have potential to concretely help out.
Better link of techno-economic energy modelling with insights from social science would be required (e.g. regarding acceptance, uptake and diffusion of technologies and policy instruments). Better integration of techno-economic assessments and policy analyses with energy-SSH could probably lead to more substantiated and more accepted results.
Periodic newsletters about current research
Working in schools and universities with children and students until they are not seduced by the universal pursuit of affluence and wealth
Identifying common cross-discipline challenges which are directly relatable to other sectors but are influenced by the energy sector to work more collaboratively

not applicable
Although energy is not exactly my main topic of interest, I would want to engage in the fields of education policies.
More information of the skills provide.
My engagement with energy-SSH has been limited, but it could be useful to e.g. receive a regular email bulletin summarising key research findings, and/or to read coverage of research outcomes in online media.
Creation of effective public policies may support corporate performance.
Follow the debate; see the results of the research
I'd like easy-to-access, comprehensive summaries of important research fields and results. These should be presented so they can be easily applied publicly. They should fairly reflect the status of research (eg. weak evidence, consensus/ non-consensus).
- Understanding context of engineering challenges. - Highly project-specific, but accessible literature always welcome!
• Renewable energy: spread the knowledge to reduce the gap between produces and consumers and promote prosumers activities, understanding the cultural, behavioural, socio-economic backgrounds and stimulate the appropriate instruments. • Energy efficiency: : spread across Europe of instruments to stimulate efficiency such as the White Certificates (Energy Efficiency Credits) and give all citizens the possibility to obtain some advantage from renewable energy and reforestations. • Environment protection: reduce the impact of climate change to tackle the problem of migration. • Funding expectations: broader use of crowdfunding for energy related projects; possibility of multinational crowdfunding.
Access to energy can help or hinder rural development, reversing the decline of rural communities. Future food provisioning relies upon access to energy and sometimes competes with the provision of energy. Additionally social networks which are necessary for food provisioning into the future to counteract the rising age of farmers needs access to reliable energy to develop alternative livelihoods
Via a list-serv in the model of SCORAI or montly e-newsletter, annual seminar, funding to cover travel to events in the UK
Need a stronger voice for SSH in energy policymaking, e.g. through SHAPE Energy programme, and ensure that these topics are better reflected in policy briefings, etc
I would like to understand the key objectives, methods and ways of thinking in SSH reasearch. This is a prerequisite for any fruitful interdisciplinary collaboration. The different disciplines have to talk to each other, to get familiar with each other and to understand and acknowledge objectives and approaches. To date, there is quite a deep ditch between SSH and STEM disciplines (as there even are within STEM disciplines).
I would like to engage as a citizen
I would like to be able to attend different workshops and discover what has been done lately within the field of energy studies. Im coming from a developing country so evidence for policies applied in other countries may be of a good help in my research.
Like to engage further through more information provided by Energy-SSH communities, at timely moments in the year (before international and European Climate and Energy Conferences such as COPs, or European Commission release of new directives) so that all decisions and initiatives that are to be made can take into account all the necessary information and reflect all questions and needs from all stakeholders. Would be interesting, through platforms such as Shape Energy, if Energy-SSH could be updated regularly and promoted more broadly to all those who register to the platform.
Engineering and economy often study 'saving potential' but don't take into account human values.

Different (context-dependent) definitions of energy-related issues are significant to understand different concerns of the communities. Since these definitions will be loaded with cultural and social assumptions, it is important to generate a contextual analysis of energy issues. Understanding these concerns will also help us to see in what ways these are engaged with the overall political economic structures.
I am working within technical-economic areas. Forecasting energy demand, modelling. In modelling world the consumer is seen as rational, seeking optimisation. We need help to better understand the consumer behaviour, and translate this into modelling.
No.
Same as above. By developing fine-tuned models for use acceptance of technological devices (smart meters etc.) and tariff schemes (dynamic prices etc.)
Shared understanding. Need for projects with interdisciplinary working. Sample sizes: modelling '1000s'. social '10s' - how to draw conclusions? Get shared awareness and understanding. Understand limits. 'Speed dating'.
See previous
Not sure...
Interdisciplinary projects require a clear common end goal that different disciplines can work towards, while giving enough space for separate disciplinary activities.
For me, I would like to conduct the research based on my major. As Economics is a major that combines Economic Theory, Econometrics, Statistics and Mathematics, it can provide both theoretical and empirical evidence on energy-related economic activities by applying various qualitative and quantitative methods. Using the knowledge of Economics, I would like to investigate the development issues of energy sector and evaluate the policy influences on capitals (i.e. human capital, financial capital, social capital, natural capital, physical capital and so on). I think it would be helpful if the research funding can cover the cost for data collection.
They should be part of the requirement definition, an actor that goes beyond being named as users or consumers/prosumers. The impact of automation should be faced from a non-technical point of view, and also the social economy built should include many different parameters to understand how these new collaborative environments dealing with a primary resource like energy should behave
- Networks, connections
Help feed the important discourse of the impact of climate change on people's future. Rising heating +cooling demand. More disruption to energy supply. EC has business as usual hat on.
My major falls in environmental sciences, I think all energy projects share a strong linkage with rising environmental crisis which need to be addressed.

Annex 8 – Randomised list of answers to Question 3

Looking beyond the EU Horizon 2020 funding programme (thus 2021 onwards), what are the main energy challenges that should be given more funding?
Industry efficiency, sufficiency.
Energy transition
Ideological and cultural IAdriving forces for altermative energy production and usage
Link of lifestyle research and (industrial) production of goods. Better understanding how to consider the acceptance, eventually restrict and at the same time explore the full potential of smart technologies, big data issues and intelligent, self-learning control devices. Better understanding how to unfold the creativity of different persons and groups in society to contribute to the energy transition.
Eco-taxation; steady state economics; citizen-consumer psychology; democratic and governance deficits in planning, public engagement, scenario development and visioning.
Sustainable behavior and practices related to energy consumption
SMART Grids, hydrogen fuel
Public acceptance
Smart grid between countries and law issues related to this.
Reaching 2 degree climate target by decarbonisation without shifting to other problematic technologies like nuclear
Triggering societal transition, encouraging policy makers
- Democratising the energy system - local governance by citizens and municipalities - (Near) Zero energy building, does it need new 'dwelling practices', or how to realise promises for the existing stock? - Replacing gas as main fuel for heating - organisation, acceptation, technologies, transition paths and pace
Support the transition to low carbon energy, set ambitious long term objectives, implement instruments to move on a low-carbon path as soon as possible, implement measures to smoothen the transition and correct for its distributional impacts
Coordinating the wholesale decarbonisation of heat.
How users can be motivated to invest in EE meaures, to change their behaviours.
Demonstration and action research to demonstrate innovative ways to engage and enable stakeholders to take action. E.g. the role of the arts and culture, comedy, peer-to-peer knowledge exchange, community-based activities, education programmes, etc. Projects should enable longitudinal studies to be completed over extended time periods to enable projects to understand how systemic and long-term behaviour change can be achieved.
In my case, and thinking about Spain, invest in renewable energy. And in projects of sustainable energy supply that eradicate the "energy poverty" that many spanish homes suffer.
Buildings do not use energy but occupants do, occupant behaviour and the way the occupants interact with the building envelope and systems significantly effects building energy use: I think more fundings should be given to energy engagement and behavioural change programs in order to raise energy awareness amongst the building users and to achieve important energy savings (with zero-capital actions).
Public participation in decision-making on energy projects; Energy sobriety; Prosumers communities

In my view focus should be on seeing energy challenges in relation to each other (e.g. integration between transport systems and electricity systems), but also much broader, to study energy challenges as part of broad sustainability transitions efforts. Some key themes include democratization, fairness, energy poverty, re-distribution of resources, as well as finding credible stories and narratives about what low-carbon living could entail (socially, practically, technically etc.)
I think that there are many challenges in this field, including the need to cope with the increasing change in primary energy sources used to generate electricity - from fossil fuels to renewable energies. In addition, the future supply characteristics need to be adapted to the growing demand characteristics; In this context, there is a great need to examine the impact of decentrtelized electrical systems that do not necessarily connect to a national grid and how this affects competition in electricity markets, electricity trading, energy efficiency, etc. Another important issue is the need to understand and deal with future technologies that are expected to enable the storage of electricity, and to examine how this issue will affect the electricity sector, at the global level and at the local one.
More experimental innovation actions perhaps (more practice-based research and action)
The East of England power network is currently at capacity, requiring infrastructure improvements in this region. Development of community-based power generation and energy transitions are innovative, new areas for research.
- Demand. - Storage. - Flexible integrated energy systems. - Public participation with energy system change issues (cross EU-projects).
Resource depletion : how to decrease the demand (consumtion sobriety, etc.)
Education (programs for teaching children about energy in general, about how to use it less etc.)
How can we protect citizen rights in the transition towards smart societies, how do we incorporate the needs of citizens in sustainable energy policy
The role of renewable energy in linking local, regional, national and international economies
smart grid/homes and digitalisation
The need for energy (sources) is increasing and energy production is encroaching increasingly unto people's daily lives (for instance fracking in the U.S., pipelines across land, windfarms in the Netherlands). There is a lot of focus on: 1. the technical aspects of how to make that happen and happen safe, 2. the legal side of it, 3. the economic side. Yet, how it impacts people on an experiential level is often not taken into consideration. What does it mean for individuals and communities to deal with energy production? If we know this we could better situate energy production and deal with the impact of energy production, avoiding for instance opposition or averse effects on health and communities. Moreover, we could bridge production and usage, and also perhaps adjust patterns to reduce consumption. And finally, it could aid in transitions from fossil to renewable.
Conservation/ carbon removal/ micro grids
I am not sure / don't know.
I think that it will remain important to facilitate links between research and society and that varieties of action-research are funded.
Carbon storage or mitigation if we are to continue down an energy (electricity) intensive route. That will also need electricity storage technology.
I am not an expert on this topic

- Exploring visions of future – and thus energy related to these – in areas currently excluded from this research. - We tend to focus analysis on those already somewhat involved in energy issues (partly due to access issues), but what about the rest of business/industry? - especially around automation / 'smart' tech.
Which new economic models based on sufficiency could be implemented? Which political models could enable a democratic energy transition? How to switch from a mass consumption model to a more shared economy?
A main problem with H2020 is its peculiar and quite short-term understanding of "impact". More long-term research should be supported, like with a focus on comparative studies of energy policies, sustainable energy transitions, public engagement with sustainable energy with respect to specific technologies as well as broadly. Gender issues are underresearched. There is a lot to do with respect to decarbonized transport. And also with respect to sustainable cities.
Exploring the links between less energy/carbon intensive lifestyles and health and wellbeing. Problematising orthodox economic and cultural assumptions about consumption and wellbeing.
CCS, large-scale battery development, renewables
Health, demografic change, secure societies
- Changing behaviour towards more sustainable lifestyles. - Unpicking of traditional 'growth' from well-being perspectives.
Renewable energy and education
Bridging the valley of death which between academia and the wider world in terms of connection both ideas and technologies when it comes to decarbonisation.
Renewable and accessible energy resources must be funded.
Cooperation of local businesses, academia and governments
Diversification of technology options for harnessing solar energy (for electricity and fuel production). Examples are solar and wind-driven electricity generation (already quite advanced), artificial photosynthesis, power-to-gas/liquids, solar-thermochemical fuel production, but also advanced biofuels (truely sustainable ones!); we also need a much better understanding of sustainable and economically reasonable production potentials ("how much can be produced"). These examples all have SSH implications and need to be accompanied by SSH research.
Decarbonization of the transport sector, energy efficiency, policy making and public engagement
Education on energy issues: efficiency, renewables, externalities. New proposals to challenge the business as usual paradigm
- The wider diffusion of "smartness" in energy grids, as it will allow a higher integration of renewable energy sources. - The need to massively reduce energy consumption. I mean, this is not just a problem to be fixed by means of technological tools (i.e. efficiency improvements). It is more related to energy needs, that is to the fact that we are (or we think we are, or we are taught we are) slaves of our "energy slaves". I see no signs these trend will move toward a different direction. - How to make people (and policymakers, etc.) understand that efficiency improvements are counteproductive insofar as we continue believing they are the solution.
Translating the knowledge into decision making and programme designing.
Green energy, decentralization, decarbonization

How to solve the market problems of absorbing variable renewable energy production. how to deal with policy uncertainty. How to transform the heating and transport sector into using more renewables (including electricity and hydrogen based on renewables). How to stimulate innovation in green technologies in the power sector and in energy efficiency and CCS.
The main energy challenges, in my opinion, is educating and engaging the public in better understanding environmental risks and climate change implications of carbon-intensive energy systems, and using social sciences to both reduce energy demand and use as well as engage a wider public. In particular, new technologies should incorporate research on public perspectives of different energy types and how to work towards 'social licenses to operate' in addition to physical permits.
Clean & renewable energy.
- 'Whole systems' analysis and thinking - Energy demand reduction
Energy behaviours, energy justice, energy systems (and the links, feedback and complexity within energy systems).
- Supply and demand flexibility. - International energy flows. - Consumer willingness to use less energy and reduce demand for new goods.
Increase RES penetration, promote user adoption of novel energy solutions, behavioural changes towards sustainable societies
Sustainable and cost-efficient deployment of renewables in the energy-mix; circular economy; helping the private sector to increase their engagement in the transition to a greener economy (through greener investments and smart financing); smart buildings and electric mobility.
Infrastructure to address the limitations of our current national grid system, make it easier to feed renewable energy into, and remove themselves from, the conventional electricity supply.
Some ideas: The aspects of multi-level governance as an impact on the long-term sustainable energy roadmaps (2040-2050). Citizen and stakeholder involvement in shaping the local energy transition. Local sustainable food production and its socio-economic and environmental impact (involvement of elderly, refugees etc; local organic food supply in school and hospital canteens etc). It would be interesting to link MORE energy/transport issues to health issues as these have significant psychological, social, cultural and behavioural aspects. Unfortunately, (research on) health and wellbeing aspects are currently mostly linked to the medical field. Specific summer schools targeted to technicians and elected representatives in local authorities to give them insights/training on co-creation and involvement processes. Shaping of local energy related public policies should be done based on findings from SSH, but this is not at all common practice within local authorities in Europe. More focus on the place given to the public vs private realm (use of the individual car) - many EU programmes are now focused on the e-cars; which will not solve congestion problems and use of the public space dedicated to the car. It would be udeful to orient research to the e-bikes and their acceptance as a regular daily transportation means. More collection of qualitative data related to energy consumption and transport issues (not yet the focus of statistic agencies, local authorities, transport companies etc). Culture/Art in the energy field.
Energy Efficiency; Energy system towards a prosumers approach; fight energy poverty
Put user comfort at centre; reduce energy demand exploiting natural sources for heating/cooling, ventilation, lighting; building stock transformation towards responsive/flexible/resilient buildings
a) Futures and understandings of the future b) crime corruption and energy c) the management and organization of complex large-scale projects d) energy and security

Key low carbon technology costs reduction and efficiency improvement
The role of behaviour in energy use.
Infrastructure barrier understanding that prohibit community as well as large scale commercial deployment. How best to avoid duplication between the local authority, governmental, academic, third sector and commercial organisations.
Renewables
Exploring how to achieve absolute reductions in energy use (recognising limits to growth and entropy) and not just energy efficiency.
Low energy system transitions (from all stakeholder perspectives)
decarbonization of energy production, promotion and implementation energy efficiency at local level
Ethical valuations of energy production, distribution, consumption and waste
- Energy consumption and demand side management - Smart homes and consumers - Integrating more renewables - how to deal with intermittent sources? - Research about international electricity cooperations - how to be stronger, greener and safer together?
Demand-side management and behaviour change from a more systemic approach
After 2019 and the end of the main contract between Gazprom and Ukraine, the EU will need a new and very effective energy policy which can relieve the Eastern European countries which share borders with the Russian Federation. Assuring Energy Security to all the European Union, putting aside the differences about the policies implemented by the single states should be the first goal of the EU. Thus, I would say that even before 2021 the EU should focus on three main energy challenges: a focus on the Energy Security of the EU, the building of a single and strong Energy Union, diversification of the energy importing markets
Hybrid energy systems for industrial needs
Reducing energy demand - NOT through technology or efficiency but through cultural& lifestyle changes, design of low energy cities and neighbourhoods, etc.
How to link energy challenges faced in the Global South (insecurity, inter-connections between food-water-energy, price) with being undertaken by researchers in the Global North? How to link the challenges and experiences faced by energy providers and industrial stakeholders with researchers from Global North and Global South?
Multi-level governance; foundations of macro-economics.
Support energy literacy (education programs and trainings) Fight against fuel poverty Support community-based energy projects Supporting energy tourism (visits in energy production sites, visitor centers) Preserving energy heritage
Energy sufficiency, not solely efficiency: working on reduced energy consumption. Considering not only sectors, but integration across sectors (multi-modal mobility as it relates to food, work, etc.).

Focus on the following challenges should be strengthened: -developing energy citizenship, societal aspects and how to develop desirable low carbon futures and lifestyles. - developing energy solutions that actually work in everyday life - low carbon transport system from a socio-technical perspective (policies, users and industry) - RRI, democratization and inclusion - gender issues
1) Social awareness of energy-related problems and social acceptance of their solutions on EU level: There are a lot of examples of member states, which implement EU legislation proforma, but still do not create the conditions for development of new solutions of common energy problems, keep defending energy market models from the past and through populist talking of the politic elite do not present the real problems to their citizens. For instance, the society of Bulgaria and the society of Germany evaluate in very different way the coal phase-out foreseen by the European Union. Recent surveys in both countries showed, that while 33% of a total of 2105 Germans believe that TPPs there should be closed as soon as possible and the other 34% questioned indicate at least 2035 as possible deadline, in Bulgaria only 16% of the 3730 support the EU plans thinking of the ecological effect. In the background of these percentages, Bulgaria was recently sanctioned because of bad air quality. 2) Harmonization of definitions, concepts, metering methodologies and data acquisition at EU level. Just an example: estimation of self-consumption volumes and their comparison across countries encounter many difficulties, which result from data unavailability for numerous small, decentralized self-consumers, the inconsistency across national methodologies as well as the lack of common definition of self-consumption. The latest- the existence of different national self-consumption concepts regarding local parameter, requirement of personal identity (individual vs. collective) among others- will be accounted also as a problem at EU level in light of the Winter package and the EU perspective of self-consumption's role in the future common Energy Union. Linked to the diverging national definitions, non-uniform metering concepts increase additionally the complexity of the estimation task.
Energy efficient technologies in water supply and sanitation services
A focus on personal consumption and choices influencing induvidual carbon footprint should be continued, while perhaps a macro perspective on the energy use in larger corporations, governments and similar larger structures could be enhanced. Also, SSH researchers should be mindful of misrepresentation of different groups in society in energy research and policy making, and possible unequalities in the allocation of burdens and benefits between said groups in proposed energy transitions.
Energy demand reduction, but not only in terms of efficiency, also in terms of reduction in overall demand, particularly from a practice or user-perspective.
Community action

The following taken from ISSMER authored paper, Kerr S, Johnson K, Weir S (2017) Understanding community benefit payments from renewable energy development. Energy Policy 105 202-211. New forms of decentralised energy generation are disrupting conventional power relations in the energy sector. There is increasing evidence that community ownership of infrastructure, technology, and in some cases resource, has potential to deliver economic regeneration, social cohesion and empowerment to peripheral and/or marginalised communities. However the adoption of new energy technology and realisation of these opportunities for positive change is not ubiquitous. While they may all receive the same market signals, individual communities react differently. This suggested that there is a behavioural aspect to the adoption of new and disruptive low carbon energy technologies. SSH research is required understand a number of factors, including: behavioural factors underpinning the adoption of new technology; the consequences in shifting power relations in new energy markets; and the social consequences of new models of ownership. The following comes from ISSMER authored paper, Wright, G., O'Hagan, A.M., de Groot, J., Leroy, Y., Soininen, N., Salcido, R., Abad Castelos, M., Jude, S., Rochette, J., and S. Kerr. 2016. Establishing a legal research agenda for ocean energy. Marine Policy 63, 126-134. There is also a need to establish a legal research agenda specifically for ocean energy, such an agenda encompasses international law; environmental impacts and liability; rights and ownership; consenting processes; and managing marine space and resources. Social acceptance of different forms of energy remains a very pertinent and often poorly developed area of research particularly for Offshore Renewable Energy. There is great scope for broader collaboration on this topic: in Ireland acceptance of RE tends to get tangled up with grid infrastructure development, for example, which ultimately results in lots of public objection. Overall, future research should give specific consideration to offshore/marine energy as distinct from other forms of renewable energy. Offshore energy is different from terrestrial forms in a variety of ways and, whilst there may be the opportunity to join forces with more developed forms of Renewable Energy at a later stage, at the moment it might have to be treated somewhat independently at least until we have a better understanding of the issues. Two additional future areas of research which should also be considered: Interdisciplinary research that weaves SSH, environmental, and technical concerns together to support sustainable Blue Growth; Visionary SSH research that explores 'out of the box' thinking on future scenarios for sustainable energy futures.
Energy justice, Social acceptance of energy policies with a special focus on consumer behaviour change and energy efficiency
Sufficiency! Tackling the societal trends behind expansive energy demand! Thinking energy in more complex ways! Current H2020 calls are terribly outdated, when you read them you think that the guys writing them do not at all follow current debates. The ideas promoted there are still: energy efficient technologies will save the world, we need to support "market uptake", stupid consumers need to get informed, "convinced", or triggered, they present a very annoying "barrier" to market penetration of "good" technologies. Markets are the solution and that's it. The world is far more difficult...
Renewables technology
Information of the people on their real energy use and possibilities of reduction. And smart grid systems.
I think the energy challenges beyond 2020 will be more or less the same. I don´t think we´ll be able to solve problems in such a short time. I worry about the quality of the air, the price of energy, the obstacles to use renewable and cleaner energy in Spain, people´s behaviour and understanding of the problems and how we can help, etc...
Don't know

• Energy from waste and circular economy • Smart grid and empowerment of grids • Energy storage systems
Energy consumption REDUCTION (energy sufficiency)
Research on new energy market living more power to citizens to own and manage energy resources.
Holistic, multidisciplinary views on smart grids
Partnerships between local communities, municipalities and private companies Energy conservation
How a combination of energy efficiency and peak reduction & automation can address the future needs of decarbonisation.
Ecosystem service tradeoffs, community based schemes, understanding social support and achieving social change (not just individual behaviour change)
No plastic packaging (energy usage for that to drop), more long distance fast rail, house insulation, it should be mandatory for all fridges in supermarkets etc to be fully closed.
Energy efficiency among different sectors and energy poverty
Renewables and energy efficiency
Lifestyle change, how do we frame infrastructure etc/ so it becomes easy to make the right choices.
Empowerment of customers and digitalization of energy
Societal: Vested interests and "carbon lock-in", transition to low-carbon economy, challenging the growth paradigm (growth ≠ wellbeing, happiness etc.), social acceptance (e.g. of nuclear energy), energy in international relations, intergenerational justice; Technical: energy storages, nuclear energy, smart grids and demand response,
Democratisation of decision making, responsible innovation, interdisciplinary working and cross sectoral working, double loop or reflexive learning.
Getting policy makers to acknowledge the need for radical reductions in energy use.
Energy supply on renewables - Development of smart technologies to price energy on demand because of energy supply variability - Information technologies and local participation to promote a more environmental friendly energy mix for citizens that might be confused
Energy issues need to be understood and expressed to pupils from an earlier age e.g. primary school settings. Perhaps one way of tackling this could be by encouraging an appreciation for interdisciplinary purposes from a much earlier age e.g. creating new combined disciplines such as 'energy-maths', 'eco-science', enviro-engineering' etc. This could be achieved through introducing mini after school clubs etc.
The widening financial gap between the can'ts (Who can profit from the energy transition) and those that are 'left ' in the old system and due to financial circumstances get the role of last follower.
Circular economy, degrowth, reduce consumption of goods and food.
Collaborative arch - cilent+industry
- Finance for alternative modeling approaches (e.g. system dynamics) and for system wide analysis
There are four disciplines facing the same questions; water supply, food supply, energy supply and resources (waste). Every discipline encounters the same ambivalent approach of local versus large scale technical. In the second case ownership of the resources, water, food and energy is replaced to large companies with no connection to the local situation. What we need is new business models for local initiatives which incorporate these large scale technologies which are often more efficient and more sustainable but leave the ownership on a local level. These commons are visible throughout Europe but they need support of knowledge and cross pollination from other areas of expertise

- Delivering cost-effective energy storage in context of intermittency of renewables. - Meeting (energy services) needs of populations of developing nations.
Empowerment of consumers, including participation in energy and mainly capacity markets (possibly to 3rd party entities such as aggregators).
Societal and socio-technical system perspectives putting society and human beings in the centre of attention. And give more funding to problem-based research.
A better impact assesment of energy efficiency, not only positive but mainly negative impacts. For exemple impacts of building energy efficiency on health and environment. What impact of insulation materials on air quality and ocean gyres?
Low tech solutions
Probably projects that respond directly to future conflict that arise from resource scarcity and climate change and the technical challenges these circumstance will pose.
Stakeholder exclusion from decision-making (usually household user).
- Energy demand reduction. - Relationship between energy, economy, jobs, etc. - Interactions of energy supply and demand systems.
- Mechanical/thermal energy from the sea - Having joint solutions, i.e. taking the most of several solutions depending on the area, the time of the day/year... - Finding a fuel that is less polluting while not using lands dedicated to feed people - Making people consume even less - Increase again robustness and productivity of renewable energies to definitely stop using nuclear or carbonate energies - To find a way to retreat old nuclear waste. - To make people believe & invest for good to renewable energies
Perhaps more funding could be directed towards research and implementation of concrete ways of achieving the EU's very ambitious energy transition plans. What kind of societal changes would be implied on an individual and collective levels? Where are the incentives and pitfalls? Etc.
Stationary/residential combined heat and power systems fuelled by renewable ressources, e.g. fuel cells etc. Wind and photovoltaic energy systems. Electrification is the highest exergy level achievable, so the future must be electric.
Local, bottom-up, decentralized energy systems
Change of behaviour involved by the changing energy patterns
Behavioural change for energy efficiency and smart buildings projects.
Links between energy and non-energy relations. Incorporation of new units of analysis. Renew conventional categories and cases on old ??? understanding: ex Rooms Unit ---- Hybrid/ Blurred SDAG
Personally, I think energy use issues at community or household level in developing countries should be attached more importance in the future. For example, decentralized energy supply and centralized energy supply, which one is better? What're the barriers to develop renewable energy (such as biomass, wind, hydro-power, solar etc.) ? How to decrease the heavy dependence on fossil energy? (Improve technology to use less or explore the substitutes?)
Behavioural science/ Communication/increasing the input of information and awareness raising campaigns.
the energy-technology uptake by fragile communities, the geography/anthropology of the social acceptance of different energy behaviours, the financing of the problem-focused research

How we can increase energy efficiency and shift to a “low-energy” society. We need a more explicit discussion about values and ethical conflicts within energy politics.
Combinations of energy Challenges with other societal Challenges such as poverty, discrimination, and more openly attuned, people-near and system critical research.
Research on values and motivation.
Historical and social aspects related to energy should be aimed. Science Technology Society (STS) studies should be made more visible in the funding programmes.
Production of clean energy using local resources, new technologies allowing best integration of reneables in existing networks at low costs.
Prosumers, micro-generation, alternative energy solutions and ways of covering energy needs (incl. grid management).
Challenges relating to making our society more sustainable in a way that empowers and brings benefits to people and society. Thus funding projects that take into account social- and environmental justice. Additionally, solutions should be better tailored to real world situations. To make this possible projects that apply for funding should be flexible and start with investigating the context in which technologies or interventions will be implemented. Too often projects, technologies and interventions fail because they do not fit well within their context because they do not match the needs, expectations, capabilities and practices of actual people. Next to this projects should be funded that are really bring solutions to practice. We have very urgent problems and no time left for only doing research without actually fighting these problems.
Reducing energy consumption, integration of smart technology into energy networks, regulatory adjustments.
Transport and environment protection. Personal transport is the most dangerous polluter due to the intrinsic human laziness
To reduce consumption from an EU's perspective and to improve energy efficiency of technologies from a global perspective (or better developing economy's perspective).
To develop and refine methodologies for better analyzing users behavior and long term thinking participative scenarios
Transport+ domestic energy consumption incorporating a practice theory perspective but building in into current practice (rather than trying to tear it down).
Increase the diffusion of the benefits of clean energy in society
Social aspects of the energy transition. Development of sufficiency policy to support energy reduction of efficiency.
As I am from Pakistan a developing country, I have seen officials violating environmental laws during power generation which affects the region for years, also providing them with the latest technology are the main challenges.
A fundamentally new way of organising energy system; reduction of social inequalities created by the dominant neoliberal and capitalistic mode of development;
The governance of energy practices (upscaling practice theory studies); comparative studies in the Global North/South; political ecology of energy transitions

- Continue to focus on energy demand (e.g. as per the active consumer), and not solely on (the more traditional focus of energy research of) energy supply. - Smart, the internet of things. - As part of considering the (current/future) energy transition, more could be done to learn from past transitions. - I also note that 'best practice' and 'successes' are the focus of most energy-SSH case study research. Yet, considerable insights could be gained from studying 'failures'... these are especially valuable given how many prospective project partners may be hesitant to talk about / be connected to failure.
Building retrofit.
Behavioural change+ user motivation
High/low consumption lifestyles. Political change and energy use.
Corporate Awareness
1. Development of goals and schemes for future development that are based on input from all social sectors 2. Coordination of efforts both in terms of social and policy organisation and in terms of science and technology innovation and implementation
Transitions to a low-carbon economy, it is important to move away from fossil fuels. I do believe this includes all the sectors from the economy (transport, industries, agriculture, livestock, etc)
- Understanding the energy implications of changing demographics – e.g. an ageing population (they need more heating; they're rich and buy lots). - Get in touch with me if you want to fund this! I have the data.
Decarbonization of energy generation, sustainable consumption practices, international transport e.g. aviation, shipping, and developing countries and emerging economies contexts
In the future, stronger momentum and funding shall be given to EU competitiveness with regards to energy efficiency and storage. This will help the EU remain a leader when it comes to climate actions and contribute to the EU climate and energy targets it sets.
Sustainable energy generation
For me, it would be transport sector decabornisation, because this is the main challenge to test the efficiency of a policy, if this sector can make great advancements, the others will follow, and also, this sector is the best known by a large public, so, demonstrating advencement in it can benefit to the whole project and be of use in communication to get more funding and collaborations
Encouraging growth of alternative energy sources that are competitive, increasing the energy efficiency,
Health, demografic change, secure societies
Having a clear view on what is going on the in the field (user behaviours, impact on the different regulations on the consumptions.... Based on energy consumption monitoring cross-analysed with interviews, questionnaires....of end users.
EE and RES
Empower citizen to decrease energy consumption and environmental impact.
Social acceptance of new technologies
- Behavioural issues because if energy solutions are not adopted, we will lose the battle.

Equity and fairness in energy use. Societal impact of energy transition. Forecasting economic, environmental, and societal affects of future technologies in energy production, transmission, storage, and distribution. Estimating how institutional frameworks in a society evolve with changing energy technology and climate change. Managing risk in the face of climate change and energy transition
Double energy poverty: in winter and now in summer: see the works in EN'ACT and DREEAM project. Coach low income households to budget better their energy consumption and expenditures as fuel poverty is rising in Europe/focus to build information/support tools for tenants. The rebound effect to find solutions and fund the development of coaching tools like interfaces/ interactions.
How do we do encouraging growth of alternative energy sources, and within that how does government policy interact with the private sector to design policy to best support that outcome
Public engagement. Conceptualising 'active consumers'. Understanding transition towards low carbon mobility. The understanding of 'SMART' automatisation. Low carbon lifestyles and alternatives.
Change to climate resilant cities. Funds to built multidisciplinair teams who approach energy challenges integrally (technical, social, ecological, polictical etccc..)
1. How to reduce the attractiveness of flying and how to improve public transport (incl. European train network); 2. How to phase out nuclear energy; 3. How to take economic and technological developments as well as political decisions (nationally and internationally) as inspiration and motivation to reduce energy-related pollution.
Hear from all then create something new!
Leapfrogging beyond fossil fuels in developing economies; pathways to radical emissions reductions and negative emissions; issues of 'lock in' particularly in the transport sector.
Energy efficiency; shift to low-carbon technologies; de-carbonisation of transport sector; waste reduction and recycling; improving air quality; inequitable access to energy services.
Behaviour change; using less energy per person and use energy when it is most optimally available
End-user engagement (in relation to smart solutions; smart city initiatives; dynamic pricing); place-making; environmental justice. A lot of the implications of energy change are not sufficiently addressed (e.g. that many innovations may but will probably not contribute to more end-user engagement)
The need to reconfigure the nexus of social practices which constitutes energy demand -- this includes not only practices of consumption but the practices of institutions of planning and designing energy and social practice infrastructures
Integrating energy issues with other issues eg health; Energy issues and public involvement; Energy issues and governance
Social transition, knowledge& instruments.
Transportation, alternatives for biomass as this may not be sustainable in all cases, sustainable heat and cold
Quality of life to me these are under-represented areas. What is the relationship between quality of life and the energy demand it exerts on the planet, considering that increased consumption does not necessarily equal quality of life. How can this be decoupled from energy use?
addressing global energy for all and recognising different levels of access, priorities, use and benefits deriving from energy
I haven't enough knowledge to stand back and answer this question.

Improving the reliability and ease of access to rural energy networks. Enabling rural dwellers to feed into the network through the use of their own renewable energy presents an additional means of gaining a livelihood in rural areas. Knowledge and help to develop these networks are needed
New energy sources from outside EU to be imported by EU i.e. solar thermal solar fuels produced in Australia (H2 - ammonia) for transport fuels and feed stock for chemical processes. Need to think more global rather than EU centric
Renewable energies
The socio-economic organisation of society

Annex 9 – Randomised list of answers to Question 4

ARE THERE ANY RELEVANT NETWORKS, PROFESSIONAL ASSOCIATIONS, LARGE PROJECTS OR EVEN INDIVIDUALS THAT YOU THINK MAY BE INTERESTED IN THE SHAPE ENERGY PROJECT? PLEASE NOTE YOUR INVOLVEMENT IN THESE, IF APPROPRIATE.
The DEMAND center; ECEEE
Association for distributed energy + PRAS?? in UK Parliament
CECHODAS
N/A
GIZ (I worked there fore several years. They have energy, transport and climate programmes). DIE Germany. The German party political foundations.
Karen Makuch (Imperial College London) is involved in research on energy use and gender, as well as engaging children in environmental sustainability education and energy use reduction. (k.e.makuch@imperial.ac.uk)
The ECEEE, but it is already involved
When it is about governance, ecology (and the law) ELGA is an important platform https://www.elga.world
- CIE-MAP. - UKERC. - C40.
- Multilateral organisations. - Incubation Centres in colleges and universities.
Swedish Energy Agency will be interested as we struggle to reach more social scientists to apply money form our research funding programmes.
As part of my work as a senior energy economist in the Antitrust Authority, I am working to promote a competitive and advanced trade model for the electricity market in my country. In this framework, we are in contact with a number of parallel authorities in other countries in order to learn from their experience and to share our experiences. I think that cooperation with SHAPE ENERGY can greatly assist this joint international work.
Dream project
STEPS centre, The Centre on Innovation and Energy Demand (CIED)
IASS, Potsdam; PIK Potsdam, Rachel Carson Center Munich
EAN (Energy Anthropology Network); Energy and Society network. I have taken part in both.
I am part of the UNESCO Chair in Sustainable Development and Territory Management and of working groups Solars (Social Sciences Laboratory for Research on Sustainable Energy). Both are based at the University of Turin. I think they might be interested in the project.
Yes, some research institutes could be interested in this project, e.g. the Biogas Institute of Ministry of Agriculture, who supports and helps me to collect data for my PhD research, may be interested in this project.
SCORAI Europe - the sustainable consumption research and action initiative, of which I'm a founding member The newly founded Energy and Social Science Network
I'm sure you have the obvious energy-related academic networks. Less obviously, I think it is important to engage with practitioners and policy-makers, eg through European Confederation of Builders. Vocational education and training is also a big issue, so Build Up Skills (H2020 projects).

Yes, consumer associations like FACUA, where I volunteer, will be very keen on getting involved.
I will be interested in contributing to further research and or practice on the ground
N/A
The Cambridge Centre for Study of Existential Risk and their work on climate change. I am not sure if there is a link to them at all but they do interesting work as well.
EU H2020 funded ENERGISE (I am a partner in the project); people working with local planning processes in municipalities and NGOs etc (I have some contacts within both in Denmark).
Disciplines such as psychology, biological sciences, sociology and environmental science. Because all these disciplines have to work together to understand the behaviour of the society and especially of the individual, how to change it, and what are the overall goals we should address.
UK Future Earth
1)Different Chambers of Commerce and Industry in France where I know people in, I can speak about the project, I know they are interested by this thematic. 2)My Academic Network to communicate about the project
My institutions is ready to be involved, and also the big energy companies from my country are ready to joint us.
Transition Town Network
Yes, it would be a privilege for anyone for who is interested in energy project, get a chance working with SHAPE ENERGY.
Climate KIC (alumni), INFORSE
Ministers of science and Energy in Germany, university projects
I'm interested! I am an architect, doing my PhD in household practices and energy demand, using practice-based approach to finding pathways to improved sustainability.
- MVI-Energie (http://www.rvo.nl/subsidies-regelingen/MVI-energie), Dutch subsidies for social science research projects related to energy. No direct involvement. - Other H2020 projects
Nature for Cities (H2020 project)- I am a researcher in METU team International Association for Energy Economics (IAEE)- I am a member of the Turkish branch Richard Tol, Beng Ang, Lance Bachmeier, Perry Sadorsky are my co-editors at Energy Economics journal.
The World Green Building Council, ACEEE, the International Energy Agency, IEPPEC, IPEEC, EURACE. I am either involved in these networks or know the right people to connect with.
There is a network, http://www.artisopensource.net/, born in 2004 as an interdisciplinary research laboratory focused on merging artistic and scientific practices to gain better understandings about the mutation of human beings and their societies with the advent of ubiquitous technologies. I am part of it and we are currently analysing sentiment on social network about energy and comfort issues in our university campus.
Advisory Council for Aviation Research and innovation in Europe (ACARE); aiviation initiative for renewable energy in Germany (aireg e.V.);
Open Energy Modelling https://en.wikipedia.org/wiki/Open_Energy_Modelling_Initiative
Ovo Energy in Bristol are an energy supplier who are quite innovative and might have an interesting contribution
Covenant of Mayors has a Academia Corner, it could be interesting to have contact with them.
STRN community

Yes. Members of the UK RTP Consortium.
Energy Anthropology Network (EAN) from the European Association of Social Anthropologists (EASA) Low Carbon Energy Network Smart Villages
I am a member of the SCORAI Europe network (http://scorai.org/europe/; co-founder and still member of the steering group), a network collaborating around Sustainable Consumption Research and Action with branches in North America, China, Israel - and Europe. We are operating a listserv and publish a bi-annual newsletter. Our members would be very interested in SHAPE ENERGY and are in fact often involved in similar projects.
The Nexus Network: I engage in events and have been part of a funded project. The BSA Climate Change group Prof Mark Harvey, Essex: The political economy of energy transitions
GUCE is a member of Community Energy England, also Co-operatives UK
IEA DSM Task 24 network
I can be part of the network taking advantages from the Zero-Plus, Inpath-Tess and Cooling Singapore projects. I can introduce my network related to those projects and to the Energy Poverty topic.
- Cemex (Loughborough) - SMMT (London) - Carplus (Leeds)
Yes. I am connected in local, regional and England wide networks from strategic as well as delivery perspectives.
German Kopernikus ENavi (member of project team)
- Tyndall Centre for climate research - CIE-MAP
none in particular.
ComfortSense Project (http://www.green.unito.it/en/ComfortSense_Project): is a smart building project developed within the City of Turin for a crowdsensing for a sustainable comfort. The project consist in correlating objective data (from smart meters) and subjective data (from a mobile App) in order to improve the energy efficiency of buildings and the comfort of people. I've worked within the project for one year and I've collaborated to write an H2020 project as follow up of the Regional Project. Green Office (http://rootability.com/) Movement. It is a European Network of sustainability hub. They focus the work on engagement and communication initiatives (not only related to energy). I'm one of the promotor of the Green Office in Turin, as well as the person in charge for the communication. In Spring 2018 we will organize a meeting of the Green Office in Turin. Finally, I'm directly in contact with the founder of the movement. UniToGO (Unito Green Office) - energy working group (http://www.green.unito.it/en/Energy): the energy working group of the University of Turin. I'm working/researching for this group.
French association for energy economists
European Society for Ecological Economics
Energy storage cluster projects, BRIDGE H2020, STIP SmartGrids
Procon Ingenieros (www.proconingenieros.com). These engineers tried to develop systems of solar energy supplies, but the Spanish laws vetoed their development.

Yes. ONGs, some business, professional associations, Public administration professionals, research, journalists,...
DEMAND Centre research project - I worked with them in the past. While they are located in UK they extend beyond it into many institutions in Europe and should still hold relevance post Brexit. Centre for the Understanding of Sustainable Prosperity (CUSP). New Economics Foundation - offering an alternative to mainstream economics
I am particularly interested in the creation of research center /network of experts located in Bulgaria which will be focus on the problems of the SEE and Balkan countries in the energy domain. Research of the energy issues and barriers (most with political, institutional and social origin) are often neglected in comparison to the study of developments in the Western EU and Nordic countries. If such a project arise the interest of other researchers, I would be glad to share ideas and to devote my time and energy to it.
I am not an expert on this topic
Local Czech energy office /located in Zlin/, local government, academics related to the energy-SSH topics
APPG on Energy
Behavioural operational research.
Local autorities related to energy (such as "Consorzio forestale Alta valle di Susa") can be interested.
Look into armies, navies, air forces in the EU. They're constantly looking for energy security since it means lives to them (and a lot of money).
ISAAC project; AzzeroCO2 (www. azzeroco2.it), Legambiente (www.legambiente.it); Kyoto Club (www. kyotoclub.org).
ERSS Network (Benjamin Sovacool), Environmental Psychology Community incl. national communities e.g. from Switzerland and Germany
Ondernemers van Nu (Tom van beek)
2000 Watt Society communities in Switzerland (http://www.2000-watt-society.ch/)
The economics research group in Politecnico di Torino's department of management, production and design can be a nice fit for the program. In particular Vice Head of the department Professor Carlo Cambini, a recognised economist working in infrastructure industries' regulation and policy, who is also working on energy sector regulations. I am a PhD student of this department.
Scientists for Global Responsibility. I am a member.
I am afraid I do not know enough about the details of the Shape energy project to respond to this question.
Project Manager DREEAM project: Izabela Kurkowska, Kathleen Zoonekindt (DREEAM project too), Eurohnet
European Society for Environmental History, International Association for Southeast European Anthropology, European Association of Social Anthropology
NESS (Nordic environmental social science conference) INVADE project (Energy, H2020 project, NTNU is a project partner) ECHOES project (H2020 project, SSH, NTNU is coordinator) ERA Net Smartgrids Plus+ (partner in one ERA Net Smartgrids project)
Energy Research Institute under National Reform and Development Commission, China
Horizon 2020 Project - MOBISTYLE (involved)
Anthropology and Environment section of the American Anthropological Association (member); Energy Anthropology network of the European Association for Social Anthropology (member); ExtrACTION network (no involvement but know some members); Society for Applied Anthropology and the Political Ecology Society.

EUED- end use energy demand. I work in CIED, one of the EUED centres.
6 centres in EUED (End-Use Energy Demand). I'm part of one of the Centres (CIE-MAP).
ECEEE - ACE
Sustainable Ireland, board member
Solange Martin (solange.martin@ademe.fr) my colleague (fellow sociologist)
innogy Energie, Regionální energetická agentura Zlínského kraje
- SEI (Stockholm) - IVL (Stockholm) - KTH (Stockholm) (Industrial Ecology, within: 'Department for Sustainable Development' and 'Environmental Science and Engineering') - TERI (India)
CA-EED project 2017-2021 (funded by H2020) - I am involved there
If you are interested in workign with young people, then possibly the Ashden Less CO2 programme which support schools to work in clusters to reduce their energy consumption. I have previously worked with their education lead.
School networks, primary school communities, innovative thinking education centres etc.
SDRN (UK); Geography+ Energy network; Environmental Psychology UK (contact me for details)
Several student teams of universities that are working on new technologies or behaviour change, like for example Green Offices (I worked for the Green office of the TU/e last year).
United Nations, SDGs, AVSIS, RUS (Italian universities for sustainability), Urban@IT, Urbancenter,
- Tyndall Centre - DEMAND - CIE-MAP
European Commission, IPEEC, EEFIG, EuroAce
International network for Social Studies of Marine Energy (ISSMER)
Building on a network present in Southeast Asia, I'm currently establishing a European network for those interested in palm oil sustainability research. This might be of interest to those working on food-water-energy connections and/or Global South development challenges.
Society for the Social Studies of Science
National committee of WEC
- Especially relevant H2020 projects, including UniSET and ENERGISE. - Potentially every H2020 energy work programme funded project, as they represent much of the STEM energy research community. - PERSON. - ERRIN.
ISSMER - http://www.issmer-network.org/ I am a member
It may be interesting to better inform European Parliament Committees (ENVI and ITRE) on Energy SSH research, as they are the ones proposing amendments to European Commission legislative proposals.
eceee network (secretariat) eceee summer studies
the French Agency for the Environment and Energy Management, Energie Partagée, Enercoop, Chaire Territoires et Mutations de l'Action Publique Rennes

International Society for Environmental Ethics (member and representative for Sweden) European Network for the Study of Religion and the Environment (member)
International Energy Agency: I am involved in http://www.annex67.org/. COST RESTORE network: http://www.cost.eu/COST_Actions/ca/CA16114
EnergyGO, Technical University Delft, Stroomversnelling, Alliander, SPF (Swiss), SDHplus, IEA DSM task 25
- GLIDER project (Alice Owen is a colleague working on this project) - Energy Institute - Philippa Loan (recently facilitated a behaviour change workshop at EI)
Nature4Cities project could be linked to the SHAPE ENERGY
French Association of Energy Economists (member of the Student Board)
EASA energy network (I am coordinating it), sociologie de l'energie network (I am not involved)
Cambridge Carbon Footprint, Cambridge Cleantech Smartgrid and Meters Special Interest Group, East of England Energy Group, East of England Energy Zone, LEPs, Community Energy Fortnight 2017
Energy & Society Network of the European Sociological Association
Alliander and Enexis currently employ the project Buurkracht which supports small communities of maximum 400 homes in the energy transition. I live in one of these areas and am actively involved as volunteer and professional
ETH social environmental science peopple (e.g. group of consumer behaviour by Prof Michael Siegrist...)
Sorry I cannot help here.
Campaigning organisation 10:10
www.person.eu as member; www.uc.pt/ EFS as researcher
World Cities Culture Forum, UNFCCC Action for Climate Empowerment programme, C40, Energy Cities,
Sadly, this really is not my field of expertise
UKERC
The society for the social studies of science (4S) and INES (International network for engineering studies).
inteGRIDy project (30 partners, 10 pilots); http://integridy.eu/ Shar-q project (10 partners; 3 pilots) ; http://www.sharqproject.eu BRIDGE initiative. http://www.h2020-bridge.eu/
ISSMER - I'm a member
The Grantham Centre at The University of Sheffield (they put on seminars and events relating to sustainability)
IIGCC (international investor group on climate change)
European Association for Studies of Science and Technology (EASST)
STRN, EGWG, BESTT, EASNN, socioenergie
MAMNEE - Macedonian Municipal Network for Energy Efficiency, ZELS (Association of municipalities of Macedonia)
https://www.reseaucritiquesdeveloppementdurable.fr/ I am member of the animation team.
Brussels' based think tanks focused on energy and sustainability might be interested by the SHAPE ENERGY project. It can help them better connect the dots between research and policy, and subsequently help decisions evolve in a direction that is more inclusive and forward looking.

- UKERC (particularly Mark Winskel at Edinburgh). - Other energy demand centres.
Winwind, a Horizon 2020 project focusing on social acceptance of windpower projects in wind energy scarce areas, starting in September 2017 (partner). RELEASE, a research project funded by the Research Council of Norway focus on the local sustainability of renewable energy projects (partner).
Water supply and sanitation utilities

Annex 10 – Randomised list of answers to Question 5

PLEASE USE THIS SPACE TO TELL US ANYTHING ELSE THAT YOU THINK WE SHOULD TAKE NOTE OF.
A special attention paid to Southeast Europe where the topic of energy related to SSH is hardly known, because there are few experts and no research programs dedicated to this vital issue. This area experiences more economic, social and political problems than most countries from North, West and South Europe (out-migration, rural areas deserted, deindustrialization, environmental havoc etc) and still many of the countries are not yet finished the land reform, there are many property issues which shape the economy and social processes. So, more Ph.D. students for this topic, encouraging research related to this topic and collaboration with Western researchers, encouraging development of SSH research and teaching programs in Eastern Europe linked to energy issues.
Nationality and scale of action of the participant? It is likely some people might have different impact linking you to organizations belonging to countries with higher carbon footprint than others and so being more relevant to consider for future surveys and collaborations.
Good luck!
I'm very interested in the storytelling aspect, some of which I heard is based on the Task 24 work. I'd like to see how that progresses and how it can be incorporated into the Task.
Can we contribute to something else than decision making?
good job and good luck :)
I have alr
My main frustration is the disclosure of knowledge from the EU projects. I know it is there but most people I work with don't. I heard a speech about a project in Spain with an innovative financing model but the results are somewhere locked up in an EU database. So bring it to the ground not just in research and EU circles but also back on the ground. So that communities and individuals can learn from experience from the projects. It should be lightweight, easily understandable and easily accessible for everyone.
Rural areas are often neglected in terms of energy provision and this impacts rural communities. Enabling rural communities to access their own energy and feed it into a reliable network would be beneficial to rural living and the wider population.
Happy
Fast speed penetration of renewable (clean) energy
Psysical encounters are much more valuable than is now given credit to. Organising more face to face encounters between different knowledge claims and modes of working is key to better integration and addressing challenges.
Help raise awareness in energy industry of non-STEM importance of social research on energy.
Excellent initiative the SHAPE ENERGY project! Best projects in EE in nordic countries have integrated/ invested as much in technical solutions so there are examples of positive projects with sociology/design/ engineering being mixed. Examples: Alidhem project, Hammarby sjotstad etc. We try to do the same in the DREEAM project.
N/A
The 2 degree climate target needs urgent action. Prioritize science well and focus on the maximum effect for changing the world instead of scientific perfection.
I am a volunteer local organiser for Friends of the Earth, an organisation which campaigns on climate change, low-carbon energy technologies, air pollution, waste and recycling, etc.

need to have strong political advocacy/ basic knowledge of policy makers and public awareness on energy
I only have a small role in energy so my perspective is somewhat muted. I work across pro-environmental behaviour broadly and am more focused on the individual level.
None
it would be useful to provide full detail about the grants of the 2020 program, if we can do this along with our current PhD research.
Any research results should lead to increase acces of people to cheap energy and reduce health risks
Energy poverty in developing countries
The profile and sharing of SHAPE ENERGY perhaps requires some assistance i.e. it clearly is an incredible projects with huge potential for relative change - however the knowledge of it's existence remains limited when I bring it to conversation with others who have a wider understanding of energy related issues. This may come with time, however an additional and occasional push to increase it's presence may help it's profile on social media platforms?
Thank you for making this survey, even more for taking my comments seriously
Response was written collaboratively, with the support of several members of International network for Social Studies of Marine Energy (ISSMER).
There's a big lack of research around the potential of alternative ways of life, degrowth lifestyles, etc... a lot could be learned from a scientific study of voluntary experimentation
Q 2a: more information about SSH is prefered to get the picture
N/A
Thank you for focusing on this important theme, I look forward to the results
The intention of the project is fabulous. Please keep the intention alive though.
Translating this survey into local languages could be a good idea if you want to reach more people
Looking at the position of pensioners and getting to understand their possible involvement in your work
The interdependence between the human desire for comfort (wasting energy) and the necessary restraint
Access to energy for all social groups must be key to new energy policies.
- Detailed behaviour patterns established. - Resistance or take-up of behaviour patterns to guide policy interventions.
Let us know how we can participate as projects into your initiatives and as ATOS how we can contact perspective partners for future proposals.
N/A
Energy sources that are not terrestrial!
None
Globalization of energy issues
Consider the possibility of also reaching out to the natural and geosciences
Differentiating between relative success in the power sector, relative to transport needs to be a priority.
N/A
No comment
We will not change the society in time with respect to climate change, but there is no other option.

From 2018 I would like to see H2020 Smart Cities and Communities demonstration projects focused on behaviour change, not just technology development, as per the current priority
Centre for Alternative Technology have a very optimistic view of the potential for a Zero Carbon Britain, might be of interest
Dont use Google for questionnaires as Google is likely to store the data outside the EU and youre at risk of breaching EU data protection regulations
Informed cities results should be considered. We have them from 2011 but there are more recents.
I would not like my comments to be directly attributed.
I'm participating to the Advancing Energy Policy summer school in Lyon, please feel free to contact me if I can be of any help

Anglia Ruskin University | Global Sustainability Institute

KIT Karlsruhe Institute of Technology

POLITECNICO DI TORINO

LAET

NTNU Norwegian University of Science and Technology

ORTA DOĞU TEKNİK ÜNİVERSİTESİ MIDDLE EAST TECHNICAL UNIVERSITY

Tomas Bata University in Zlín Faculty of Management and Economics

BSERC black sea energy research centre

energycities

friends of europe

DuneWorks research & advice for sustainability

acento comunicación

ecee

HEADLINE REFLECTIONS

SHAPE ENERGY Call for Evidence

SHAPE ENERGY

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Authors

Chris Foulds*, Anglia Ruskin University (UK)
Rosie Robison, Anglia Ruskin University (UK)
Lenke Balint, Anglia Ruskin University (UK)
Giulia Sonetti, Politecnico di Torino (Italy)

*chris.foulds@anglia.ac.uk

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Contents

1. Introduction

The SHAPE ENERGY Call for Evidence aimed to identify current understandings and future priorities for energy research from a wide range of research, policy and practitioner communities across Europe. Whilst the Call was open to anyone with an interest in energy research - including those with Science, Technology, Engineering and Mathematics (STEM) backgrounds - there was a particular focus though on hearing from those with energy-related Social Sciences and Humanities (energy-SSH) expertise.

The Call formed part of the scoping work of the *Social sciences and Humanities for Advancing Policy for European Energy* (SHAPE ENERGY[1]) project that is aiming to develop Europe's expertise in using and applying energy-SSH. As outlined in previous reports (Foulds et al., 2017a), by 'energy-SSH', we are referring to the wide range of disciplines that either:

- study the social phenomena (e.g. norms, values, perceptions, institutions, practices, etc.) that organise how humans interact with the energy system. These energy-related Social Sciences include Psychology, Sociology, Political Science, Human Geography, etc.; or
- study fundamental issues of equity, fairness, duty, faith, morality, attribution, etc. in the context of the energy system. These energy-related Humanities include Philosophy, Law, Theology, History, etc.

In exploring the existing landscape and future opportunities/challenges for utilising the insights offered by such energy-SSH disciplines, we designed a short questionnaire (i.e. the Call for Evidence) which was based on brief demographic data, and then four core open questions. These four questions related broadly to: (Q1) the relationship between energy-SSH and policy priorities; (Q2a/Q2b) how energy-SSH could be better supported and utilised; (Q3) future energy research funding priorities; and (Q4) organisations that may be interested in engaging with SHAPE ENERGY.

The purpose of this report is to present preliminary observations that have emerged from reviewing the Call for Evidence responses (n=204). As such, the reflections provided herein are not based on, for example, a complete and iterative qualitative thematic 'coding' approach (whereby themes emerge via assigning words, phrases, statements, etc. to 'codes' that are then clustered together by theme) - this is not its purpose, although such an analysis is currently intended for later on during the project. Rather, all responses were systematically examined and salient themes which were regarded as the most immediately relevant for future SHAPE ENERGY activities were pulled out. Furthermore, this report complements and sits alongside the publicly available Call for Evidence questionnaire (Foulds et al., 2017b) and all the raw responses themselves (Balint et al., 2017), which have also been provided for transparency and completeness.

This report is part of the evidence base that is steering the organisation and delivery of various SHAPE ENERGY activities. For example, between October 2017 and May 2018, SHAPE ENERGY will be running 18 multi-stakeholder workshops across 18 European cities, each of which will be grounded in arguments relating to what energy-SSH research can offer (e.g. to local policies/initiatives). In particular though, and in combination with our various other scoping activities[2], it is hoped that the reflections herein will provide inspiration for the SHAPE ENERGY Research & Innovation Agenda (RIA). The RIA will be a concise (1-2 page) vision for the future of energy-SSH across 2020-2030, and will likely include both points that recognise the existing challenges that energy-SSH is operating within, as well as the opportunities and suggested directions for the future of energy-SSH (including how it could interact with e.g. EU energy policy). The

1 For more information on the EU Horizon 2020 Platform *Social sciences and Humanities for Advancing Policy in European Energy* (SHAPE ENERGY) please see: shapeenergy.eu.

2 The experience of delivering, and the tangible outcomes from, other relevant scoping tasks will also inspire the content and framing of the SHAPE ENERGY Research & Innovation Agenda 2020-2030. These tasks include: an interview-based stakeholder needs assessment (Arrobbio et al., 2017); four crossing cutting theme reports on 'Energy and gender' (Anfinsen and Heidenreich, 2017), 'Energy justice' (Sari et al., 2017), 'Energy and multi-stakeholder interests' (Büscher and Sumpf, 2017) and 'Energy and the active consumer' (Fox et al., 2017); four annotated bibliographies and four online citizen debates, both based around 'Energy efficiency and using less' (Debating Europe, 2017c; Mourik et al., 2017), 'Competitive, secure, low-carbon energy supply' (Debating Europe, 2017b; Heidenreich et al., 2017), 'Energy system optimisation and smart technologies' (Debating Europe, 2017a; Sumpf et al., 2017) and 'Transport sector decarbonisation' (Buchmann et al., 2017; Debating Europe, 2017d); and the running of related events such as the SHAPE ENERGY academic workshop (Robison and Foulds, 2017) and an eceee solutions workshop (SHAPE ENERGY, 2017b).

SHAPE ENERGY consortium will seek signatories to support the RIA, which will then be submitted to the European Commission near the end of the project - this will act as a call to the Commission and thereby also hope to catalyse further action in this area. The reflections presented in this report will be directly feeding into the drafting of this RIA, and indeed the format we have chosen to present them in, as short statements, reflects this ultimate goal.

This report is structured as follows: first, we briefly detail our respondent sample and acknowledge that all the reflections that are presented in this report are intimately connected to that sample's particular cross-section of interests and practice. Second, we present each headline reflection with supporting evidence (predominantly illustrative quotations) from the Call's responses. We finish with some final thoughts on the implications of these reflections for SHAPE ENERGY and its activities moving forwards.

2. The sample

It is worth noting, for context, how exactly the Call for Evidence respondents were recruited. There were three primary routes, via:

- distributing through the SHAPE ENERGY consortium and their respective networks;
- taking paper copies to, and building written completion of the Call into the running of, certain events; and
- disseminating on social media and through SHAPE ENERGY's other externally-facing communication channels (e.g. newsletters). This included sending the Call to virtually all coordinators of FP7 / Horizon 2020 energy-related projects which ran until 2016 or beyond, as well as to other interested contacts who had already been collaborating with SHAPE ENERGY in other ways (e.g. via non-academic stakeholder interviews).

It must be acknowledged that, perhaps obviously, all our reflections are inevitably intertwined with the specific configuration of communities that are represented in the actual submitted responses. As such, we are not seeking to justify any sort of 'representativeness', nor, relatedly, are we attempting to identify ways in which 'better' samples could be attained that would get us 'closer to reality'. Indeed, we would argue that representativeness is a fallacy and that, instead, it is important to reflect upon the constructed nature of the sample and its associated responses - this is what we briefly do here, with a focus on three sample characteristics (academics; Western Europe and the UK; and gender) which we are committed to reflect upon during the project more widely.

First, the sample was dominated by academics (70.1%), with individuals from the other organisation types providing considerably fewer responses: policy (9.8%); non-governmental organisations (8.3%); industry (6.9%); citizens (2.9%); and other (2.0%). Such a dominance was perhaps inevitable given the routes through which we disseminated the Call. Further, we certainly reflected on how the Call was to be pitched in an inclusive (and enticing) way for a variety of communities, but this was not easy to do - as such, we prioritised the academic audience as other activities of ours are focused on engaging non-academics (e.g. citizen debates, stakeholder interviews). However, we were sure to emphasise at the start of the questionnaire that it was open to all and we also endeavoured to present the Call in accessible language. We also note that, within the academic responses, a wide variety of roles and levels were represented. This provided a mix of different experiences and perspectives, from PhD researchers to internationally leading academics.

Second, despite there being over 30 different countries represented through the responses, there was a clear dominance of Western Europe (e.g. France, 9.8%; the Netherlands, 8.8%; Germany, 8.2%), with the UK (31.4%) having very significant representation. Nevertheless, there were a few exceptions to this Western trend: specifically, Norway (7.2%) and Italy (7.2%) in Northern and Southern Europe respectively. Furthermore, even though Eastern European countries were not represented with high proportions of responses, the questionnaire did still achieve coverage in often un(der)represented countries such as Romania, Bulgaria, Serbia, Russia, Macedonia, Czech Republic, Turkey, etc. Whilst this Western dominance may well be linked to Anglia Ruskin University (UK) co-ordinating the Call for Evidence, this is also likely to reflect wider institutional trends and existing capacities for doing / engaging with energy-SSH research - for instance, the UK has a considerable number of energy-SSH researchers, relative to other parts of Europe (as also demonstrated by the SHAPE ENERGY online researcher database - SHAPE ENERGY (2017a)).

Third, there was an excellent balance in gender distribution - male (50.7%); female (47.8%); other (1.5%) - which is relatively rare in questionnaires such as this. There are often proportionally more males than females in academia, for instance. It is interesting to reflect on the role of gender, given how it can align with certain communities of practice/interest (Anfinsen and Heidenreich, 2017), although perhaps the wide boundaries of this Call made this less of an issue (in that numerous communities of research were included and so such differences were not apparent).

3. The headline reflections

This section represents the core of this report, and within it we detail each of the 12 headline reflections in turn (subsections 3.1. to 3.12.). We have chosen to give a prominent role to the quotations from the responses themselves, to demonstrate and evidence the grounded nature of these reflections which we hope will be a starting point for internal consortium and external discussions, particularly in the context of producing an appropriately worded RIA. It is also worth noting that the majority of these headline reflections emerged from an examination of the four core open (text-based) questions (Q1, Q2a & Q2b, Q3 and Q4 - Foulds et al., 2017b). Small amendments to text for clarity are indicated in square brackets. For a graphic representation of the most commonly used words across all the responses to these four questions, please see Figure 1 (the larger the word, the more frequently it was used).

Figure 1. Most commonly used words across the responses to all four core questions (see Appendices 7.1.-7.5. for question-by-question equivalents and for the exact wording of the questions).

Finally, we caveat this section by noting that there are many other reflections that are likely to emerge from future analysis of the Call for Evidence responses, some of which will be more/less relevant for SHAPE ENERGY, and it is for this reason that we have published all the responses in as close to raw form as possible (Balint et al., 2017).

3.1. Reflection #1: The low-carbon energy transition is a social (or, at least, a socio-technical) problem

All past, current and future energy challenges are entwined with, and indeed co-produced with, society; energy has only ever been an issue because of society's apparent 'need' for it. And, furthermore, because society's demand for energy is linked to the social organisation of people's professional and everyday lives, it is clear that achieving ambitious low-carbon aspirations will require a societal transition. Moreover, any low-carbon 'solutions' put forward will, however technological they seem on the surface, still be grounded in and depend upon specific social contexts. All these sorts of considerations were evident, both implicitly and explicitly, across the responses.

Illustrative quotations:

> *"Energy is ultimately intended for human use and energy policy is also determined by humans."*

> *"To be able to solve the challenges that we are facing we need to get society involved in the solutions. Social sciences and humanities focus on energy from this point of view, taking into account people´s demands and needs, and connecting technological/scientific developments with society."*

> *"Demand is influenced by many factors which are studied by SSH. Consumer behaviour and decision-making processes can also be better understood with the help of SSH. Communication is an essential activity for making a policy acceptable in the eyes of people and get this support/ commitment."*

> *"The main obstacles for a local energy transition seem to be of a social nature."*

> *"...changing energy use and promoting energy saving is a matter of both technology and behaviour: without consumer's acknowledgment it's not possible to change people's [attitudes] toward energy consumption"*

3.2. Reflection #2: Energy-SSH poses very different sorts of questions compared to e.g. STEM

Although there is a vast array of perspectives across energy-SSH, they do collectively all ask questions that are not covered by other academic disciplines - especially when one considers the dominant alternatives of Science, Technology, Engineering and Mathematics (STEM). In particular, energy-SSH provides the opportunity to critically explore the relationships between various social phenomena and energy (policy), as well as fundamental issues related to how energy is governed by and through various actors. Ultimately, energy-SSH provides radically different problem definitions, and methodologies, in comparison to e.g. more technical energy research.

Illustrative quotations:

> *"By providing a critical approach"*

> *"The research provides valuable inputs for both policy definition and policy implementation."*

> *"...it clarifies the societal [embeddedness] of technologies"*

> *"Research from social sciences and humanities can contribute to energy policy priorities by three axes: 1) Analysing localised problematics by carrying out a survey on a special topic of any kind of energy and providing these informations [sic] to help decisions makers to design adapted policies which will answer to the situation 2) Large Scale Contextualisation (History of practices around a type of energy) 3) Mediation between people - social sciences can bring very interesting tools to manage relation between the project and the people by communication or gathering points of views of consulted groups of people."*

> *"Social science can fill existing gaps among polices in several ways: 1) emphasizing the significance of a bottom-up approach in managing energy transitions and helping policy makers to communicate effectively their policy initiatives with the society; 2) stimulating more inclusive decision-making processes; 3) studying the impact of non-governmental actors/ networks on the policy-making process; 4) giving insights on the public acceptance of new technologies and social barriers for their employment; 5) harmonization of policies on EU level considering the national cultural and historical differences; 6) understanding the role of both formal and informal institutions for improved energy policy realization."*

> *"It helps to feed in further information on the origins of Energy policy and also provide in depth analysis on how these policies may affect different stakeholders. Energy SSH can help better shape energy policies so that a wider range of stakeholder needs are taken into account."*

3.3. Reflection #3: Energy-SSH is under-utilised in directing energy policy

Energy-SSH has relatively rarely featured in the evidence base for energy policy, whether it be at local, national or international levels. Instead, the STEM disciplines have dominated the agenda, around the central idea that the roll-out of technologies represent the solution to the energy transition, albeit it with a few 'behavioural' tweaks to ensure that the potential of such technologies is achieved. Indeed, it is in this way that energy-SSH has often played a subordinate role to STEM, as part of e.g. ensuring 'public acceptance' or 'correct usage' of the latest low-carbon energy technologies.

Illustrative quotations:

> *"SSH research is only marginally contributing to energy policy priorities."*

> *[The input of energy-SSH into policy is] Very limited at present."*

> *"Research across social sciences and humanities has been still rather disadvantaged by energy policy-makers although some promising social scientific advancements have been already taking place."*

> *At the moment in the area of offshore renewable energy there is limited social science and humanities research contributing to energy policy in those specific technologies. The focus is primarily on technical issues."*

> *"In my view SSH research is hardly affecting energy policy at all. Policy focuses on technological innovation and implementation, potentially accompanied by fiscal or other financial incentives for users. Occasionally, SSH research is involved (on international, national, provincial or local policy level) to provide "end of pipe" solutions to smoothen and support implementation processes."*

> *I think social science and humanities plays a subordinate role that helps to reinforce the STEM technical solutions and market-oriented approaches that dominate the EU largely by modelling technocratic interventions and assisting in targeting individualised behavioural change."*

> *"Science is transformative but despite decades of SSH research addressing this issue, science and technology R&D (in the energy sector but also more broadly) has still not become more inclusive and democratic. While SSH offers fantastic tools to co-create robust (and hence more efficient and effective) 'solutions', it remains a footnote to energy policy and research."*

3.4. Reflection #4: Energy-SSH is underfunded

As per the degree of policy influence, energy-SSH has also been relatively underfunded especially when one considers its possibilities in, for example, developing understanding and potentially even driving societal change. There was a clear thread of frustration running through many of the Call for Evidence responses, in that respondents had ideas that they wanted to progress, but found that often there were few or no funding calls available which could support that idea.

Illustrative quotations:

> *"[energy-SSH] is chronically under-funded and low-prestige"*

> *"More calls [are needed] for funding focusing on SSH."*

> *"Definitely better funding opportunities for this specific kind of research are very much needed."*

> *"More funding [is needed]"*

> *"Research funding for energy-SSH Research is minimal compared to Investments in technical Research funding. In Norway funding has increased from 3% to around 7% over the past decade, but this is still far below what is necessary to make a significant impact on policy"*

> *"Non-technical (behavioural, political, institutional, etc) factors currently present significant barriers to the uptake of low and zero carbon technologies. However, current EU and UK energy policy and funding programmes are very heavily focused on technological solutions. There is insufficient policy and action focused on the adoption of existing and new technologies. Where SSH is part of EU energy policy and funding programmes it typically only allows relatively small and short term projects to be completed (1-3 years). Rather than longitudinal studies that are needed to understand how systemic behaviour change can be achieved."*

> *"Too much emphasis on economies and models [in funding]."*

> *"Funding!"*

3.5. Reflection #5: Ensuring that energy-SSH expertise is appropriately represented in both the relevant project proposal assessment panels and the teams writing the funding calls is vital

Many respondents were, at times, exasperated either by the wording of funding calls not being sensitive to cutting-edge energy-SSH debates and conceptualisations (perhaps because those with energy-SSH were not involved in writing the calls), or by the review of energy-SSH project proposals being conducted by non-energy-SSH experts. It was clear that those working in, or wanting to utilise insights from, energy-SSH research felt that the situation would improve if energy-SSH expertise was better embedded in funding agencies.

Illustrative quotations:

> *"...funding bodies and the way a) they shape research funding calls b) they evaluate the proposals submitted for these calls, are crucial in supporting energy SSH research."*

> *"Recruit more genuinely inter-disciplinary researchers to funders' review panels."*

> *"...2) people with expertise in SSH must be represented in program committees, boards etc., of funding agencies. 3) evaluators must be competent in the approach of the proposed work. Too often you see energy system modellers reviewing qualitative research proposals etc."*

> *"Current H2020 calls are terribly outdated, when you read them you think that the guys writing them do not at all follow current debates. The ideas promoted there are still: energy efficient technologies will save the world, we need to support "market uptake", stupid consumers need to get informed, "convinced", or triggered, they present a very annoying "barrier" to market penetration of "good" technologies. Markets are the solution and that's it. The world is far more difficult."*

3.6. Reflection #6: Whilst it is valuable that many energy funding calls require a SSH project component, the consequence can be that SSH insights are bolted on

In line with Reflections #4 and #5, research funding opportunities continued to emerge as a clear point of feedback; funding provides the means through which the potential of energy-SSH could begin to be realised. There did seem to be some debate as to whether funding should be prioritised in terms of either (1) a mainstreaming approach, whereby SSH is required in almost every funded energy project, or (2) a focused approach, whereby energy-SSH itself receives more funding to enable greater in-depth specialisation. Regardless though, there was agreement that with the former, '(1)', there was a risk of SSH being bolted on in a subordinate manner to e.g. technical projects - something that has apparently already been happening for some time now.

Illustrative quotations:

> *"By strict interdisciplinary calls. The challenges ahead are too complex to be solved with one-disciplinary solutions."*

> *"Shift in thinking around funding - at the moment SSH are primarily tacked on (often at the last minute) to existing projects and funding bids which diminishes integration and value."*

> *"I think two sets of approaches are needed.*
>
> - *Firstly, explicitly interdisciplinary research should be a feature of almost every large funded (e.g. H2020) project. Admittedly, this fits with the EC's current 'mainstreaming' approach, whereby energy-SSH is (ideally) expected to be a feature of all projects (or at least as many as possible). This is important as every project - however technical - still has foundations, applications, or impact relating to human dimensions of some kind. [An] issue that funders, and researchers too, must remain reflexive about is the risk of SSH being bolted on to large projects, meaning that integration is poor and multi-disciplinary (not interdisciplinary) work is actually what is funded.*
> - *Secondly, explicitly energy-SSH research is needed alongside this. It is not enough to embed energy-SSH in larger (more technical) projects, mainly because disciplinary (or at least SSH) depth is needed to enable cutting-edge thinking to emerge.*
>
> *Essentially, the funding landscape is key as it provides possibilities for research. And thus, relatedly, energy-SSH funding calls should endeavour not to 'close down' its possibilities through the wording (and conceptualisation of energy problems) in the funding call[s] themselves - for too long have funding call been [dominated] by economics/ psychology wording, which actually then puts off other energy-SSH researchers from applying."*

> *"Making sure that it is central to the shaping of projects - not yet as an add-on (see claircity.eu as an example of H2020 project where social science is central to framing i.e. really transdisciplinary not just interdisciplinary[])."*

> *"...actual funding must exist, dedicated to SSH, so that SSH can exist on its [own] terms, not only as a subordinate add-on to engineering"*

> *"[Suggestion to switch the dynamic around, so that STEM is subordinated by SSH:] Future calls should be centred on energy-SSH research with engineering/ technical solutions as an add on (ie the focus should be on the energy system within a social context rather than a technical fix into a social environment)."*

3.7. Reflection #7: Economics traditionally receives much more attention in policy than all other energy-SSH disciplines

This was one of most frequently stated points throughout all the responses. Indeed, there were simply too many illustrative quotations to include in this subsection. Essentially, what was emphasised was that if traditional Economics approaches were mainly drawn upon, then this would lead to a perception of energy-SSH only (or mostly) conceptualising problems or solutions that take individuals as utility-maximisers who make decisions using principles of rational choice[3]. Relatedly Economics, then, also naturally leads to policies being justified on the basis of economic costs and benefits. The respondents were keen to reiterate that energy-SSH could offer much more than this alone, and that consideration of costs/benefits overlooks many fundamentally important questions in relation to energy and society.

Illustrative quotations:

> *"Mainstream (neoliberal) economics dominates policy making."*

> *"Economic modeling is at the core of energy policy priorities. Very little other social science or humanities are contributing."*

> *"Very often policies are designed based upon very simplistic and often economic theories that do not very well reflect the needs, preferences and practices in the real world. Social sciences and humanities may contribute to developing policies and interventions that fit better within the real-world people live and work in."*

> *"SSH played a minimum role in the energy policy. If I analyze actual energy law in Italy the only SSH that played a role is economics."*

> *"Dominance of economics remains a problem (especially in policy)."*

> *"Energy policy recommendations are dominated by social economics thinking and economists, while other perspectives and SSH disciplines are often overlooked. This gives a too narrow scope."*

> *"From my point of view, current energy policies are driven by economic interests, and are not focusing on people, their needs, health... hence the importance of the social sciences and humanities. Focus on people, not macroeconomics."*

> *"...economics (and its related rational choice assumptions) has been the main society-relevant evidence basis for energy policy, which I would suggest is because its thinking aligns well with current policy approaches and the status quo (as reliance on 'efficiency drivers' and 'market forces' allow society to continue doing what it is doing)."*

> *"I have a feeling economics are quite good at contributing to [energy] policy priorities at european, national and local levels, probably because they give clear recommendations based on relatively simple numerical representations of reality. While policy makers are [beginning] to realize there is more to transforming the energy system than making it "cheap enough", I think sociology, anthropology, history etc. have a long way to go before they can claim contributing directly to policy. I think, however, that representatives from these disciplines can be very important for shaping local policies."*

3 See Fox et al.'s (2017) discussion of Individualised approaches within which economic approaches form a key component. Whilst that discussion is in the context of conceptualisations of individual consumers, its explanations of how such disciplines/approaches construct social order are still very relevant.

3.8. Reflection #8: Economics is a disputed SSH discipline

Many respondents interestingly made a clear distinction between Economics and SSH research. In truth, it was rarely stated explicitly that Economics may not actually be part of SSH, but numerous responses did explicitly separate them out. Nevertheless, the key point here is that Economics is the study of the economy, and thus takes the main driver of social order to be the economy - something that is likely to cause a considerable amount of debate across SSH communities.

Illustrative quotations:

> *"If one was to include economics within the definition of SSH (which is very debatable!)..."*

> *"Research in social sciences and humanities illuminate the areas that were previously overshadowed by economic outcomes."*

> *"In fact, I do not really work within the energy-related social sciences, but as energy economist, I am very interested in the research frameworks of those disciplines"*

> *"They contribute with a more holistic and 'systemic' perspective focusing on the social aspects, humans and other perspectives often neglected in energy policy and in technical and economical energy research."*

> *"In my view, SSH are challenging the conventional notions of energy consumption and demand. They are highlighting the importance of social structures and constructs in the energy discourse, which is [in contrast] very much focused on economic and psychological paradigm."*

3.9. Reflection #9: The problem-focused nature of energy research can help engender interdisciplinary and multi-stakeholder approaches, where energy-SSH can play a strong role

Energy-SSH, in contrast to SSH, often adopts particular problems (e.g. related to low-carbon energy) as its starting point, rather than necessarily particular disciplinary approaches (although of course some energy-SSH does both). Many energy-SSH researchers are highly interdisciplinary, and open to embracing a variety of methods to address particular energy problems. Many of the responses stated or implied that a strength of SSH was its potential for encouraging such interdisciplinary or cross-sector working, since it is often (although not always) centrally concerned with the nuances of individual or societal interactions, or exploring collaborative constructions of challenges or solutions.

Illustrative quotations:

> *"Through inter-disciplinary centres that are focused around answering questions as opposed to developing single disciplines."*

> *"Through gradually developing a collaborative realistic appreciation of 'future energy requirements', allowing for individuals from separate specialist backgrounds to understand the reality of energy issues from differing disciplinary perspectives."*

> *"More focus on implementation [will support the development of energy-SSH]"*

> *"SSH [research]...is a prerequisite for any fruitful interdisciplinary collaboration."*

> *"Outside academia, including in government and industry, extending right to the highest levels, there is a need to acknowledge the value of and give credit [to] more cross-disciplinary courses and qualifications."*

3.10. Reflection #10: Energy-SSH is relevant for non-academics, however the questions and language of interest will vary for different stakeholders

Whilst the majority of the headline reflections in this report focused on academic debates and concerns (in part due to the framing of the questionnaire itself), it is vital to the objectives of the SHAPE ENERGY Platform to fully recognise the many ways in which energy-SSH is regarded and experienced outside of academia. Some of the priorities respondents mentioned which fell outside of research domains were more practical in nature, for example how energy-SSH could help achieve certain outcomes, including changes in perceptions or understandings of certain issues. These priorities may also rely on different types of language (which links to our work on the SHAPE ENERGY Lexicon – Foulds and Robison (2017)), as well as how priorities of other groups (particularly policymakers) are framed. The myriad answers to Q4. (Balint et al., 2017) also illustrated the huge diversity of groups with a stake in work which explores energy challenges.

Illustrative quotations:

> *"Enabling us to better engage citizens in creating their own source of sustainable energy"*

> *"It is crucial to have social sciences and humanities on board because we need a change of paradigm, which will be in humans' head; we need change of consumption, which is depending on people again; they will be the prosumers of the future etc."*

> *"I have been a pensioner for a long time. It seems to me as a group we are large and mostly unlikely to be interested in energy research unless it has some perceivable impact on our lives."*

> *"As I work predominantly in education, I would say it is about ensuring that education provides opportunities for lecturers and teachers to incorporate cross-disciplinary approaches to social sciences, humanities which embed energy-related issues. An example of this could be through a school energy efficiency competition that is championed by student ambassadors. The results of this competition could then be discussed as part of social science and humanity classes...."*

> *"In terms of different conceptualizations and understandings of energy-related definitions"*

> *"As a think tank that tries to trigger change, connect people and stimulate debates, I believe it is important for us to engage with such research and introduce it to key policy makers we are working with."*

> *"I would like to work on projects that take into account both on-site monitoring and SSH. I think SSH could provide valuable explanations about the energy data we collect on-site."*

> *"I would like to be able to attend different workshops and discover what has been done lately within the field of energy studies. [I come] from a developing country so evidence for policies applied in other countries may be of a good help in my research."*

> *"We have been very fortunate in studying heat and local energy at the same time it has risen up the policy agenda in our country. This has opened opportunities for our research to influence policy development that might not have been as accessible in a more established field."*

> *"Due to many different reasons, each discipline develop[s] along its own path. Terminology becomes more and more difficult to understand by people from other disciplines or by people from outside the academia."*

3.11. Reflection #11: The notion of 'disciplines' is artificially constructed and can therefore vary considerably in how it is defined (across energy-SSH)

We note first that for non-academic respondents, the open text question that asked for respondents to provide their 'discipline(s)' may not have been relevant (and indeed it was optional). But for those for whom it was relevant, our 19 SHAPE ENERGY disciplinary categories[4] did not easily and neatly align with answers. It is true that a good proportion of responses did label their disciplines according to the more traditional and long-established disciplinary boundaries (e.g. Sociology, Economics, Psychology, Human Geography, Anthropology), but many instead provided:

- research themes and topics that did not seem to represent a distinct discipline / epistemic community (e.g. *"social behaviour", "community energy", "[assessment] in sustainable development"*);
- what we in SHAPE ENERGY initially regarded as sub-disciplines (e.g. *"System Dynamics economics", "energy economics", "ecological economics"*) and which some would bundle together;
- emerging hybrid disciplines that, in a similar vein to the more established Communication Studies, Gender Studies and Environmental Social Sciences, bring together two or more disciplines and thereby directly confront traditional disciplinary divides (e.g. *"psycho-social studies"*);
- umbrella terms for collections of multiple disciplines (e.g. *"social sciences", "behavioural sciences"*);
- almost no answer at all, perhaps due to their interdisciplinary approach (e.g. *"I research energy& [sic] sustainability from an interdisciplinary perspective. Honestly can't answer."*), or because of their struggle to fundamentally associate with disciplines (e.g. *"I don't have a disciplinary starting point...[which then does bring in a number of disciplines, but] in no particular order"*).

In relation to the last point regarding respondents being explicitly interdisciplinary, it was also not uncommon for respondents to provide a (long) list of disciplines (be they more traditional in nature or not). For example, one person listed 10 disciplines.

This all raises questions such as: How exactly is a 'discipline' defined? What scales do disciplines operate at? How do disciplines connect to one another? What does it mean to work across disciplines and be 'interdisciplinary'? How does one come to associate with one (or more) particular discipline(s)? How does a 'new' discipline emerge, take hold and ultimately become widely accepted? Can one ever be 'wrong' in identifying one's own disciplinary association(s)? And what does all this mean for projects that have the goal of interdisciplinarity at its core, such as SHAPE ENERGY?

Disciplines are artificial constructs, but it should nevertheless also be acknowledged that these sorts of discipline-related concerns are not consigned solely to energy-SSH, or indeed SSH more widely. Regardless, such a reflection has implications for policies and funding programmes that channel their efforts along and within (deemed) disciplinary boundaries.

4 These 19 disciplines can be found on the SHAPE ENERGY online researcher database webpage (SHAPE ENERGY, 2017a).

3.12. Reflection #12: There is considerable variation in suggestions for the future development and application of energy-SSH research

As can be inferred from the discussion so far, there are numerous suggestions (and debates!) about, for instance, the boundaries and definitions of energy-SSH and how energy-SSH could/should/does contribute to policy and connect with stakeholder communities. Indeed, whilst one respondent stated that SSH needed to do better at giving politicians "*simple answers*", the implicit message from many other respondents was that they wanted to embrace complexity and move beyond linearity. Moreover, even for those within the same energy-SSH research communities that thereby share similar points of departure (approximately similar ways in defining and conceptualising the energy problem at hand), there was still inevitable disagreement over e.g. the topics that would be investigated - and this is something that goes much deeper than SHAPE ENERGY's four intentionally broad topics[5].

This is of course nicely demonstrated by all the respondents' answers to Q3. in the Call for Evidence questionnaire (Foulds et al., 2017b; Appendix 7.4.), which asked for suggestions for EU research priorities beyond the EU Horizon 2020 framework programme (i.e. 2021 onwards). For instance, there were calls for more research on themes such as *"public acceptance", "public participation", "public engagement", "behavior and practices", "lifestyles", "multi-level governance", "visions", "community", "empowerment", "equity"*, to name only a few. These themes then implicitly straddled a similarly long list of research topics, perhaps driven by more normative agendas, and these included *"sustainable cities", "automation", "sufficiency", "decentralization", "prosumers", "industrial needs", "infrastructure", "circular economy", "carbon removal", "micro grids"*, to again name only a selection.

None of these suggestions are necessarily more right or more wrong than others. They merely offer insight into different constructions of (similar) research problems, thereby exposing the (sometimes stark) ontological, epistemological and methodological differences that are in play across the energy-SSH research landscape - such issues are often embraced by many SSH researchers as part of adopting a reflexive approach to one's research.

5 SHAPE ENERGY works across four inter-related energy topics: (1) Energy efficiency and using less; (2) Competitive, secure, low-carbon energy supply; (3) Energy system optimisation and smart technologies; and (4) Transport decarbonisation. See the Call for Evidence responses (Balint et al., 2017) for a breakdown summary of how the respondents' expertise mapped onto these topics.

4. Conclusions

The purpose of this specific report is to present preliminary observations that have emerged from reviewing the Call for Evidence responses. The SHAPE ENERGY Call for Evidence was open over April to July 2017 and involved seeking input from a wide range of research, policy and practitioner communities across Europe, all of whom have an interest in (or directly work within) energy-SSH research.

The core of this report has focused on discussing and evidencing (predominantly through quotations from the Call's responses) 12 headline reflections, which are detailed in Table 1. Many of these reflections both build on and further support the existing purpose and positioning of the SHAPE ENERGY project, as well as further justifying why the European Commission regard energy-SSH as a growth area e.g. through their 2018-2019 and 2020 (Horizon 2020) energy work programmes' funding calls.

Table 1. Summary of headline reflections

No.	Headline reflection
1	The low-carbon energy transition is a social (or, at least, a socio-technical) problem
2	Energy-SSH poses very different sorts of questions compared to e.g. STEM
3	Energy-SSH is under-utilised in directing energy policy
4	Energy-SSH is underfunded
5	Ensuring that energy-SSH expertise is appropriately represented in both the relevant project proposal assessment panels and the teams writing the funding calls is vital
6	Whilst it is valuable that many energy funding calls require a SSH project component, the consequence can be that SSH insights are bolted on
7	Economics traditionally receives much more attention in policy than all other energy-SSH disciplines
8	Economics is a disputed SSH discipline
9	The problem-focused nature of energy research can help engender interdisciplinary and multi-stakeholder approaches, where energy-SSH can play a strong role
10	Energy-SSH is relevant for non-academics, however the questions and language of interest will vary for different stakeholders
11	The notion of 'disciplines' is artificially constructed and can therefore vary considerably in how it is defined (across energy-SSH)
12	There is considerable variation in suggestions for the future development and application of energy-SSH research

As per the wider intention behind the scoping activities of SHAPE ENERGY (Work Package 1), the outputs from this Call for Evidence will help to steer internal discussions within the SHAPE ENERGY consortium (which itself covers the spectrum of energy-SSH disciplines), as well as feed into how we engage with the wider energy research, policy, and other stakeholder communities (including how we frame ourselves as a Platform, our purpose and indeed energy-SSH). But perhaps most tangibly, in the short-term, the contents of Table 1 will be acting as a starting prompt for the consortium's brainstorming efforts on its Research & Innovation Agenda 2020-2030.

5. Acknowledgements

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7. Appendices

In these appendices (Appendix 7.1.-7.5.): the larger the size of the word, the more frequently that word was used across the respective responses.

Appendix 7.1. Most commonly used words in responses to Q1.

['In what ways do you think research from across the Social Sciences and Humanities is contributing to energy policy priorities?']

Appendix 7.2. Most commonly used words in responses to Q2a.

['If you are working broadly within the energy-Social Sciences and Humanities: how could novel energy-SSH research be best supported?']

Appendix 7.3. Most commonly used words in responses to Q2b.

['If you are not working broadly within the energy-related Social Sciences and Humanities: how would you like to engage with energy-SSH in the future and is there anything that could help with this?']

Appendix 7.4. Most commonly used words in responses to Q3.

['Looking beyond the EU Horizon 2020 funding programme (thus 2021 onwards), what are the main energy challenges that should be given more funding?']

Appendix 7.5. Most commonly used words in responses to Q4.

['Are there any relevant networks, professional associations, large projects or even individuals that you think may be interested in the SHAPE ENERGY project? Please note your involvement in these, if appropriate.']

Anglia Ruskin University | Global Sustainability Institute
KIT Karlsruhe Institute of Technology
POLITECNICO DI TORINO
LAET
NTNU Norwegian University of Science and Technology
ORTA DOĞU TEKNİK ÜNİVERSİTESİ MIDDLE EAST TECHNICAL UNIVERSITY
Tomas Bata University in Zlín Faculty of Management and Economics
BSERC black sea energy research centre
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friends of europe
DuneWorks research & advice for sustainability
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