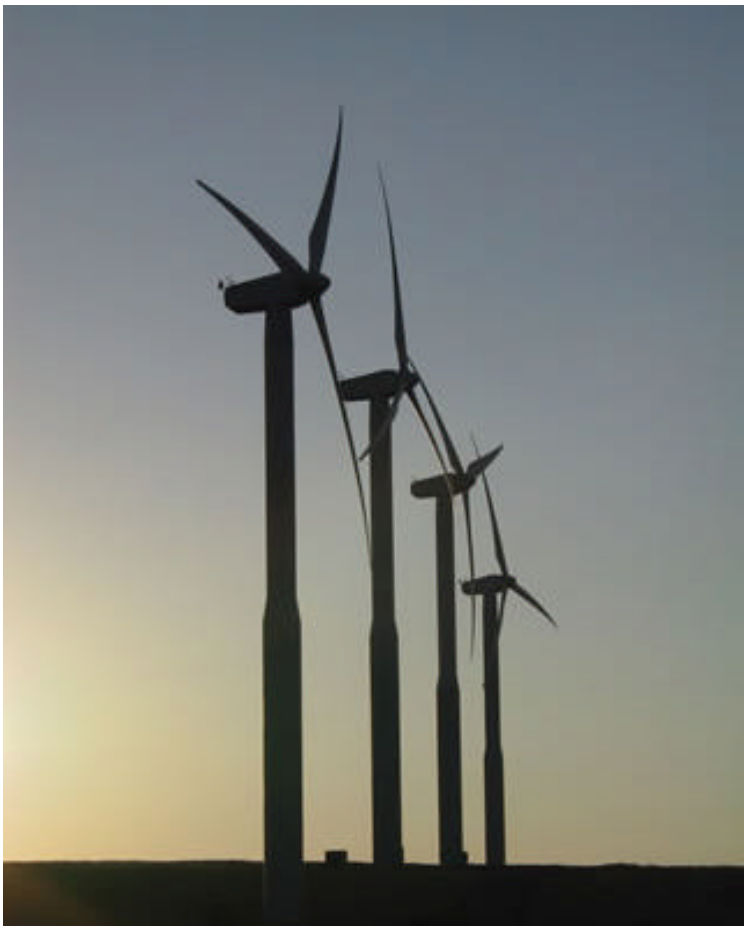
Local impediments to realization of national policy:
the role of stakeholders in siting wind projects



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I. Introduction

For thousands of years humans have harnessed wind energy to improve their living conditions. Historically wind energy provided power to move water: the Chinese began pumping water via wind power in 200 BCE and the Dutch reclaimed thousands of acres of land with it during the seventeenth century. In the modern era, however, nations worldwide have employed wind energy to produce clean, renewable, domestic electricity. The impetus for including green alternatives among traditional power generation methods stemmed from political and environmental concerns. The 1973 and 1979 oil crises revealed many countries' reliance on imported energy sources, and national governments began funding renewable resources research and development. In addition to reducing dependency on foreign fossil fuel sources, environmental concerns pertaining to global warming and rising sea levels motivated increased usage of renewable energy sources and prompted international agreements requiring the reduction of carbon emissions. For instance, European Union environmental policies and the Kyoto Protocol established national targets and mandated signatories develop strategies for increasing the proportion of energy generated from renewable sources.

While supra-national agreements form renewable energy policy, implementation occurs at the local level. Hence, national and provincial governments often express excitement at the prospect of increased renewable energy usage and all the while leaving local municipalities to deal with the obstacles and numerous bottlenecks that hinder achievement of national goals. The challenge of devising macro-policy that can be translated into implementable micro-policy is not unique to use of renewable energy resources; nevertheless, it provides an example of the inherent difficulties in designing and applying politically and socially acceptable policy. Frequently policies are theoretically sound yet pose substantial challenges for the bodies responsible for implementation – ones typically not included in the policy-drafting phase.

Given supranational mandates and growing public concern over environmental changes, the growth of the wind industry is not surprising. Despite numerous advantages to wind energy exploitation, site development is typically not easily accomplished and, in fact, is becoming increasingly difficult. Technological, financial, policy, political, and social factors frequently hinder implementation – the latter two among the most complicated to address. Recent research demonstrates success of wind power projects depends largely on "institutional arrangements within the policy domains of physical planning and energy," as well as the importance of institutional and social factors on implementation rates (Wolsink 2000, 58; Junginger et al. 2004). Siting a wind generation facility typically involves agencies at national, provincial/state, and local levels, and differences in agencies' policies and missions can delay or even prevent project realization. Jurisdictional and capacity issues influence the government's side of the siting process, as can the actions of community groups and

conservation bodies. Despite general public support for wind energy power generation, proposed projects are frequently contested locally. Research into public opinion on wind energy reveals four out of five people support wind power; however, "it takes only one devoted opponent to start…a legal procedure against a planning permit. This is one of the primary reasons why public conflicts over wind power plans have become the rule rather than the exception" (Wolsink 1996 cited in Krohn and Damborg 1999, 959). As a result it may appear to policymakers that mandating development of wind energy generation complements both political and social goals, yet the reality is government officials responsible for policy implementation frequently encounter political and social resistance because this environmentally benign technology frequently generates "not only significant quantities of electricity by also major controversies" (Szarka 2004b, 2). Ultimately political structure and societal demands influence a nation's maximum realizable potential of wind energy.

Over the past two decades, European countries have gained considerable experience siting projects in part a result of compliance with supranational mandates. The national governments of Germany, Spain, Denmark, and the Netherlands have made substantial investments in wind energy technology development and implementation. Predictably, each nation experienced unique barriers and hurdles, as well as achieved different results. In the Netherlands, despite the establishment of national policy and significant financial expenditures, establishment of wind power generation projects has not gone as smoothly as in other European countries. A substantial body of recent research reveals reasons for this include institutional constraints, lack of financial incentives, insufficient government capacity, and public resistance (Agterbosch et al. 2004; Ensensberger et al. 2002; Junginger 2004; Wolsink 1996 and 2000). Most research has focused on how a specific aspect influences realization of wind projects; however, the aggregate impact of these on local implementation of national policy remains uncertain. Furthermore, while researchers recognized nearly a decade ago that siting problems at the local level have been "the major impediment for increasing installed capacity in the Netherlands," policymakers' apparent failure to overcome these through subsequent covenants and legislation necessitates discussion (Wolsink 1996, 1082).

A case study of wind project developments in the Municipality of Delfzijl was conducted to determine how local political, jurisdictional, and social factors influenced the execution of national policy in the Netherlands. The study focused on the relationship between stakeholder actions and interactions and the various delays in project realization which ultimately impedes achievement of provincial, national, and supranational wind energy targets. Understanding this relationship provides the basis for formulating practical recommendations for improving macro-policy creation to facilitate micro-policy implementation. Analysis is based on interviews with key stakeholders involved with the development of wind projects in Delfzijl, including national, provincial, and municipal government officials; civil servants from the

provincial and municipal levels; private developers; opposition groups; local citizens; consultants; and academics. The report, furthermore, is based on a substantial literature and policy review.

The report is organized as follows: Section 2 provides a brief overview of the Dutch planning system; Section 3 outlines the wind industry's development in the Netherlands; Section 4 presents the Delfzijl case study; Section 5 offers an assessment of the national wind policy in the Netherlands; and Section 6 concludes the report with recommendations for improving policy formation to enhance wind energy implementation.

II. The Dutch planning system

The government of the Netherlands – one of the smallest, most densely populated countries in the world – has engaged in comprehensive spatial planning for nearly a century to cope with competing demands on the small amount of available land. Just as the promotion and maintenance of quality urban and rural environments is important, so too is the method of spatial planning. Fundamental to Dutch governing "is the deep rooted conviction that power flows from consensus" (Valk 2002, 204). While the 1965 Spatial Planning Act – the legal foundation for spatial planning in the Netherlands – specified each government level's specific role and responsibility, it also provided for intergovernmental interaction based on consensus building and mutual adjustment (Newman and Thornley 1996; NSPA 1996). Consequently, spatial planning in the Netherlands is a collaborative effort involving four government levels: supra-national, national, and provincial policy guides spatial development and growth, while municipalities devise and implement land allocation plans which allow use-by-right development.[1] Spatial planning policy formation, however, "does not arise in a vacuum but is shaped in interaction with stakeholders" (Agterbosch et.al. 2004, 3). Dutch citizens have a legal right to participate in spatial planning and increasingly individuals and community groups exercise their "right to appeal to administrative courts of law" (Valk 2002, 205). As a result, spatial planning topics that impact multiple groups frequently fosters substantial community resistance, and the formation, adoption, or amendment of these plans is frequently delayed.

At the close of the twentieth century, growing concern over "the sticky character of decision making process" helped propel the topic of spatial planning into the center of national political discourse and prompt the Dutch parliament to amend the Spatial Planning Law and Environmental Planning Laws to include more coercive planning tools (Valk 2002, 206; Faludi and Valk 1994). While the national government – specifically the Minister of Housing, Spatial Planning and the Environment – could compel provincial and municipal governments to conform with national planning policy objectives, passage of the Bill of Trajectories and the NIMBY Bill offered methods of circumventing municipal authority to "provide a solution to slow decision-making" at the local level (Wolsink 2003, 708). Provincial governments obtained the legal authority to over-ride municipal decisions (or lack there of) in order to overcome local delays to projects of national or regional importance. Although hierarchical planning has rarely occurred in the Netherlands, recent increases in competing demands for limited territory, as well as pressure to meet supranational mandates, increases the chance a municipality will be forced to comply with provincial or national directives. The recent changes to the Dutch planning system suggest "a strong tendency towards the forcible simplification of the complex and conflicting character of spatial planning

[1] See Appendix 1 for an overview of each government level's particular duties and responsibilities.

decisions" (Wolsink 2003, 716). Instead of fixing problems with the Dutch planning system, changes could exacerbate the current situation as legislation could increase the likelihood of top-down, centralized planning. This may give rise to questions pertaining to social equity and jurisdictional authority; however, Dutch spatial planning remains "a matter of fact in spite of obvious flaws in the efficiency and the effectiveness of the planning system" (Valk 2002, 201).

During this same time, the national government began emphasizing comprehensive environmental planning at all administrative levels and intensification of land uses throughout the country. The Dutch government's pursuit of comprehensive environmental planning stems from a desire to promote development which enhances quality of life today and in the future. Similarly, intensifying land use through combining compatible uses could "counterbalance inefficiencies in land use inside and outside the built up area on a national, regional and local level" (Valk 2002, 207). Unfortunately, short- and long-term quality of life provision frequently entails two different courses of action, especially when trying to balance a variety of residential, commercial, industrial, and environmental demands.

III. The development of wind energy in the Netherlands

Dutch national wind policy

Since 1975, the Dutch government – like most of its European counterparts – has focused national policy on wind energy development and application through more efficient usage and exploitation of domestic resources. Environmental concerns pertaining to global warming and rising sea levels and political motivation for reducing dependency on foreign fossil fuel sources inspired this policy direction. Supranational agreements provided an additional catalyst for the formation of domestic wind policy in the Netherlands. Consequently, Dutch wind policy "consists of four interconnected policy layers: municipal, national, provincial and European Union" and reflects the specifications and requirements established in supranational agreements (Agterbosch et.al. 2004, 3).

Supranational agreements and EU legislation influence national policy

Among the most influential supranational agreements on the direction of Dutch domestic spatial policy are European Union environmental policies and the 1997 Kyoto Protocol. These agreements established national targets and mandated the development of strategies for increasing the proportion of renewable energy generated. In the early 1990s, the European Community's Fifth Environmental Action Program emphasized the critical importance of Energy Policy in the "achievement of sustainable development" and, in 1997, its White Paper specified concrete targets for renewable energy: contribution was to double, from 6 percent in 1997 to 12 percent by 2010 (Commission of the EC 1993; European Commission 1997). The White Paper, however, did not provide policy directives to assist member nations in achieving these goals. Nearly a decade passed before the EU issued concrete policy directives for promoting and facilitating member nations' usage of renewable energy sources. In 2001, directive 2001/77/EC established targets for member nations regarding renewable electricity power generation, and, two years later, the EU implemented a "market based GHG [greenhouse gasses] emissions trading system" and liberalized energy markets (Szarka 2004b, 3). These policy directives provided greater incentive and support for member nations to reach the 2010 targets, yet directives must be transformed by EU member states into national policies, a time consuming process (Blok 2004).

Consequently, the renewable energy policy developed in the late-1990s involved predominantly 'state-centric measures,' in part because many European nations – including the Netherlands – were among the nations which signed the Kyoto Protocol. The 1997 Kyoto Protocol established the framework under which signatory nations would develop national policies to address global warming and climate change. Ratification of the protocol obligated nations to reduce greenhouse gasses by 5.2 percent from a 1990 baseline by 2008-12 through whatever means a nation selected (Szarka 2004b). Predictably nations have met with varied success, and a majority of policy

efforts have centered on increasing production capacity as opposed to reducing demand. In fact, since 2000, the European Union and many of its member nations have "taken a perhaps exaggerated interest in energy generation" policy (Szarka 2004b, 4). Considering the development of the wind turbine industry in Europe in the 1980s, their focus on the development of wind power generation to meet renewable energy targets is not surprising.

National targets based on supranational mandates

The formation of a Dutch national policy pertaining to renewable energy development and exploitation is rooted in the 1973 oil crisis which highlighted the county's dependence on foreign fuel sources. The national government instituted a research program for wind energy development and application, and in 1975 introduced policy to enhance the development and application of domestic wind resources (Wolsink 1996 cited in Junginger et.al. 2004, 1054). Over the next decade, Dutch policy centered primarily on research and development. In the mid-1980s, it began setting renewable energy targets: in 1985, the national government established the goal 1,000 megawatt (MW) from wind energy over the next fifteen years (Wolsink, 2000; Verbong 2001 cited in Agterbosch et.al. 2004, 1). Not until the close of the twentieth century, however, did the Dutch national government institute renewable energy targets based on international mandates (e.g. the Action Plan on Climate Policy issued by the Dutch Minister of Spatial Planning, Housing and Environment (1999) (Junginger et.al. 2004, 1054)).

In 1995, the Dutch Minister of Economic Affairs issued the Third White Paper on Renewable Energy, setting a policy goal of 10 percent renewable energy of the total national energy supply by 2020 and specified minimum shares for each renewable resource (Ministry of Economic Affairs 1995 cited in Junginger et al. 2004). The policy focused on renewable electricity production and established a target of 17 percent of the domestic electricity consumption or approximately 6 percent of the total energy demand (Junginger et al. 2004). In lieu of growing concern over the possibility of meeting the targets, the national government devised an intermediate goal of 9 percent of electricity consumption generated by renewable sources in 2010 – a target which corresponds with the EU's recent directive on renewable electricity (Junginger et.al. 2004).

The national government, in addition to establishing targets for renewable energy, supported development of domestic renewable energy sources through subsidies and later incentives. Efforts were made to improve competitiveness and stimulate the market, as well as address political and procedural bottlenecks. From the outset the Dutch government has emphasized the importance of wind power among renewable energy generation sources, and the national government drafted covenants to facilitate achievement of the national targets.

Bestuursovereenkomst Plaatsingsproblematiek Windenergie (BPW) 1991-1999
The *Bestuursovereenkomst Plaatsingsproblematiek Windenergie* covenant between the national government and seven provincial governments was an attempt to eliminate political and administrative obstacles impeding the establishment of wind power generation facilities. Through coordinated national and provincial spatial planning policies, the 'Governmental Agreement on Planning Problems Wind Energy' would theoretically provide ample sites for wind generation facilities and "support the installations of 400 MW in 1995 and 1000 MW in 2000" (Junginger et.al. 2004, 1054). Unfortunately, the covenant failed to generate the intended results; by 2000, only 450 MW – less than half of the projected goal – had been realized (personal interview January 20, 2005). The covenant's failure can be traced to the omission of vital stakeholders: while those responsible for approving wind power generation projects were the seven provinces' municipalities, they were not among the covenant signatories. Including over two-hundred municipalities in a covenant would have been an unwieldy process; nevertheless, "an agreement with them would have been more effective than with provinces without effective power in siting issues" (Wolsink 1996, 1085-1086). Planning space for wind energy is difficult in the best of circumstances, yet the national government's failure to involve municipalities in a process where they had an essential role created additional obstacles. Hence, the national and provincial governments' confidence in the covenant facilitating the realization of targets was ill-founded since municipalities did not feel responsible for meeting the wind energy targets. The BPW covenant ultimately neglected to address political and administrative obstacles to implementation of wind power generation sites, and prompted the creation of the *Bestuursovereehomst Landelijhe Ontwihheling Windenergie* covenant.

Bestuursovereehomst Landelijhe Ontwihheling Windenergie (BLOW) 2001-2010
In 2001, the *Bestuursovereehomst Landelijhe Ontwihheling Windenergie* covenant, which involved a host of actors at the national, provincial, and municipal levels, was established to develop wind energy sites across the nation in order to realize 1,500 MW wind generating capacity on land by 2010 and 6,000 MW offshore by 2020 (personal interview January 20, 2005; Ministry of Economic Affairs 2001 cited in Junginger et.al. 2004, 1057). The provincial targets set out in the BLOW covenant – based primarily on location and wind load – were the result of discussions between national and provincial government representatives. Covenant signatories included the Ministries of Spatial Planning, Housing and Environment, Economic Affairs, Land Conservation, Military Defense, and Transportation and Infrastructure, as well as the Inter-provincial Organization (IPO) – representing the twelve provinces. *Vereniging van Nederlandse Gemeenten* (VNG), the national Association of Netherlands Municipalities, endorsed but did not sign the covenant. Thus, the BLOW covenant – like its predecessor – established provincial mandates for wind energy yet did not guarantee the participation of Dutch municipalities. The national government, nevertheless, set a deadline for municipalities: if local governments had not incorporated provincial planning concepts

into local land use plans by December 31, 2005 then provincial or national governments could step-in and dictate the siting, development, and implementation of wind projects. While national and provincial governments rarely use their legal authority to issue directives about specific components of local zoning plans, the pressure to achieve supranational targets may result in provincial use of this authority (Wolsink 1996; Valk 2002).

Social impact of wind energy development

Understanding how wind energy developed in the Netherlands is necessary to appreciate the past and present challenges municipalities face when trying to implement national wind energy policy. The pioneers of wind energy in the Netherlands were small private investors, a majority of whom constructed solitary turbines as a supplemental source of income. Wind cooperatives, independent wind power producers, and energy distributors also developed wind sites, and the latter was responsible for the majority of installations until the mid-1990s. Since then, private investors have "dominated the market…in the number of turbines, the number of projects and the total capacity installed annually" in spite of policy changes which disallowed the siting of solitary turbines (Agterbosch et al. 2004, 4).

Despite the Dutch citizenry's general approval of the concept of wind energy utilization, turbine construction prompted location specific concern about the impact of project realization; proposals for wind generation facilities were increasingly contested locally. In the Netherlands, like countries worldwide, objections to wind turbine construction included visual intrusion, ecological damage, noise pollution, shadow flicker, land disruption, public safety, construction disturbance, and electromagnetic intrusion. As early as 1996, research into project siting revealed every wind project proposal had prompted public debate that went at least to the municipal council if not further (Wolsink 1996). In fact, while four out of five people support wind power, "it takes only one devoted opponent to start…a legal procedure against a planning permit. Hence, public opposition to wind generation proposals has become the rule rather than the exception (Krohn and Damborg 1999).

Growing public discontent regarding the perceived haphazard siting of solitary turbines and wind power generation facilities across the country prompted siting policy changes at the national level. Since "policymaking at higher levels of government institutionally restricts policy making at the lower levels" provincial and municipal policies were also impacted (Agterbosch et.al. 2004, 3). In 2000, the Ministry of Spatial Planning, Housing and Environment included the public's demand for turbine clustering in the draft version of the Fifth national Policy Document of Spatial Planning yet failed to incorporate it in the revised document (Agterbosch et.al. 2004). Provinces, nonetheless, typically integrated clustering requirements into regional land use plans

and directed municipalities within their jurisdiction to do the same with respect to local land use plans. "This relatively new institutional condition was not only at odds with national spatial planning policy, but also with the initial provincial spatial planning policy laid down in the first wind power covenant by VROM in 1991 with the seven provinces that have suitable wind conditions" (Novem 1991 cited in Agterbosch et.al. 2004, 9). Nevertheless, public opposition and national policy created an environment where solitary turbines were no longer permitted and many provinces, including Groningen, decided to concentrate wind site development in industrial areas to minimize social impacts while fulfilling national mandates. The decision to concentrate wind generation facilities, however, merely transferred discontent – as demonstrated by the events in Delfzijl.

IV. The Delfzijl case

Background

In the northern Netherlands, the Province of Groningen developed as a regional center for trade and industry given its proximity to the North Sea and Germany (see Figure 1). Today its provincial capital – the seventh largest city in the Netherlands – serves as the hub of the western Netherlands and northern Germany distribution route, and major private-sector industries include transport, logistics, and life sciences. The capital city is home to over 179,000 people or approximately 30 percent of the provincial population, and it has exerted a strong influence on surrounding areas since its founding in the thirteenth century (*Provincie Groningen*).

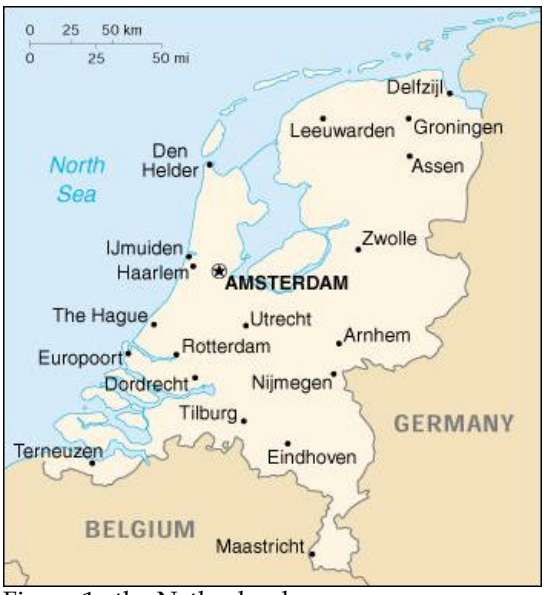

Figure 1: the Netherlands

The Municipality of Delfzijl, situated on the west bank of the Ems estuary which makes up the Dutch-German border, has been a significant port and trading center in the northern Netherlands for over four-hundred years. The Eemskanaal provides a shipping link between Delfzijl and the provincial capital. Despite being one of the province's busiest ports, the municipality showed signs of economic decline during the mid-20th century. In 1955, the government located an industrial center near the port to foster local economic growth. Construction of the industrial area, however, necessitated the removal of several small villages. The impact on local residents was predictable, and their resentment and distrust of government claims merely heightened when the economic recession following the 1970s oil crises slowed industrial development in the cleared area. The housing turn over during the 1970s-1980s reflected the difficult economic situation (personal interview February 22, 2005). During this time period, mounting public concern over environmental degradation

from aluminum industries prompted a push for recruitment of clean industries, just as international agreements were established to protect the Waddenzee ecological area. While doubtful a proposal for an industrial complex would be approved today given the site's proximity to the Waddenzee, it remains an important element of the local economy: the many chemical industries, metal plants, transportation firms, and shipyards within the complex provide one-third of local employment opportunities (personal interview March 2, 2005).

Groningen Province's experience with wind energy

Locational advantages and significant wind loads led Groningen to be one of the first provinces to participate in the wind energy development in the Netherlands. A participant in the BPW covenant, the provincial focus from the outset was primarily the development of large scale power generation projects; nevertheless, its municipalities – which were not among the covenant's signatories – did not feel responsible for realization of the provincial target. Thus, most of the provinces' initial development was solitary turbines on farms. Early proposals met with little public opposition during the permitting process, and by 1990 approximately fifty solitary turbines approximately 40 meters high had been constructed. Although the individual turbines did not contribute significantly to the provinces' power supply, they nonetheless generated substantial public concern over spatial development patterns. During the following decade, the construction of wind turbines throughout the province and across the border in Germany prompted considerable protestations by area residents regarding visual changes in the countryside, as well as increased sound pollution.

Public concern for the loss of visual amenities prompted policy changes and impacted the provincial government's method for achieving the BLOW targets. The provincial government – based on public input – devised a policy to minimize random wind turbine construction and concentrate development in a few suitable areas. After 2000, the construction of solitary turbines was prohibited, although the rotors and blades on existing turbines could be upgraded or replaced but no increase could be made to a turbine's height. To reach the BLOW target of 165 MW by 2010 and still preserve the natural environment, the province opted to concentrate wind projects in areas with the highest wind loads and in close proximity to industrial areas (*Plan van Aanpak voor realisatie van de Groninger BLOW doelstelling*; personal interview February 8, 2005). The province designated Eemshaven, Delfzijl, and Lauwersoog, as well as recommended the possibility of Veendam, though the latter would necessitate alteration of the local land use plan. The province's decision was not surprising given the sites' locational advantages, especially Delfzijl: wind loads are typically higher near the coast; the remote, coastal community had a small population; the industrial area was under-utilized and the public had demonstrated a desire for recruitment of clean industries; and power generated onsite could contribute to neighboring industries' energy

demand. At the same time, the province instituted a participatory project at Emmshaven to compensate for prohibiting construction of individual turbines: individuals could acquire an option to build one of twenty-one turbines. The first project of this nature and scale met with some opposition from developers; however, Groningen Seaports – the property owner and project developer - received over 88 bids for the twenty-one turbine sites in the inner industrial area, and a majority of them were over three times the minimum 25,000 Euro bid requirement.

Despite provincial leadership's support for the implementation of *Plan van Aanpak voor realisatie van de Groninger BLOW doelstelling*, as of March 2005, wind power generation sites within Groningen had a combined wind generation capacity of only 64 MW. The province is under pressure to achieve its target. Recently the Minister of Economic Affairs proposed the construction of a 50 MW site in *Pekelas*; the Province refused because of the possibility of meeting the 165 MW target through the realization of projects at the sites designated in the provincial plan (personal interview). The Economic Affairs Minister's actions standout given the lack of hierarchical directives in the Dutch planning system. The explanation offered by the Groningen Provincial Wind Coordinator for the atypical approach is "it's going to be difficult to get the total 1500 MW on land before 2010. We are at 1000 MW and we have 500 MW more to go in the next five years" (personal interview). An analysis of projects in Delfzijl reveals that altering municipal land use plans to conform to the provincial plan created some delays, yet much of the hold-up has been a consequence of jurisdictional challenges and project specific opposition. The Ministry of Spatial Planning, Housing and Environment is currently in the process of creating an emergency law (*noodwet geluid*) to speedup the siting process and the Province of Groningen has the authority to step in and direct municipalities spatial planning to achieve the BLOW targets after December 31, 2005. Nevertheless, Delfzijl case reveals the multitude of problems which localities frequently experience when attempting to implement national policy.

Implementing national policy in Delfzijl

Attempts to realize wind generation projects in Delfzijl have involved – not always of their own accord – national, provincial, and municipal officials; private developers; landowners; community members; and environmental organizations. Analysis of the events of the past fifteen years demonstrates stakeholder interactions served both as catalysts and impediments to the development of the Delfzijl South, Delfzijl North, and Delfzijl Industrial sites.

In the early 1990s, the first discussions pertaining to development of wind generation facilities in Delfzijl took place between municipal officials and local parties – primarily farmers. As the municipality desired the site to be developed uniformly (i.e. one site layout and turbine type) and initial proposals offered by farmers and energy companies

conflicted, the municipality insisted the groups work together to devise a common plan. Between 1995 and 1997, the municipality established agreements for projects on the land south of the industrial site; in 1997, they awarded development of the Delfzijl South site to Millenergy BV – a building consortium comprised of the energy companies Essent, Siemens, and Koop. The consortium's plan to construct forty wind turbines on the site, however, was delayed for over seven years due to legal challenges brought forward by another developer and community members, as well as procedural delays.

Just as Millenergy BV began requesting permits, High Energy – another project developer – purchased farmland near the Delfzijl South site. The Dutch planning system does not permit construction of wind turbines on agriculturally zoned land; thus, the company first faced the lengthy task of obtaining a zoning change from agriculture to industrial – a process which was completed in 2001. High Energy then proposed a project that did not conform with the design of Millenergy BV's project. As the municipality wanted uniform development, the council rejected High Energy's initial proposal and insisted, as it had previously, the developers collaborate. This proved to be very problematic, in part because Millenergy BV was further along in the development process and had already invested significant time and capital into their project layout. Problems ensued and legal measures were taken – including High Energy (then BANC Holding) filing suit against the municipality over the issuing of permits to Millenergy BV. The firms eventually negotiated a settlement. However, the process delayed realization of both projects.

The delay of the Delfzijl South project, moreover, was a consequence of the lengthy planning procedures involved. Pubic hearings, surveys, and other opportunities for public opinion of the proposed project had to be conducted. Moreover, to obtain building permits a *milieueffectrapport* (MER) or environmental impact assessment had to be conducted. A MER – which is only required for projects over 15 MW or involving more than ten turbines – outlines the existing conditions and anticipated consequences of the project. Once a developer has filed reports on all the specified directives, the MER is reviewed by the municipality and a MER commission whose members are appointed experts from the national level. Following approval by the commission, a public hearing is arranged for pubic comment on the MER and the draft decision for approval or rejection of the project (Spatial Planning of Wind Turbines; personal interviews March 2 and 22, 2005). Citizens can file objections with the municipality at this time. If there are no objections or they are addressed by the municipality, then the spatial plan will be adjusted and a building permit issued. This process could take seven months: four months for a building permit, three months for an environmental permit. However, if the municipality cannot address citizens' concerns, objections can be filled with the province. If citizens feel their concerns still have not been adequately addressed, a challenge could go all the way to Den Haag – where it can sit for up to a

year just waiting to be heard. As a result, one or two people have the power to delay projects for a long time.

While discussions between project developers and public officials had been ongoing since the early 1990s, Delfzijl residents became aware of project proposals in August 1999 when the local newspaper published an article about the Delfzijl South site proposal. The mayor and municipal council supported Millenergy BV's plan to raise forty-120 meter turbines in the beginning of 2000, yet some area residents were less enthusiastic about the prospect of having one of the then largest wind parks in Europe in their community. Apprehension transformed into opposition following a public hearing in Fall 1999 when, according to some local citizens, Millenergy representatives dismissed all questions as 'minor problems.' Citizens living in close proximity to the site formed a foundation (*Stichting Windhoek*) and used their political influence and all legal measures possible to prevent the project. The events in Delfzijl reaffirmed what researchers have long recognized: oppositional behavior – which becomes "salient at the moment that a project is introduced to the public" – stems from public unease at the impact of wind turbines on the local landscape (Wolsink 1996, 1087).

In lieu of community resistance to construction of wind turbines in Delfzijl, delays and legal challenges were the rule for the developers of Delfzijl South. Municipal officials and project developers are quick to point out virtually all projects – regardless of the type – are challenged, frequently on environmental grounds given proximity to the Waddenzee. Local opposition, nonetheless, delayed the local permitting process. After nearly six years, public challenges for the most part were overcome and permits issued. Construction of the first six turbines on the Delfzijl South site, which had been one of the first projects proposed, commenced in winter 2004-2005. The turbines should be generating 12 of the sites intended 47 MW by year's end.

During this same time period, the province disallowed the siting of solitary turbines and appointed Eemsmond and Delfzijl as sites for concentrated development. In Delfzijl, this shift prompted significant resentment among public officials, area residents, and property owners. It irritated municipal officials because they had supported construction of solitary turbines as it offered farmers both a source of power generation and supplemental income from any additional energy produced (personal interview March 2, 2005). The province, however, required municipalities to amend local land use plans to reflect the modified regional spatial plan. The change came as quite a surprise to Delfzijl residents, especially those who had requested but not yet received building permits. Those that received building permits could still construct turbines; those that had not were unable to do so. A few farmers tried in court to force the municipality to issue building permits, but to no avail. Predictably, this policy change cultivated resentment amongst many farmers towards the development of other local wind generation projects – something they could no longer do. It also fostered

some discontent amongst those at Groningen Seaports, the landowner of the sites designated by the province for "maximum" development.

Groningen Seaports has a mission of industrial attraction for the economic benefit of the entire region and was not entirely pleased about being co-opted into the production of wind energy. Nevertheless, as its shareholders are representatives from the Province of Groningen and the municipalities of Delfzijl and Eemsmond, the organization chose to "make the best of it" and direct development to their advantage. Groningen Seaports devised a master plan which located turbines in the Delfzijl North and Industrial sites along company owned infrastructure near the grid connections. The approach minimized the potential impact siting turbines might have on prospective investors who might have concerns about locating near wind turbines and it eliminated possible conflicts between neighboring companies because one had a turbine and another did not. Furthermore, it provided Groningen Seaports with the revenues from power generation. In 1998, Groningen Seaports awarded the contract for Delfzijl North – nineteen turbines along a dyke on the northern edge of the industrial area – to EDON (now Essent) which entered into a joint-venture (Millenergy BV) with Koop and Siemens (see Figure 2). As of March 2005, Millenergy BV's project proposal was nearly completed, and the developer was in the process of applying for the environmental permits (personal interview March 2, 2005). Realization of the Delfzijl Industrial site, however, is further off. In March 2005, the Delfzijl Industrial site was still in development stage; however, a Groningen Seaports representative indicated that bidding for the contract to develop the site would most likely occur within a few months with the anticipation of awarding the contract around September.

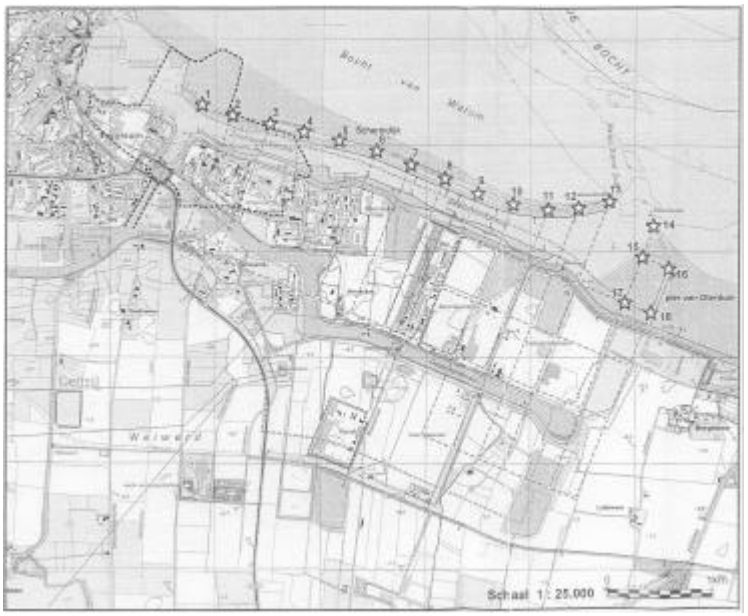

Figure 2: Delfzijl North

While a host of social and procedural obstacles hindered development of wind projects in Delfzijl, ultimately the greatest source of delays is from the very people who created the impetus for the projects in the first place: the politicians. Wind energy is very political, as demonstrated by policy changes resulting from modifications in the composition of the municipal council. In 1999, the municipal council had a favorable view of wind energy and supported development of the Delfzijl South, North, and Industrial projects. Opposition by area residents, however, led to the formation of a new political group and election of its members to the municipal council the following year. The political atmosphere towards wind energy changed dramatically. In 2000, the newly elected council had to decide on amendments to the spatial plan. In spite of concern over noise, environmental changes and public safety, they approved the plan because the municipality had already issued permits. Nevertheless, public discontent is partially responsible for the delays Millenergy BV experienced acquiring permits for the Delfzijl South site, as well as the shift in local political attitude towards the Delfzijl Industrial and North projects: the municipal council no longer supports their development (personal interviews March 17 and 22, 2005). Although recent national legislative changes pertaining to a municipality's responsibility for damages incurred as a result of construction of wind turbines has been cited for delays in issuing permits, changes in local political sentiment certainly plays a part in procedural holdups – especially since the mayor and council are responsible for issuing building permits and environmental permits. Whether or not the municipality of Delfzijl desires to see the North and Industrial sites developed, the province and national governments do, and, while the municipal level is essential for the realization of wind projects, the approach of the December 31, 2005 deadline signifies an opportunity for the provincial government to step-in and force the municipality to follow provincial directives and develop the site. This would be a very big political move in the Netherlands, but there is little concern about political repercussions from such a move since its 'merely' carrying out the national mandate.

V. Assessment and recommendations

Evaluation of wind policy implementation in Delfzijl

From the beginning, executing national wind policy in Delfzijl has been problematic: political, jurisdictional, and social factors delayed approval of local wind projects and thereby impeded achievement of wind energy targets. An evaluation of local policy implementation and stakeholder actions reveals many impediments to realizing wind projects can be traced to the following: (1) a mismatch between national policy and local needs and desires; (2) uncertainty at the local level given national and provincial policy changes; (3) a lengthy, complex permitting system with many opportunities for pubic challenges; (4) uncertainty due to stakeholders' strategic actions; (5) insufficient communication and trust between government officials, developers, and community groups.

Policy mismatch

Problems municipal officials and developers experienced in Delfzijl are partially a consequence of a policy mismatch. The decision to construct wind turbines – at least with respect to location and intensity – was ultimately made by people outside the community. Granted municipalities frequently must contend with decisions made by national and provincial officials; even so, when higher level policy conflicts with local needs and desires – even if only for a segment of the local population – difficulties arise. Research confirms what occurred in Delfzijl: "the predominantly top-down policy style and the consequently ineffective planning of wind-turbine siting" is responsible for the stagnating implementation rates (Wolsink 2000, 59).

The national government made a fundamental mistake when establishing the BLOW covenant's provincial targets: municipal representatives were not included. Discussions included representatives from the twelve provinces, Ministry of Spatial Planning, Housing and Environment, Ministry of Economic Affairs, and even wind site developers. The province even offered to increase the provincial target when conversations with local developers revealed their intention to realize projects with greater capacity than the earlier target. The private sector's predetermined energy generation goals not the Municipality's desire for wind generation projects were the deciding factor. Furthermore, provincial policy directives prohibiting solitary turbine siting by the municipality of Delfzijl and designating land owned by Groningen Seaports for future wind generation developments reveals the disconnect between the desires of the higher governmental level and local stakeholders. Since achieving wind energy targets depends "on the freely consented commitment of political and social actors," it is not surprising that national wind policy implementation has been problematic (Szarka 2004b, 10).

Policy changes

"Policy is an important source of intended and unintended change," and national and provincial policy creation or amendment impacted the municipal government's responsibilities, opportunities, choices, and actions (Agterbosch et.al. 2004, 3). The national and provincial governments' very act of establishing the BLOW covenant with its wind energy production targets foisted responsibilities onto the municipality of Delfzijl, particularly when the province specified the locality as a site for concentrated development. Whether or not Delfzijl community leaders and citizens wished to construct wind turbines, the decision had been made and the municipality had to deal with the consequences.

Policy changes at higher governmental levels restricted municipal and citizen influence on the siting process and resulted in uncertainty and delays in the municipality's wind project approval processes. For instance, the provincial government's alteration of the regional plan to prevent siting solitary turbines and insistence the Municipality of Delfzijl change their local land use plan limited the municipality's control over local spatial planning and how renewable energy targets would be realized. It also caused delays due to the time needed to amend the plan. National policy changes – specifically the repeated changes in financial liability for decreases in property value – also slowed the municipality's approval of projects. Originally if a property owner incurred a loss in property value because of the siting of wind turbines, the individual could receive compensation by filing a claim with the local authority. Municipalities typically had signed agreements with the project's developers to cover these claims. In 2003, the highest court in the Netherlands issued a ruling that prohibited municipalities from passing the financial responsibility to developers and, thereby, made municipalities liable for all damages to private property from the construction of wind turbines. Following this decision, municipalities predictably stopped approving projects. This prompted the national government to review the matter, and a new reparation law is anticipated within a few months. As a result, many municipalities – including Delfzijl on Millenergy's Delfzijl North project – are awaiting this change before issuing new building permits in order to avoid financial liability.

National and provincial policy changes have a dramatic impact at the local level. Over the past decade, municipalities have witnessed an increase in national and provincial directives pertaining to development patterns. Although not unique to development of wind energy, these directives limit municipal control over development within their jurisdiction. Some municipal officials believe it has gone too far: certain developments are no longer possible, while others demand lengthy investigations and reports as part of the approval procedure. As one Delfzijl civil servant succinctly stated: "the people who make the rules and laws at the national level do not understand the impact the legislation will have in areas like this. Sure, they think about it but they cannot

appreciate the consequences: how it will work in practice or what the actual impact will be."

Policy conflicting with 'problematic' permitting system

As the Delfzijl civil servant pointed out, policymakers often fail to appreciate the practical challenges involved with implementing policy. As the case study demonstrates, realization of wind energy projects involves a multitude of stakeholders with a wide range of goals and agendas, and the structure of the Dutch permitting system is such that any one of them can frustrate a project for years and thwart achievement of national goals. In the Netherlands, the time path of any project is dependent on obtaining permits. Wind generation projects necessitate building, environment, waterworks, and defense permits.[2] Theoretically the permitting process could be completed within two years; however, there are many opportunities for delays. In fact, there are four different points in each of the permit phases when citizens can challenge a project. Sixteen million people can agree with the project but if one person disagrees, the Dutch permitting structure is such that a citizen can stall a project for years. Usually the delay is only a year or two because the highest court will hear a case earlier if a developer demonstrates the project is an economic benefit to the region; however, sometimes all a developer can do is wait. Developers have no way of predicting whether or not they will encounter resistance; hence, the siting and approval process is unpredictable and potentially lengthy.

Millenergy BV experienced repeated delays attempting to get municipal and provincial approval and building permits for the Delfzijl South project. Local opposition groups challenged the project at every possible point. Stichting Windhoek representatives appealed to the Municipal Council, the MER Commission, the local court and, ultimately, Den Haag. Although those objecting to the project represented a small number of local citizens, they managed to obstruct the project for nearly six years. Furthermore, differences in municipal and provincial expectations also created delays. Halfway through the permit process, Millenergy BV had to obtain provincial approval for a permit. Although the site conformed with municipal specifications, the province directed the developer to change aspects of the project design: turbines had been laid out to minimize problems for the farmers; however, the province wanted turbines in a grid pattern. The delay was costly from both a time and financial standpoint.

The difficulty Millenergy BV encountered trying to get municipal approval and building permits demonstrates how local opposition impacted the permitting system. It, furthermore, reveals how policymakers' failure to comprehend and compensate for the delays inherent within the Dutch permitting system could result in failure to

[2] Environment for projects over 15MW and in special situations; waterworks if the project involves the use of dikes or other land within the waterworks jurisdiction (Spatial Planning of Wind Turbines).

achieve the national goals. The existing permitting system, where one or two people can block a project for years on end, clearly does not work. Millenergy BV's experience in Delfzijl was not unique. In fact, it mirrored events in so many Dutch communities that the problematic nature of the permitting system has come to the attention of national officials and politicians (personal interview March 22, 2005).

Lack of stakeholder communication

From the beginning, politicians and project developers committed the 'engineer's and planner's fallacy' by assuming since research indicated broad public support for renewable energy that Delfzijl residents would support local wind generation projects (Wolsink 2000). A significant difference, nonetheless, exists between wind energy as a theoretical concept and wind turbines as acceptable structures in the local landscape. Consequently, the mayor, municipal council, and developers – who treated the announcement of the Delfzijl South project as if 'the cathedral is built' – were surprised when local residents – who resented not having a voice in wind project development and siting discussions from the beginning – opposed projects. The actions of Stichting Windhoek, nevertheless, confirmed what researchers have long recognized: "lack of communication between the people who shall live with the turbines, and the developers, the local bureaucracy, and the politicians seems to be the perfect catalyst for converting local skepticism, and negative attitudes into actual actions against specific projects" (Krohn and Damborg 1999, 959).

Opposition stemmed from the perception that municipal officials under pressure to "allow projects because of Kyoto and Den Haag" had not dealt with the local citizenry openly and honestly from the beginning (personal interview February 22, 2005). Segments of the Delfzijl population felt marginalized and this bred a degree of resentment and distrust of the officials and developers involved with wind projects. Citizens' frustration intensified when their concerns were not taken seriously and dismissed as mere NIMBYism.[3] Since research on public responses to facility siting shows "the public are offended when they are treated as selfish and irrational," officials and developers should have anticipated local resistance to project proposals (Wolsink 1994, 851). Both stakeholders, nevertheless, found it easier to blame flaws in the permitting structure than their lack of communication with the community – an action which prompted the formation of a new political party, a shift in the makeup of the municipal council in 2000, and changes in the working relations for developers (i.e. permitting delays). Although communication with local residents may not have alleviated all concerns, at least it would have eliminated residents' fear of the unknown and minimized distrust of those involved in the process.

[3] Not-in-my-backyard sentiment.

Stakeholders' strategic actions

Delays in project realization in Delfzijl can be attributed not only to a lack of communication between the government and community members, but also to the fact that everyone involved had a double agenda. Very few stakeholders acted 'candidly.' While neither unexpected nor unique to this case, the impact on the local siting process is nonetheless significant as it fostered distrust and frustration among those involved. Examples of stakeholders' strategic moves include:

- Policymakers creating national wind policy based on overestimations of potential resources, available sites, and favorable public opinion – something that apparently has not changed with the formation of subsequent policy documents (Wolsink 1996).

- The Province of Groningen designating locations for concentrated development in Eemsmond and Delfzijl where they were a shareholder and could influence project realization. The province is both a shareholder privy to the organization's master plan and one of the approving bodies for wind generation projects.

- The province's establishment of the BLOW target at 165 MW. The Provincial Wind Coordinator's decision to contact a local developer to find out how much megawatts they were planning to develop can either be viewed as determining if an increase was possible or ensuring the targets would be achieved. Either way, it was a politically savvy move given the pressure from the national government to meet the target.

- A provincial official attaching his political future to realization of BLOW target. Political parties are very important in the Netherlands. Since his political future depends on achieving what the political party wants, wind projects in Delfzijl can be pushed through without any political repercussions because he is 'merely' carrying out a national directive.

- The Municipality of Delfzijl forcing developers to work together in order to minimize their own headaches and compensate for their lack of capacity to handle the directive passed down to them by national and provincial governments.

- Millenergy BV attempting to maximize profits and minimize procedural delays by building the Delfzijl South project such that an environmental permit is not required. As Dutch law states that projects less than 15 MW do not necessitate an environmental permit, Millenergy BV appears to be circumventing the environmental permit by constructing the project's 2 MW turbines six at a time.

- Groningen Seaports designing the Delfzijl Industrial project such that wind turbines can be removed if they interfere with attracting industries and in such a way that protects their political shareholders. If a firm can prove through reports that an existing wind turbine would be hazardous to their interest, it could be removed. This would allow local politicians to say "Yes, I'm in favour of green energy; however, if we do not remove it we won't be able to attract this company which would bring 'this' many new jobs."

- Stichting Windhoek's selective use of the press and judicial system to oppose wind projects. The foundation sometimes uses the local newspaper to start discussions with developers and municipal officials by making them aware of potential problems; other times the foundation files a legal complaint explaining the problems and lets a judge handle the situation.

- Stichting Windhoek's shift from local to national opposition. Most local opponents live in villages geographically concentrated around the site; however, their impact has begun to reach beyond municipal and provincial borders all the way to Den Haag. Leaders of Stichting Windhoek concluded that acting locally was not sufficient: it required significant energy and produced little results. Locally things happened because of projects. Provincially things happened because of BLOW. National policy drives actions at both levels; hence, something had to be done in Den Haag. Consequently, Stichting Windhoek joined a national foundation to achieve the greatest effect from their limited resources.

Summary of wind policy implementation in Delfzijl

The Delfzijl case study demonstrates how problematic implementing national policy can be for a municipality. Although establishing the BLOW covenant provided a framework and targets for local officials, "experiments with 'plans of approach' and 'covenants' as instruments for co-ordination have the shortcoming that, once the agreed policy measures have to be carried out, these measures have to follow the legal tracks of physical planning and environmental policy" (Bouwer 1994). In other words, covenants must be carried out to the letter of the law. This created timely delays for the realization of wind projects, as the lengthy permitting process for the Delfzijl South project demonstrates.

The permitting and procedural delays developers encountered can also be linked to policy changes, jurisdictional differences, and lack of stakeholder involvement. Even though "the Dutch planning system enjoys an image of a system that involves a significant amount of collaborative planning, in practice that process is mainly limited to consensus building between governmental agencies and authorities on various levels" (Wolsink 2003, 719). Typically only 'key' groups and individuals are involved

from an early point even though research and experience has repeatedly demonstrated that inclusion of diverse stakeholders is critical for the success of wind generation initiatives. The opposition of some Delfzijl municipal council members and segments of the population reveals "acceptance is not usually to be commanded;" lack of communication and involvement of stakeholders frequently fosters implementation problems, which impede the achievement of wind power generation mandates (Szarka 2004b, 10).

One of the most significant challenges the Delfzijl case brings to light is the difficulty municipalities face implementing national policy given capacity constraints. A recent study found "institutional constraints are more important than public acceptance" (Wolsink 2000, 62). If local governments do not posses sufficient capacity, then implementation of spatial policies will suffer (Priemus 2002). Delfzijl officials' insistence project developers collaborate was an attempt to compensate for capacity constraints; nevertheless, policymakers passing the implementation burden to the jurisdictional level with the fewest financial and personnel resources clearly influences the time required for project realization and national target attainment.

The Delfzijl case reveals both the pressure on municipalities to develop wind projects and provincial and national concern over repeated delays. When policymakers designed the BLOW covenant, they provided provinces authority to direct municipal spatial planning if a municipality failed to incorporate provincial plans into local plans by December 31, 2005. The provision offers a method of ensuring project realization to meet wind generation goals. Stakeholders and academics, nevertheless, wonder whether or not the province would make such a 'big' political move. While developers may desire such an event if for no other reason than it would simplify the situation by eliminating one bureaucratic level, other stakeholders questioned why those involved in drafting the BLOW covenant did not formulate an implementable policy which addressed both national and municipal needs instead of including an 'over-ride' clause which may or may not be used given the nature of the Dutch political system.

The Delfzijl experience: the pitfall of the policy and implementation gap

Despite government mandates, incentives, and subsidies, the implementation of national wind policy has turned out to be an arduous process in the Netherlands (Agterbosch et.al. 2004). The events in Delfzijl offer a textbook example of the obstacles that arose because policymakers failed to draft policy in such a way as to transform theoretical concepts into executable actions. A review of academic research and discussions with government officials support the case study findings. Some impediments to the fulfillment of Dutch wind targets can be attributed to social and

economic factors outside national government's control.[4] Nevertheless, policymaker's skewed perception of public support for wind generation projects and the omission of key stakeholders from policy discussions resulted in the formation of a national wind policy inundated with barriers to application.

From the outset, implementation has been plagued with difficulties due to inherent differences between policy development and realization. National, provincial, and local governments confront different pressures from different constituencies; hence, governments view policy issues differently. If policymakers fail to realize and compensate for such differences, those executing the policy will undoubtedly encounter problems – as seen in the Delfzijl case. Dutch officials made fundamental errors when drafting wind energy policy: "national policy was ba sed on the expectation that local authorities, who decide on the site selection and building permits, will consistently decide in favor of wind energy installations" (Wolsink 1996, 1081). When creating policy targets Ministry of Spatial Planning, Housing and Environment and Ministry of Economic Affairs officials, moreover, overestimated both the number of available wind power generation sites and public support for the development of those sites. Officials assumed sites which could be used for wind power generation, would be used for it, and citizens – which theoretically favored wind power generation – would support wind turbine construction on local sites. As the Delfzijl case demonstrates, the situation was not as simple as national officials believed, and siting wind turbines proved to be quite problematic given requirements of the Dutch planning system. Although the "application of wind energy is governmental policy,…changing a zoning scheme is a local political decision" (Wolsink 1996, 1085). Most local land use plans lacked the necessary zoning for wind turbines and had to be amended before a municipality could issue any building permits. This laborious and time consuming process for acquiring the zoning changes and building permits became even more so because local citizens challenged proposed projects. A number of government officials expressed surprised at

4 Failure to site turbines induced additional economic and political challenges to the realization of wind energy targets. Despite the government's attempts to stimulate projects through financial incentives, political and jurisdictional hurdles prevented realization of enough projects to support the creation of a domestic market "sufficient for serial production" (Wolsink 1996, 1085). Consequently, the EU's liberalization of the green electricity market on July 1, 2001 resulted in the importation of approximately 80 percent of green electricity consumed in the Netherlands (Energeia, 2002/2003 cited in Agterbosch et.al. 2004). The national government decided the following year to concentrate on developing wind and biomass electricity generation projects to meet renewable energy targets and determine if planning approval and building permit procedures could be streamlined to expedite realization of these projects (Junginger et.al. 2004, 1057). Nevertheless, despite increasingly favorable "economic and technical conditions for Dutch wind power exploitation," the importation of green electricity is preferred (i.e. less costly monetarily, politically, and socially) to installing new wind power generation facilities in the Netherlands, and the Minister of Economic Affairs recently announced foreign renewable energy may be used to supplement domestic sources in order to comply with renewable energy goals (Agterbosch et.al. 2004; Junginger et.al. 2004).

public resistance to a policy they believed conformed with public opinion favoring development of renewable energy sources. Nevertheless, its authors' inability to distinguish between general and project specific support when creating policy resulted in challenges for those tasked with implementation.

As the Delfzijl case illustrates, the national government's failure to include "the actors that actually execute the power over siting decisions…in the agreement with the central government" hindered realization of wind national policy (Wolsink 1996, 1087). Inclusion of local stakeholders would have aided in the formation of executable policy and fostered a sense of responsibility among municipalities to achieve the national targets. Since the BPW covenant did not obligate municipalities to participate, many municipal councils felt little impetus to work towards realization of national wind energy goals. A clear example of this was in 1996 when the government transferred from a subsidy to financial incentive system: "although subsidies were being awarded by Novem (an executive office of the Ministry of Economic Affairs), construction permits were not yet being awarded by local authorities, which is a clear inconsistency in government policy on different levels" (Agterbosch et.al. 2004, 7). Policymakers, nevertheless, omitted municipalities again when developing and signing the BLOW covenant, despite the consequence their absence had on meeting the BPW targets. While this time provinces were granted authority to step-in if local councils were not cooperating by the mid-point review, this 'safe-guard' might not have been necessary had the national government taken institutional and psychological factors more seriously and included municipalities from the beginning (Wolsink 1996).[5]

The situation in the Netherlands demonstrates a fundamental challenge to policy development: policies which are theoretically sound often pose significant challenges for those responsible for execution. Difficulties frequently arise when translating a 'big-picture' idea into policy that can be implemented on-the-ground, as well as when applying policy at the local level which was devised by provincial or national authorities. Dutch wind policy illustrates the first through the national and provincial governments' support for development and implementation of renewable energy – seen in the signing of the Kyoto Protocol and BLOW covenant respectively – but shift of implementation responsibility down the government chain without providing adequate

[5] Although incorporating municipalities in policy development could have increased chances of their participation in realization of national targets, mere inclusion in the development of a wind covenant does not necessarily indicate policy endorsement. Six national ministries signed the BLOW covenant, but wind energy may be a very low priority for some agencies. For instance, the Ministries of Land Conservation, Military Defense, and Transportation and Infrastructure may have signed BLOW in order to be in a better position to stop the initiative or cooperate only when it in their interest (i.e. other ministries are willing to make concessions to get a ministry to agree to something) (personal interview January 20, 2005).

policy support measures.[6] The challenges Dutch municipalities faced with policy implementation were compounded by the national government's formation of policy which conflicted with local interests and needs. The jurisdictional aspect of the problem is not unique to creating wind energy policy; nevertheless, the national government's failure to address it – especially when designing the second covenant – merely served to compound the problems which arose from formulating policy that did not corresponded with the specifications of the Dutch planning system and based on faulty assumptions (i.e. public support for wind generation projects and the number of available sites). As one researcher found, "the integration of plans may be possible, especially if they do not have a specified character with real (economic) consequences for societal groups and activities. In the implementa tion and the carrying out of the policy, however, problems arise" (Bouwer 1994).

[6] Their behaviour, nevertheless, mirrors that the of the EU which established concrete targets for renewable energy use among member nations in 1997 but failed to institute policy directives to assist them in accomplishing this aim until 2001.

VI. Lessons from Delfzijl: improving policy to aid implementation

Interviews with national, provincial, and local stakeholders reveal how bureaucratic issues have plagued national policy implementation locally, various stakeholders affected policy changes, and a lack of involvement by local groups hindered the realization of wind projects in Delfzijl and – ultimately – the achievement of the national renewable energy production goals. When questioned about their opinion of the outcome at Delfzijl, many of the stakeholders expressed the sentiment "we made the best out of the problems that got shifted on to our board." Nonetheless, many of the challenges stakeholders encountered in Delfzijl could have been avoided.

Instead of creating new policy to rush projects through the planning system or creating multiple bureaucratic layers, policymakers' efforts would be better spent designing policy which incorporates local, provincial, and national interests.[7] This is not a revolutionary idea. For over two decades, researchers have recommended policymakers drafting "policy on diffusion of energy efficient technologies should take institutional and psychological factors more seriously for becoming more effective" (Wolsink 1996, 1088). Thus, Dutch policymakers' inclusion of local stakeholders when developing and signing the BLOW covenant could have facilitated national policy implementation at the local level. Although decision-making processes that necessitate multiple players at multiple levels are inherently problematic and lengthy, the Delfzijl case study reveals failure to include local stakeholders in discussions is equally challenging and time consuming. Given supranational agreements and national targets, wind turbines have to go somewhere. The Netherlands is a small country with limited land for siting turbines. Inclusion of municipal officials in policy development might have facilitated the realization of projects because stakeholders could have found a balance between environmental, social, and industrial issues given known constraints. Stakeholders still might have determined Delfzijl was among the best locations for development of wind generation facilities in the province and possibly even the nation; however, the decision would have been more palatable locally because it included municipal representatives

Similarly, the municipal government's inclusion of Delfzijl citizens from the beginning would have minimized local challenges to proposed projects. People resented not having a say in the decision, especially since it involved a general societal benefit with a negative local effect (i.e. renewable energy production and construction of wind turbines next door). Hence, the opposition project proposals generated did not necessarily reflect citizens' attitudes toward the development of wind generation facilities in Delfzijl; it often stemmed more from the manner in which projects were developed (i.e. the decide-announce-defend model (Ducsik 1987 cited in Wolsink 1994)) or citizens' lack of trust of other stakeholders involved. Informing Delfzijl citizens

[7] I.e. the NIMBY Law and the proposed emergency law (*noodwet geluid*).

about projects during the development phase could have warded off much of the subsequent opposition by alleviating public concern about 'unknown' future changes in the local landscape – a landscape which had already been radically changed for the creation of the industrial area. Regardless of local sentiment about the construction of turbines, if the public had been involved from the beginning projects might already be producing electricity instead of the current controversy. Just as lack of communication leads to opposition, "information and dialogue is the road to acceptance" (Krohn and Damborg 1999, 959).

Even though academics frequently recommend early involvement and greater participation of all stakeholders, there are two fundamental problems with these suggestions: it is virtually impossible to do it effectively for a topic like wind energy and even if it could be done, it is highly unlikely it would be done. First, theoretically discussions with stakeholders could enhance a project's likelihood of approval; however, there is a big difference between negotiating with several groups and sixteen million individuals. Some people are never going to like wind energy and will fight every project to the highest court. Democratic decisions are difficult when any one individual can frustrate the system, as is the case in the Netherlands given the structure of the planning system. Second, the reality is too much money and power is at stake over the development of wind generation facilities for stakeholders to work together openly and honestly.[8] Hence, other methods of improving inter-jurisdictional policy development and application must be pursued.

Attempts to develop wind projects in Delfzijl clearly demonstrate the challenges inherent in macro policy development and micro-policy implementation. There is, unfortunately, no magic bullet; no easy fix. There are, nonetheless, several things which can be done to improve how macro-policy is implemented at local levels for the majority of stakeholders. First, policy needs to be designed so it fits within the planning and legal framework. That way if it is the best place for something, it will end up there fairly and in a timely fashion. Second, policymakers must distinguish between general and project specific support. Otherwise there will be problems when moving from a theoretical goal to actual policy. Third, policy must be based on actual numbers and reliable research findings. Inflating numbers or developing policy based on

[8] According to one stakeholder, Koop made a big mistake early on. They knew about both the Delfzijl South and North projects and could have optimized the situation in the beginning by putting all their cards on the table and combining the two projects. Instead, they chose to pursue the projects independently in attempt of making a higher profit. Market factors and politics, however, do not always match-up. There was a lot of money at stake, but because Koop choose to work with Essent and Siemens (i.e. Millenergy), they ultimately lost out to politics. Time delays resulted in new dictates that necessitate adjustments of their plans – activities that involved substantial time delays. Had they done it differently, all of the turbines would probably be operational by now. It was a financial gamble they took, but it did not pan out.

generalizations only enhances the likelihood of implementation problems. Fourth, policy must be developed in a way that minimizes jurisdictional conflicts, especially during the implementation phase. It may take longer to develop, but it will save time later on. Fifth, policymakers need to be cognizant of the limitations at other jurisdictional levels and design policy to compensate for this rather than exacerbate it. Sixth, recognize that policy, as well as policy changes, will limit options for municipalities and drafting new policy that contradicts existing policy merely creates additional problems. Seventh, government officials need to evaluate and improve how information is conveyed to the public. Frequently policymakers and public officials do not recognize how the citizenry perceives the information distributed by the government.

Underlying these recommendations, however, is the assumption stakeholders desire to see the siting process improved. Even if this is true, the question remains 'better for whom'? Politicians with higher career aspirations? Developers in search of financial gain?[9] Provincial residents who dislike the impact of solitary turbines on the landscape? Local citizens who cannot agree on desirable development patterns?[10] Municipal officials under-pressure to implement national policy?[11] Environmental groups divided between support of national agendas and local concerns? Just as there are critical differences between stakeholders' interests, so too are there fundamental differences in their definitions of 'improvement.' Does it involve better site design or fewer turbines? Does it mean earlier project realization or the prohibition of wind developments altogether? Establishing a definition for 'policy improvement' is essential to finding ways to address anything but the procedural problems in the current Dutch wind policy.

American planner Norman Krumholz once remarked, "there will be a future that will be worthwhile if we are committed to making it so." Policymakers have the capability of improving ways of moving from macro-policy development to micro-policy implementation. The question is whether or not they are committed to doing so.

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[9] Many national and provincial politicians want these projects; renewable energy is 'hot.' According to one project developer there is always going to be incentives for renewable energy projects. Nevertheless, the nature of the incentives is constantly changing but many firms are willing to take risks on project development (personal interview March 22, 2005).

[10] Some citizens do not necessarily like wind turbines and would prefer not to see them, however, they recognize that siting them in an industrial area where the landscape has already been damaged is not a 'big deal.' Since developers can construct high buildings in the area, wind turbines are not an issue of concern. Other citizens believe wind turbines are a threat to the polder and even more so the Waddenzee estuary.

[11] As of March 2005, the Province of Groningen had realized only 64 MW of the 165 MW target and the Minister of Economic Affairs had proposed the construction of a 50 MW site in *Pekelas*.

Appendix I: Dutch governments' planning duties and responsibilities

National government

Spatial planning at the national level incorporates the Central Government (*de regering)*, Parliament's First (*Eerste Kamer*) and Second Chambers (*Tweede Kamer*), Council of Ministers (*Ministerraad*), National Spatial Planning Commission (*Rijksplanologische Commissie*), National Spatial Planning Agency (*Rijksplanologische Dienst*), and Advisory Council for Spatial Planning (*Raad voor de Ruimtelijke Ordening)*. The Central Government is primarily responsible for proposing and implementing spatial legislation, while the Parliament accepts or rejects proposed legislation (First Chamber), amends and initiates bills (Second Chamber), and reviews policy implementation and budget expenditures. The actual creation of spatial planning policy typically occurs in the Ministry of Housing, Spatial Planning and the Environment (VROM) and is coordinated by the Council of Ministers (*Ministerraad*). The National Spatial Planning Agency (*Rijksplanologische Dienst)*, an official organization within VROM, supports ministers' planning efforts by "conducting research and giving advice on spatial planning matters and monitoring compliance with the Spatial Planning Act" (NSPA 1996, 9). Moreover, the agency prepares and presents recommendations to the National Spatial Planning Commission – the entity responsible for formulating interministerial planning policy. Notwithstanding the contribution each entity makes to Dutch spatial planning policy formation and implementation, the primary responsibility for designing national spatial policy falls on the Council for Spatial Planning and the Environment (*Raad voor Ruimtelijke Ordening en Milieuhygiene*) – whose members are ministers and secretaries of departments which influence spatial planning (NSPA 1996). Lastly, the Advisory Council for Spatial Planning oversees the dissemination, promotion, and discussion of national policy issues and objectives between the government and citizenry.

In the Dutch planning system, national plans and policy documents provide a basic structure and direction for provincial and municipal planning efforts. For instance, the national spatial planning policy document (*nota over de rumtelijke ordening*) – prepared by the National Spatial Planning Agency – details the general principles and guidelines for medium- and long-term spatial planning policy, while the national structure plan (*structuurschema)* outlines sector specific guidelines and principles critical to national planning policy (Faludi and Valk 1994). National government policy provides direction for spatial planning, but Dutch municipalities retain primary authority over development within their jurisdiction. Nonetheless, the national government – specifically the Minister of Housing, Spatial Planning and the Environment – possesses legal authority to issue directives (*aanwijzingen*) or exemption provisions (*uitzonderings-bapalingen)* to compel provincial and municipal government actions conform with national planning policy objectives (Valk 2002). National authorities, however, rarely

exercise their coercive power to make provinces and municipalities alter elements or sections of their zoning schemes.

Provincial government
Each of the twelve provincial governments guides the spatial development within its territorial boundaries. Provincial planning as a rule follows national directives; nevertheless, provinces enjoy a certain level of autonomy and control over the methods employed to realize national policy within the province. This stems, in part, from the fact provincial plans are not legally binding on all matters. Consequently, provincial planning serves more as a framework for municipal implementation of national policy (Newman and Thornley 1996).

The citizens of each province elect a Provincial Council (*Provinciale Staten)* and this body directs spatial planning through approval of the regional plan (*streekplan*) and spatial planning policy documents. Additionally, the Provincial Council makes appointments to the Provincial Spatial Planning Commission *(Provinciale Planologische Commissie)* – the administrative body charged with "discussing spatial planning issues and advising the provincial government on the implementation of the task required of that level of government under the Spatial Planning Act" (NSPA 1996, 13). Representatives from various national entities, interest groups, and non-governmental experts also sit on the Commission, and the elected Provincial Council is required to "consult the Provincial Spatial Planning Commission in advance about all measures and plans that affect spatial planning in the province" to ensure sound decisions are made (NSPA 1996, 13). Mirroring the division of responsibilities at the other governmental levels, the Provincial Executive (*Gedeputeerde Staten)* – like the Central Government at the national level – bares primary responsibility for creating regional plans and applying Provincial Council directives. Furthermore, civil servants in the Provincial Spatial Planning Agency (*Provinciale Planologische Dienst)* perform the day-to-day spatial planning research, registry, and policy application activities.

As with national policy directives and plans, those devised at the provincial level offer municipalities within its borders guidance and direction for their own planning efforts. The regional spatial plan (*streekplan*) provides an outline for future provincial development in accordance with national spatial framework plans; however, the regional policy document is not binding on all matters (Newman and Thornley 1996; Valk 2002; NSPA 1996). Regional plans generally detail "the chosen direction of development and, where necessary, of the phases in which that development can or should be completed…explanatory maps illustrating these main points where possible…and an explanation, setting out the ideas and results of relevant research and consultations that form the basis of the plan" (NSPA 1996, 14). In addition to devising the regional plan, a province directs spatial planning through establishing regulations

and directives pertaining to particular local land use plans and approving or rejecting proposed municipal land use plans (*goedkeuring bestemmingsplannen*).

Municipal government
Dutch municipal governments play a small part in the development of spatial planning policy yet are instrumental to the execution of spatial plans. The division of municipal planning duties mirrors that at the provincial level: the elected Municipal Council (*Gemeenteraad)* devises local spatial planning policy and plans, the Municipal Executive (*College van Bugemeester en Wethouders)* implements plans, and the Municipal Spatial Planning Department (*Dienst Ruimtelijke Ordening*) or private consultant offers technical assistance and support to the Municipal Council (Newman and Thornley 1996; NSPA 1996). The key differences between provincial and municipal planning efforts relate to planning authority: municipalities establish legally binding land use plans but provinces can reject said plans or withhold approval until demanded changes are made.

Dutch municipalities have the legal authority to produce local structure plans (*structurrplan*) and land allocation plans (*bestemmingsplan*). A local structure plan – similar to a regional spatial plan – offers a basic outline for future municipal development. Although municipalities are not obligated to create structure plans, the Spatial Planning Act stipulates they must devise land allocation plans for all rural areas and recommends development of plans for urban areas (Newman and Thornley 1996; Valk 2002). The only legally binding plan for Dutch citizens and government bodies, a local land use plan specifies future uses in particular areas. It is "undoubtedly the most important spatial planning instrument at the local level" as it is the basis for municipal decisions regarding the issuing of building and construction permits (*bouwvergunningen, aanlegvergunningen*), although municipalities can issue exemptions (*uitzonderings-bepalingen*) (NSPA 1996, 18).

Although the laborious process of creating and adopting land allocation plans takes place at the municipal level, both provincial and national governments can influence local spatial planning. Since 1994, provincial and national governments have had the authority to compel a municipality to alter a land allocation plan "to comply with national or provincial spatial planning policy. If there is a project of national or regional importance the Provincial Executive or the Minister may intervene directly in the municipal plan-making. They may oblige a municipality to grant an exemption to the local land use plan and issue the necessary permits (e.g. the building permit)" (NSPA 1996, 19). Since compliance with land allocation plans is mandatory, national and provincial governments can influence the direction local planning takes.

European Union
In addition to the impact of domestic government bodies on spatial planning, Dutch planning policy is influenced by international bodies. Following the Second World

War, a European community formed to facilitate international cooperation on topics of mutual interest. This union has evolved significantly from its tenuous beginnings as an agreement between six western European nations establishing a common coal and steel community to a consortium of twenty-five nations working on economic, political, environmental, and social objectives. The signing of the Treaty of Maastricht in 1992 signified the 'community' system's expansion into the European Union with its newly introduced policy areas and decision making procedures. Treaties between members confer authority to the European institutions (the European Commission, European Parliament, Council of European Union, and Court of Justice), as well as their policies and rulings.

As a member of the European Union, the Netherlands is required to integrate EU spatial planning rulings into its national plans. "EU policy statements on innovation, social exclusion, equal opportunities, rural development, urban environmental policy and unemployment all influence the context for national policymaking in its member countries…. 'Brussels' increasingly prescribes technical standards that have to be met by EU member states, for example with respect to pollution control, external safety, EIA [environmental impact analysis], etc." (Linden et.al 2004, 23).

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