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 THESIS

# Increasing the share of renewable energy technologies in the Netherlands by obtaining a Social License to Operate



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## **Abstract**

Efforts by the Dutch government to mitigate climate change by increasing the use of renewable energy technologies have raised the importance of public acceptance and potential impacts of energy projects. The Dutch government has set the ambitious target to raise the share of renewables to 16% of the total energy consumption by 2020. The perspectives from institutional, market and governmental levels differ towards the role of the government and towards the implementation of impact assessments when realizing renewable energy projects. In order to obtain a 'Social License to Operate' (SLO), impacts should be mitigated, communities should be involved and engaged in the early stages of the planning process and social impacts should be properly assessed. There is a need to build institutional capacity in order to successfully meet the ambitious energy target.

**Keywords:** Social Impact Assessment; Renewable energy; Social license to operate; FPIC; Energy policies.

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# 1. Introduction

Climate change, coupled with peak oil, high oil prices and increasing government support of sustainable development are driving increasing renewable energy incentives, legislation and commercialization (UNEP, 2007). Many European leaders have committed to increase the share of energy derived from renewable energy sources to respond to climate change and improve the national energy security (Barroso, 2008). By 2020, 20% of the primary European energy consumption must come from renewable sources (European Commission, 2010). For the Netherlands, the European Union imposed the target to 14% by 2020, as different targets are set for each Member State. The government Rutte II set the goal higher to 16%, which should contribute to the creation of green jobs and sustainable economic activity in the Netherlands (Rutte & Samson, 2012).

Whilst the Dutch government set the ambitious target to increase the share of renewable energy, intended spatial interventions are expected to have a range of social and environmental impacts (Rogers et al., 2012). This paper investigates the relevance of impact assessment towards successfully implementing renewable energy technologies; and how the (social) impacts of these renewable energy projects are being managed and mitigated in order to obtain a ‘social license to operate’ and successfully achieve the ambitious energy and climate targets. The main research question for this research is:

*How can policymakers and entrepreneurs obtain a ‘social license to operate’ in order to successfully implement renewable energy technologies?*

In order to answer the main question, the following sub questions have been set:

- What are the perspectives towards achieving the renewable energy target of 16% with current energy policy from the different sectors: governmental, market and institutional?
- How does local context of affected communities relate to planned renewable energy projects?
- How can community involvement in planning and siting decisions lead to better outcomes of planned spatial interventions for renewables?
- What role could Social Impact Assessment (SIA) fulfill and should SIA be integrated in the Dutch legal framework?

The first section starts with an introduction to the study, explaining the rationale, the problem definition and the structure will be clarified. In the second part relevant concepts will be explained in the theoretical framework to gain a better understanding of the contextual background. In the third section the methodology is discussed. In the fourth section the results and most important findings of the research are presented and discussed and finally reflexive analysis in the conclusions will be made.

## **2. Theoretical framework**

### ***2.1 Social Impact Assessment***

The Dutch government requires an impact assessment before granting a permit for a project. That is why an Environmental Impact Assessment (EIA) is a legal requirement for initiating a project in the Netherlands (Rijkswaterstaat, 2013). The purpose of EIA in the Netherlands is to consider the environmental issues in the decision-making process (CMER, 2012). However the environmental issues only include the biophysical elements although tangible cultural heritage is also taken into account (Boeve et al., 2004), but an official social impact management process is not required by the Dutch law unlike other countries. E.g. in Queensland, Australia, resource projects must submit a Social Impact Management Plan (SIMP) as part of their EIA (Franks et al., 2009); in South Africa the government introduced the social and labour plans (SLP) in 2004 as a condition for mining projects (SADME, 2006).

While SIA generally means analyzing, monitoring and managing the social impacts deriving from development, there are several understandings of the term 'SIA' and is regarded a field of research and practice, or even a paradigm consisting of a body of knowledge, values and techniques. In the "International Principles for Social Impact Assessment", Vanclay (2003, pp. 8) defines the concept as followed: "Social Impact Assessment includes the processes of analyzing, monitoring and managing the intended and unintended social consequences, both positive and negative, of planned interventions (policies, programs, plans, projects) and any social change processes invoked by those interventions. Its primary focus is to bring about a more sustainable and equitable biophysical and human environment". However, EIA and SIA have developed as separate entities, Slootweg et al.

(2001) states a full appreciation of all impacts requires a thorough understanding of all the changes, both biophysical and social, invoked by planned spatial interventions. The author attempts to present an adequate framework for integrating social and biophysical impact assessment, as biophysical impacts also have social impacts and social impacts could cause biophysical changes in the environment, resulting in biophysical impacts. The conceptual model from Slootweg et al. adapted to renewable energy projects along with its pathways to derive biophysical and human impacts resulting from the spatial interventions (see fig.1).

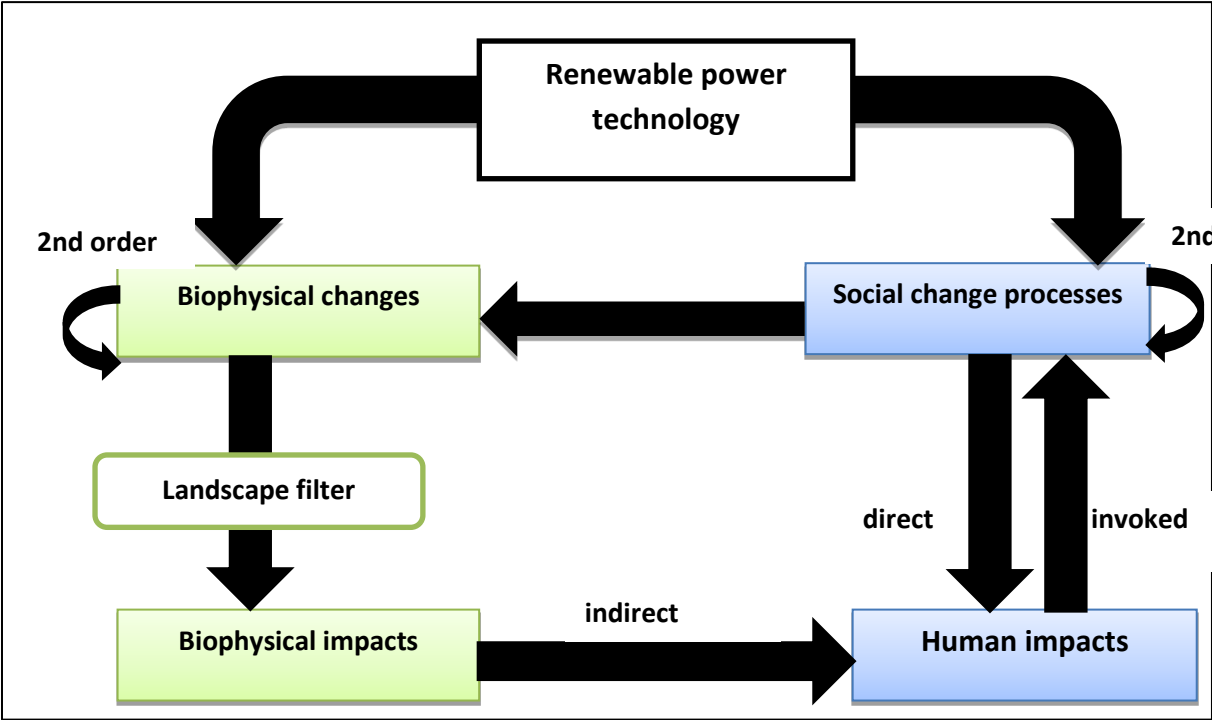


Fig. 1 Adapted model from Slootweg et al. (2001): Integrated framework for social and environmental impact assessment.

Since the *Brundtland Report* (WCED, 1987) the concept of sustainable development has been widely accepted and many recognized the idea that development and environment have strong interrelations. For example, the World Bank recognizes the social dimensions of climate change and promotes Poverty and Social Impact Analysis for climate change development policy operations (World Bank, 2012). In their function evaluation, Slootweg et al. (2002) asserts EIA and SIA can become important project planning instruments when applied in the earliest phases of the decision-making process. Because the assessments provide information on the consequences of specific development activities in a way that enables decision-makers to take these consequences into account and can use it in the process leading to a final decision and creating mitigation measures.

Proper application of EIA and SIA could improve the quality of project proposals significantly and, therefore, lead to important savings on project implementation because of reduced negative impacts and increasing the acceptance of the project objectives.

A practical example of an application of the conceptual model of Slootweg et al. (2001) is the study of Langbroek & Vanclay (2012) where they used the model for their conceptual framework for a better understanding of the social impacts of the planned windfarm 'Windpark Noordoostpolder'. It is discussed that the construction of the Windpark Noordoostpolder had major social impacts on the inhabitants of Urk. The people of Urk had the feeling that they did not have influence in the planning process for the wind farm, especially because the plan was not communicated until the last moment, resulting in long lasting harm. The authors demonstrate the project did not have a 'social licence to operate' (SLO) because of all the appeal procedures from the Urk people. Recommendations of the case study for project developers are that not only informing communities, but also involvement and engagement of affected communities at a very early stage in the planning process are needed to achieve a SLO (Gunningham et al., 2004). This would allow communities to have a say in the process; their worries can be heard, addressed and potentially accommodated; give people the chance to work through the process and their feelings can be discussed; results can be negotiated where the social impacts are brought to a minimum; and room for consideration of the options to maximize the benefits for local communities (Esteves & Vanclay, 2009; João et al., 2011). This study uses the work of Burdge et al. (2003) and Vanclay (2002) for a better understanding of social impacts.

## ***2.2 Social license to operate***

Albeit a precise meaning of SLO remains contested (Shepard, 2008), SLO is often defined as "demands on and expectations for a business enterprise that emerge from neighborhoods, environmental groups, community members, and other elements of the surrounding civil society" (Gunningham et al., 2004, pp. 141). Understanding of the concept is based on stakeholders to live up to social standards and expectations, with the terms of indulgence often more demanding than existing form of legislation (Idemudia, 2009). Obtaining a SLO could result in advantages for business such as improved market competitiveness and brand recognition, ongoing resource access, less restrictive rules, positive impacts on employees, improved company reputation and enhanced relationships with stakeholders (Gunningham et al., 2004; Joyce & Thompson, 2000; Luo & Bhattacharya, 2006). The potential implications of not obtaining a SLO on corporate legitimacy and

viability highlight the importance of, and need for, strategies that assist corporations to achieve a SLO (Idemudia 2009).

Considering that SLO is a way of granting collective consent, it is meaningful to give a definition to the society that may legitimately grant such authorization. In literature there are several discussions about the identification and inclusion of interested parties who have a legitimized entitlement to account for a part of a community or the whole community (Burdge & Vanclay, 1996; Francis, 2001). It is risky to define a community too narrowly, because it can ignore key stakeholder groups and communities (community being a subset of society), whereas a definition being too broad can result in the inclusion of stakeholders without any interests, unnecessary increased consultation costs and time and the definition could mask important differences between stakeholder groups. This paper takes into consideration the broad range of communities and stakeholders that are affected by or interested in renewable energy projects.

### **2.3 Free, Prior and Informed Consent.**

An important concept emerging in the field of international law is that of 'Free, Prior and Informed Consent' (FPIC) (Esteves & Vanclay, 2011). Each word of FPIC contributes to meaning of the concept, in both formal and more general utilization. *Free*, in the sense that companies or governments should not intimidate, compel or manipulate communities. *Prior*, given that consent for the project should be sought and received from the community before any activity is initiated and enough time is provided for consideration of the proposal and its implications. *Informed*, meaning that project developers give full disclosure of their plans and also making the information understandable for the affected community, including the likelihood of experiencing specific (social and environmental) impacts. Finally, *Consent* as in giving communities a real choice, the power say yes, distributional justice and beneficial opportunities for them, or to say no if the deal is not satisfying (Colchester, 2010). There are some requirements for a proper and fair FPIC process to be undertaken. Mainly all parties should have sufficient resources and capacity to participate effectively, have sufficient time to consider the issues (Esteves & Vanclay, 2011). Also the information collection and consideration process about the impacts should be properly undertaken, making an effective procedure of agreement possible.



Esteves & Vanclay (2011) explain that although the concept developed in the context of the self-determination of Indigenous people and is an important feature of the United Nations Declaration on the Rights of Indigenous Peoples (2007), it is being applied to all project-affected communities (Hanna & Vanclay, 2013; Hill et al., 2010). Moreover, Miranda et al. (2005) state that FPIC is similar to the concept of a SLO. However, while the FPIC concept concerns human rights with legal standing in certain jurisdictions, a SLO is considered an informal mechanism which relates to “the degree to which a corporation and its activities meet the expectation of local communities, the wider society, and various constituent groups” (Gunningham et al., 2004, p. 143).

### **3. Methodology**

In order to answer the research questions several methods of qualitative data collection were used. As secondary data, books, journals, archives and official publications such as policies and agreements have shown to be valuable to be reviewed for contextual background and a strong foundation. For the collection of primary data, five semi-structured in-depth interviews were conducted. This method of qualitative data collection was chosen because as in-depth interviews provides rich, in-depth qualitative data and as the most effective way for answering the research questions as interviewing allowed to be flexible enough to explore tangents questions (O’Leary, 2010). Along the process a fieldwork diary was used for making the most out of the fieldwork experiences and personal reflections (TDA, 2008). The interviews were formal, semi-structured and one on one. Awareness was made that each respondent would provide different answers and this would also depend on their personal and contextual background. As such, every interview format was adapted to each respondent in order to facilitate a proper and fitting interview. After each interview reflections were made on the process in order to improve the interview format. The results of the research were offered to the five key informants, as well the interview transcripts, so the interviewees could complete or clarify their statements. The final version of the thesis will also be provided to the respondents.

To provide a complete overview, respondents with different background were interviewed, including the business sector, governmental levels and institutional sector. Each respondent have a close relation with (renewable) energy in their field of work and fulfill a significant task in the energy sector. In the period of April to May 2013 the following five respondents were willing to share their knowledge and expertise for my research:

- R. Paap, Green gas expert, Senior Project Manager Green Gas at Energy Valley, a high admired research institute.
- Prof. R. Herber. Geo-science professor at University of Groningen. Former head of Exploration at Shell and former Deputy Director of the Dutch Petroleum Company (NAM). With more than 30 years' work experience, R. Herber has a lot of knowledge and expertise in (sustainable) energy and corporate perspectives. Together with his PhD student, Herman van Os, asked by the Ministry of Economic Affairs to develop a decision model for the implementation of energy projects.
- H. van Os. PhD Geo-Energy at the University of Groningen, Faculty Mathematics and Earth sciences.
- D. de Vries. Department Program and Project Management and Deputy Program Manager Energy at the Province of Groningen and Energy Academy & College.
- I. Post. Cluster Leader Sustainable Energy at the Ministry of Economic Affairs, Agriculture and Innovation.

For the data-analysis all interviews were transcribed and while analyzing the data, divisions were made by topic for a clear overview and comparisons could be made with ease. To give a clear overview of all the perspectives from the experts, the results are presented in spreadsheets (see table 1-3).

## 4. Results

### ***4.1 Meeting the 20-20-20 targets: policy deficit & lack of political stability***

Looking at the 20-20-20 targets set by the European Commission, the prospects of actually achieving the energy and climate targets are not reassuring (Milieuloeket, 2010; PBL, 2012 Rabobank, 2012). Also some interviewees state it is highly unlikely for the three key objectives if they will be achieved by 2020. There are various factors which have influenced the complex process towards achieving the ambitious targets. The perspectives of the governmental role towards meeting the increase of renewables is diverse from different levels (see table 1). Given the targets are nationally bounded and the government largely responsible for the implementation, most arguments are government and policy related. Herber states it is evident in the Energy Report (2011, pp. 20): "The main lesson

to be drawn from the many scenarios and studies on the future energy supply is that the targeted reduction in carbon emissions in 2050 means that Europe cannot afford the luxury of ruling out certain options in advance". Post agrees and explains therefore the government should be open to all energy options. Herber admits it is a beautiful statement, but it just would not work, because its vision is too broad and diverse which is problematic for a successful implementation. The government could also focus on one target, like the greenhouse gas target, as advocated the Royal Dutch Shell Chief Executive Officer P. Voser (Bloomberg, 2013).

There are also differing opinions about the role of the government. Should the government adopt a regulatory role or a stimulation role and leave it to the market? Van Os and Post do think so because they think the market is more effective and cost efficient, and if there is a demand for renewable energy, there must be a market party who responds and makes a business of it (see table 1.). Herber is not convinced of the liberalized market. For example he refers to the cheap coal coming from the United States. The coal competition is a result of the shale gas production in the United States. Because there is much natural gas available, the price of gas in the United States is much lower than that of coal, and switches the power supply on at American gas. The U.S. exports its coal in large quantities to Europe, where the opposite happens: the energy companies choose cheap coal generated electricity and gas plants are increasingly turned off (Volkskrant, 2011). CEO of GasTerra G. Lankorst argues this is not only problematic for the gas sector, but also for the European climate policy as coal generates more greenhouse gas emissions than natural gas and makes renewable energy generation less attractive for investments (GasTerra, 2012; Telegraph, 2012).

Another issue shown in table 1 is the lack of political stability in the Netherlands. In the past 10-15 years the country is controlled by many different cabinets (Rijksoverheid, 2013), resulting in "terrible staggering policies" over the past 10 years, as De Vries describes the situation. Van Os agrees and adds that many political parties promised a lot in order to collect votes, but tangible solutions were missing. Furthermore, he states in order to make a decision, you need political stability. Since that was missing the image arose that the government cannot be trusted. Breukers & Wolsink (2007) have emphasized the importance of stability and reliability from an investors' perspective for successful implementation. In order to successfully meet the climate and energy targets, it is essential that the government recovers confidence of its residents and industries. The 'asymmetry principle' from risk research tells us that trust is fragile, since it is typically not made quickly, but it can be rapidly destroyed (Slovic, 1993). De Vries recommends the government to develop a system

which provides the people clarity, also for the long term, and so regaining stability and trust. Huijts et al. (2007) show empirical evidence on the role of trust in their research to social acceptance of carbon capture and storage (CCS). In their survey among citizens living nearby a potential storage site showed that the general public appeared to have limited knowledge about CCS and surprisingly not much desire for more knowledge. Huijts et al. conclude that trust in professional actors, such as government, industry and NGO's, is particularly important. Furthermore, trust in each of the professional actors appeared to depend upon perceived intentions and competence, which in turn appeared to be linked to perceived resemblance of objectives thinking between trustee and constituent.

<b>Background:</b>	<b>Governmental role towards meeting the ambitious 20-20-20 targets?</b>
<b>Institutional</b>	<p><b>Paap:</b></p> <ul style="list-style-type: none"> <li>• Research and development is most important source of investment;</li> <li>• The government should improve their vision, now it is too diverse;</li> <li>• Encourage entrepreneurial urge;</li> <li>• Increase public acceptance of renewable energy technologies;</li> <li>• Create space for public debate.</li> </ul> <p><b>Van Os:</b></p> <ul style="list-style-type: none"> <li>• Create political stability as a highly necessary condition for trust;</li> <li>• Develop a long-term vision;</li> <li>• Make specific choices;</li> <li>• The lack of stability is one of the reasons why there is no concrete energy policy, it is important to gain more public confidence;</li> <li>• Stimulate instead of regulate: leave the initiation to the market. The government should provide a framework within which the market can operate.</li> </ul>
<b>Market</b>	<p><b>Rien Herber:</b></p> <ul style="list-style-type: none"> <li>• Pursue transparency and clearly communicate the plans to the population;</li> <li>• Create room for public debate;</li> <li>• Long vision needed: where are we going, why are we choosing that way and how are we going to get there. Do not leave it all to the market;</li> <li>• Make the preconditions for the structure visions narrower, they are too flexible now.</li> </ul>
<b>Governmental</b>	<p><b>De Vries:</b></p> <ul style="list-style-type: none"> <li>• Government should provide triggers for the market to invest in renewables;</li> <li>• ETS system should be taken under construction;</li> <li>• Stimulate micro generation energy;</li> <li>• Create a system that provides more long-term clarity on what the government wants with their energy policy in order to win back more</li> </ul>

<b>Governmental</b>	<p>confidence and stability;</p> <ul style="list-style-type: none"> <li>• Create awareness of the current situation regard energy policies;</li> <li>• Compensate people affected by projects: financial benefits.</li> </ul> <p><b>Post:</b></p> <ul style="list-style-type: none"> <li>• A broad energy mix is needed to achieve the target of increasing the renewable energy share;</li> <li>• Price of carbon dioxide should be raised in order to stimulate renewable energy projects;</li> <li>• Let the market choose the best renewable energy technology that is not up to the government. The government should only stimulate the market;</li> <li>• Create public support of renewable energy innovations.</li> </ul>
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Table 1. Different perspectives from institutional, market and governmental levels towards the governmental role in increasing the share of renewables.

#### ***4.2 Relevance of location and contextual background***

Another interesting CCS-related case can be found in Barendrecht, the Netherlands, where a carbon-dioxide storage project was planned but has been canceled due to a major lack of public support (NOS, 2011). In 2011, the Dutch government decided to refrain from the underground storage of carbon dioxide in Barendrecht and the municipality's Aa en Hunze, Marum, Grootegast (see fig. 3). The plans were met with great public resistance. As minister Verhagen (2011) stated "I do not take any decision that causes unnecessary anxiety". Since these plans are called off, the release of large quantities of CO<sub>2</sub> into the atmosphere (from fossil fuel power plants and other industries) will not be prevented. While the IPCC (2011) sees CCS as a potential means of mitigating the contribution of greenhouse gas emissions to global warming, this has been one of the major factors countering the achievement of the 20% reduction of greenhouse gas emissions. The other two being the increasing usage of the relatively cheap and more polluting (than gas) energy source from the United States (BBC, 2013); low prices of CO<sub>2</sub> certificates facing high costs of carbon dioxide storage (Kennislinc, 2012).

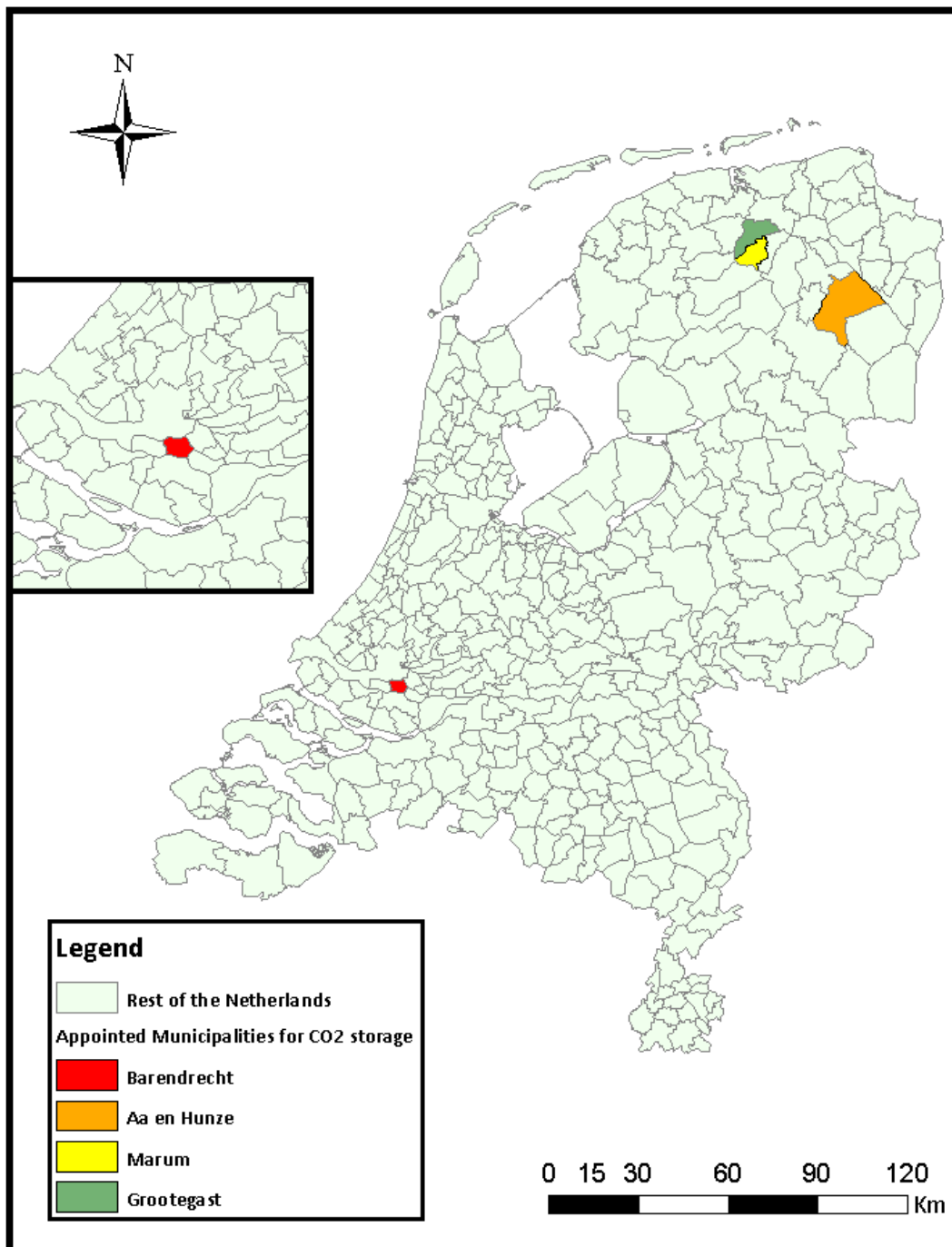
Having worked for years intensively with potential locations for CCS in the province of Groningen, De Vries claims that the biggest flaw in the process of CCS realization in the Netherlands was the location of choice: Barendrecht. Looking to the historical background of Barendrecht, the village have been coping with prior uncomfortable projects faced with a poor planning process and unfair decision-making, which resulted in a clear lack of trust and thereby making the community extra vulnerable to experimental projects. De Vries admits that an implementation of a SIA in the early stage of the process could be particularly valuable in predicting the (social) impacts of the planned

intervention by analyzing, monitoring and managing the intended and unintended social consequences. Herber agrees and clarifies that the contextual background is important to understand the people with whom you are dealing (see table 2.). He states that history and local identity often is underestimated. Devine-Wright also recognizes this conceptual and practical importance of local opposition faced by energy projects and presents a framework that “provides a psychological account of public responses that should be seen within a larger multi-disciplinary context of economic, political and sociological factors that shape the histories of places, the policies and procedures shaping development and the abilities of individuals and groups to actively support or oppose change” (Devine-Wright, 2009, p. 438).



Fig. 2. People of the municipality of Barendrecht demonstrating against carbon dioxide storage. The sign says 'Nee tegen CO2' [No against CO2]. Source: AD, 2009.

# Locations Storage Carbon Dioxide in the Netherlands



Source: Gemeentekaart 2011

Fig. 3. Map showing the locations of the appointed locations for the storage of carbon dioxide.

### 4.3 Public participation and involvement

Several SIA researchers have emphasized the significance of public participatory in the process. Burdge & Robertson (1990, p. 83) demonstrates that “public involvement has the potential to benefit both the project proponent and the community in several ways”. The interviewees were asked how affected communities could be involved in the planning and decision-making process of renewable energy projects. Different answers were given (see table 2.), but the similarities are evident: it is important to know the contextual background, make use of people’s tacit knowledge, inform local communities and people should be able to co-invest and thus benefit from projects.

A closer look on the project Windplan in Wieringermeer shows how adequate room was created for public engagement and in addition, residents extend the benefits from the generated wind energy in their municipality (Windplan, 2013). The policymakers recognized that the opportunities to participate in the plan contributed significantly to increasing public support. From the process of realization of the Policy Note Participation Plan Wieringermeer Wind the following objective was formulated: “enhancing public support and mental ownership of the Wind Plan Wieringermeer in the community” (Municipality of Wieringermeer, 2011). Based on this objective, three premises have been formulated. First one is the financial and social returns from the great contribution that the community provides to the generation of renewable energy; second, there should be simple feasibility of participation options and long-term visibility and lasting appreciable for the community; third, appropriateness of participation opportunities within the business and financial framework of the wind plan as a whole. The recognized and reinforced public support, enabling many opportunities



to participate and the benefit scheme for residents makes the Wind Plan Wieringermeer an adequate example for future renewable energy projects.

Fig. 4. Wind turbine at the Wieringermeer Wind Farm in the Netherlands. Source: Power-Engineering, 2012.



Background:	Improving community acceptance: involvement and engagement
Institutional	<p><b>Paap:</b></p> <ul style="list-style-type: none"> <li>• Entrepreneurs should communicate plans clearly to the local community, pursue transparency and involve them to certain heights to decision-making and siting process.</li> <li>• Create opportunity to co-invest and thus benefit from projects.</li> <li>• Realize projects as far away from residential areas.</li> </ul> <p><b>Van Os:</b></p> <ul style="list-style-type: none"> <li>• Participation is fine, but the subjects on whom they have say in, should be adapted to local knowledge. Create a clear framework in which locals can influence upon.</li> <li>• Entrepreneurs should call upon their local knowledge; they have actually understanding of the area. Give them ownership.</li> <li>• By involving people within the process, then there is also drawn a border around them, facing the risk people are being unfairly excluded. That is why it is important for policy makers and entrepreneurs that they should be able to argue what groups should and which groups should not have a say in the process, only than good participation is possibly.</li> <li>• The final decision should remain with the competent authority, minorities (local communities) should not decide for the majority (general) that is not democracy.</li> </ul>
Market	<p><b>Herber:</b></p> <ul style="list-style-type: none"> <li>• People are proud beings; they would like to have some contribution to the project.</li> <li>• The contextual background (culture, history, local identity) is important to understand the people with whom you are dealing</li> <li>• They know the area, use their tacit knowledge.</li> <li>• Let the locals have a justified sense of self-esteem. However they are not the owner of some project, they had a part in the decision-making process.</li> </ul>
Governmental	<p><b>De Vries:</b></p> <ul style="list-style-type: none"> <li>- It is important to inform local communities about projects. But the problem is the fact that people are easy to mobilize around specific projects. For example, when the media tells that CO2 storage is planned in a municipality, the next day you have an action group. If the province organizes an information evening to explain its energy policy, that only a few enthusiasts appear.</li> <li>- Creating awareness of projects can slightly increase the public acceptance around projects.</li> </ul> <p><b>Post:</b></p> <ul style="list-style-type: none"> <li>- Local participation is subject to the local context. She demonstrates to a wind power project in the municipality Wieringermeer, the Netherlands, as a good example.</li> <li>- Affected local communities should be involved to the decision-making process as soon as possible.</li> <li>- The community should be provided with as much information as possible. This is mainly the task of the initiator.</li> </ul>

Table 2. Interviewee's statements about increasing community acceptance.

In table 2, Van Os and Herber state that entrepreneurs should call upon the tacit knowledge of local people, because they know the area, giving them ownership by involving communities to siting decisions in the early stages when there is still the option to adjust the most of the plan. The importance of local ownership is also recognized by Breukers and Wolsink (2007). The authors recommend three crucial factors determining significantly the relative success in implementation of renewable energy technologies. Facilitating local involvement, local ownership and institutionalizing participation in project planning would provide a better acknowledgement and involvement of the multiple interests (economic, environmental and landscape) that are relevant at the local level of implementation.

The implementation of renewable energy technologies is very difficult without institutional changes. Transparency and participation are needed to create perceived fairness and trust. Wolsink (2007a) states we have to move from technocratic and corporatist styles of planning carried out by political, economic and scientific elites. Trust in authorities has been shown of great importance for potential investors; they need to be able to trust the government's real commitment to renewable energy policies. The best means for policymakers and developers to facilitate the development of renewable energy technologies such as wind mills and bioenergy plants is to build institutional capacity: relational resources, knowledge resources and capacity for mobilization (Healy, 2006; Breukers, 2007). This is possibly by drawing on social capital and collaborative approaches to planning (Rydin & Hofman, 2004).

#### ***4.4 Role of Social Impact assessment***

Furthermore, the experts were introduced to the concept of Social Impact Assessment and were asked how assessing and mitigating social impacts could be valuable in the planning process of renewable energy projects, as proper application of SIA could improve the quality of project proposals and could lead to important savings (time and money) on implementation of projects because of the reduced negative impacts and increased acceptance of the project objectives (Slootweg et al, 2001). Table 3 shows the most relevant outcomes of the discussion. It is evident that there are corresponding perspectives on the importance of managing social impacts with practitioners from the SIA community.

Firstly, as demonstrated by De Vries there is the recognition that a SIA can become an important project planning instrument and is most effective in the earliest stages of the decision-making process. As such an assessment can provide information on the impacts of developing renewable energy projects in a way that allows these impacts to be taken into account and used in the process leading to a final decision and also for mitigation measures demonstrate Slootweg et al. De Vries also explains that adjustments in development plans in the early stages show the most potential. Secondly, Vanclay and Esteves (2011, pp 11-12) demonstrate SIA essentially involves gaining a good understanding (i.e. profiling) of the affected community, or as Herber puts it is : to study the culture, the history and the identity of affected communities, to understand the differing needs and interests of the various groups. Thirdly, a fundamental SIA principle for development demonstrates that local knowledge and experience should be incorporated in any (Vanclay, 2003). In the interviews Herber, De Vries and Van Os acknowledge the value of using local knowledge in the siting decisions (See table 1. & 2.). The CCS case in Barendrecht is an adequate example of the importance of locational background knowledge. The use of local knowledge will not only result in improving community's consent towards the interventions, but also enable communities to become a part of the planning and decision process (Burdge & Robertson, 1990). Finally, this engagement in line with the SIA activity of creating participatory processes and deliberative spaces to facilitate community discussions about the acceptability of likely impacts, proposed benefits and community input in the SIA process, which can result in a negotiated agreement with a developer (Esteves et al, 2012).

#### ***4.5 Why the experts think SIA should not be integrated in the legal framework.***

In table 3 most interviewees have a positive attitude towards SIA although they are not convinced that SIA should be integrated in the planning process along the Dutch EIA as promoted by many impact assessment practitioners (i.e. Burdge, Esteves, Slootweg & Vanclay), or become an official planning instrument required by the law like the SIMP in Australia. Several arguments were given in the interviews. First there is the lack of experience of actual assessments of social consequences in the Netherlands explains Van Os. Van Os agrees and asks why oblige entrepreneurs an additional task which they have little understanding of. A second argument they both give is the fact that some social impacts are already taken into account in the planning process by companies and Post adds that some of the social impacts are already incorporated in the EIA (Infomil, 2013).

A final argument was given in the interviews when discussing the concept of Free Prior and Informed Consent, Van Os was skeptic about informing people. He told that if you give people enough information about a renewable energy project, that doesn't mean it will improve the social acceptance. This idea of information deficit is also recognized by Wolsink (2007b), where he states there is nothing wrong with the idea of improving public knowledge about renewable energy but this is not likely to change attitudes. Also many 'facts' about wind power, ranging from its environmental soundness to the dangers posed to a reliable power supply, are contested and used by both supports and skeptics (Devine-Wright & Devine-Wright, 2006). Knowledge about wind power has no clear relation with attitudes (Wolsink, 2007a).

All experts disagreed with the last part about giving *consent*, as in giving communities a real choice, the power to say yes, bringing distributional justice and beneficial opportunities for them, or to say no if the deal is not satisfying (Colchester, 2010). It is precisely this two-way given, yes or no, which yielded the most disagreement. Some experts gave alternatives to this last part. De Vries (2013) states that people should be given the power to influence the process, to give better options. Herber adjusts it to giving people the room to have input in the planning process. Post also thinks the people should not be given the power to say yes or no to a project, because then the success rate of renewable energy projects will fall dramatically. Post admits people should be given consultation, information and all interests should be balanced. But at some point Post advises, in order to take the ambitious targets serious, you need persistence power as a government to draw a line.

Nonetheless the interviewees were not completely convinced SIA should become a national guideline, there is definitely room for the planning project instrument SIA. Given the political situation in the Netherlands, policymakers should only recommend firms to conduct a SIA. It should be recommended to entrepreneurs because it is their responsibility as they have an interest to realize the project (De Vries, 2013) and they want to obtain a 'social license to operate' (Van Os, 2013) from which business can perceive significant advantages (e.g. Gunningham et al, 2004; Joyce & Thompson, 2009). Van Os also demonstrates SIA should not be a tool to push projects through, but as a means of process optimization. An important point De Vries notes is that the results of the conducted impact assessments by project developers should be shared with other companies and policymakers. This collection of social profiles would allow knowledge capacity building resulting in improved evaluations and outcomes of the impact assessment process and the planned intervention itself.

Background:	What do you think of the concept of SIA and should it be integrated in the Dutch legal framework?
Institutional	<p><b>Paap:</b></p> <ul style="list-style-type: none"> <li>• It is important to assess the social impacts, but not with every project, because it costs (extra) time and money;</li> <li>• Good to use to create awareness;</li> <li>• Hard to integrate. No experience in the Netherlands.</li> </ul> <p><b>Van Os:</b></p> <ul style="list-style-type: none"> <li>• Social impacts are already implicitly assessed in the EIA;</li> <li>• Do not require a SIA by law, but recommend it as the government in order to lower public and local resistance;</li> <li>• Why oblige entrepreneurs an additional task which they have little understanding of;</li> <li>• Responsibility of the business/entrepreneur as they want a Social License to Operate;</li> <li>• SIA not as a means of pushing projects through, but as a means of process optimization.</li> </ul>
Business	<p><b>Rien Herber:</b></p> <ul style="list-style-type: none"> <li>• SIA can and should play a part in the implementation of the 20-20-20 policy.</li> <li>• Context counts, it is essential to study the culture, the history and the identity of affected communities.</li> <li>• A SIA is the basis for the measures to be taken.</li> <li>• SIA is important in order to give people ownership.</li> <li>• In order to achieve a transparent decision path, a SIA is needed in the case of the footprint and risks of such energy projects.</li> </ul>
Governmental	<p><b>De Vries:</b></p> <ul style="list-style-type: none"> <li>• Social impacts are implicit already taken into account at spatial interventions.</li> <li>• Entrepreneurs have an interest to realize a project, so it is their responsibility to conduct a SIA.</li> <li>• It is important to share the results of such impact assessments.</li> <li>• Not convinced the assessments should be conducted through the whole process. Most effective in the early stages when you still can adjust the most of the planning and siting decisions.</li> </ul> <p><b>Post:</b></p> <ul style="list-style-type: none"> <li>• The national government does take these social impacts into account.</li> <li>• In the Dutch EIA, called the MER, which is incorporated into law, the environmental impacts are quite specific being monitored and managed; the social impacts are also taken into account, but not so specific.</li> </ul>

Table 3. The expert's perspectives on the concept of Social Impact Assessment (SIA).

## 5. Conclusions

Findings from in-depth interviews and literature have shown it is important for the government to develop a clear long-term vision for its energy policy. In order to regain the trust of residents and stakeholders the government should recover the necessary political stability if they want to achieve the 20-20-20 targets. The CCS case study in Barendrecht revealed that contextual knowledge counts. Interviewees demonstrated SIA as a valuable planning tool to profile affected communities and gain a better understanding of the local stakeholders. Whereas the wind farm in Urk and the CCS pilot in Barendrecht have shown local knowledge should be used for better siting and planning decisions of renewable energy technologies and public engagement should be advocated, there stands the wind farm Wieringermeer an adequate example of enhanced public support and local ownership (Windplan, 2013).

Literature study reveals that impact assessment practitioners plead that SIA should be integrated in the legal framework (i.e. Burdge, Esteves, Slootweg & Vanclay). This study shows that the interviewees with governmental, market and institutional backgrounds do value SIA as it leads to mitigated impacts, a better understanding of affected communities and creates participatory processes and deliberative spaces (Burdge & Robertson, 1990; Esteves et al., 2012; Wolsink, 2007). Although the interviewees were not convinced that SIA should become an official planning instrument because it would be an extra task for developers; the lack of experience and knowledge of SIA and some social impacts are implicitly already taken into account in the planning process.

But the key-informants also demonstrate there is definitely room for SIA. The assessment tool should be recommended from governmental levels to the responsible energy market players to obtain a social license to operate from which they perceive significant advantages (Gunningham et al., 2004; Joyce & Thompson, 2000; Luo & Bhattacharya, 2006). Results of the impact assessments should be published, allowing knowledge capacity building which can result in improved evaluations and better outcomes of planned interventions. Companies should respect FPIC, but instead of giving the affected communities the power to say yes or no if the deal is not satisfying, residents should be given room to participate and be involved in planning and siting decisions. The implementation of renewable energy technologies will be difficult without institutional changes. Transparency and local involvement are required in order to create perceived fairness and trust, which is why the Dutch government has to move from technocratic and corporatist styles of planning and draw upon social

capital and collaborative approaches to planning if they really want to meet the ambitious energy and climate targets.

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