The role of EIA and weak assessments of social impacts in conflicts over implementation of renewable energy policies

Sanne Vammen Larsen[a,*], Anne Merrild Hansen[b], Helle Nedergaard Nielsen[a]

[a] *The Danish Centre for Environmental Assessment, Aalborg University, A.C. Meyers Vænge 15, 2450 Copenhagen SV, Denmark*
[b] *The Danish Centre for Environmental Assessment, Aalborg University, Rendsburggade 14, 9000 Aalborg, Denmark*

ABSTRACT

Environmental Impact Assessment (EIA) is a policy tool implemented worldwide, to secure considerations of environmental and social impacts as well as democratic decision-making processes, when planning large-scale projects. Many EIAs related to implementation of renewable energy (RE) projects are subject to disputes in Europe, including Denmark. Here, some RE projects lead to citizens forming protest groups and authorities abandoning plans. This is a significant obstacle for implementation of RE policies. This paper investigates the role of EIA, specifically the handling of social impacts, in such conflicts. The paper presents a study of cases of RE projects in Denmark, analysed using a framework based on conflict theories. It is found that social impacts of concern to residents are not properly addressed in EIAs. This constitutes a contradiction between the concerns of the public and the focus of assessments and discussions, forming part of the basis for conflict. Additionally, there is a negative perception among residents of the behaviour of authorities and proponents, which contributes to tensions and leads to mistrust and opposition. It is concluded that to mitigate conflicts over future RE projects and improve the implementation of RE policies, specific improvements can be made in the EIA content and processes.

1. Introduction

In later years there have been various examples globally of conflicts over RE policies and plans, primarily involving residents in impacted areas, when subsequent RE projects are planned and implemented. Notably the installation of wind turbines has been known to cause conflicts with local communities (see e.g. Colvin et al., 2016; Spiess et al., 2015; Otto and Leibenath, 2014), but also for example extensions of the electricity grid can be problematic (see e.g. Neukirch, 2016; Giron, 2014). In a Danish context, some conflicts cause turmoil amongst policy-makers both at the national and local levels of decision-making. This sometimes leads to policy-makers abandoning plans and policies. Recent examples from 2017 include plans to install 48 new wind turbines in an area on the border between the Esbjerg and Tønder municipalities in the south-western part of Denmark, which were abandoned after conflicts with local residents. Another example is a much smaller project from Viborg Municipality, where a project with four wind turbines was suggested but rejected by local politicians referring to, amongst other things, conflicts with local residents (see e.g. Møller, 2017; Just, 2017). Beyond the implications for implementation of policy, conflicts can have negative impacts on communities, including

disruption of economic activities, harm to social relations due to divisions in communities, increasing risk of violence and undermining of trust (Vanclay, 2002). However, it is also worth noting that, if managed well, conflicts can create opportunities to address issues within a community and promote positive outcomes from development (Prenzel and Vanclay, 2014). Despite these potentials, the transition to renewable energy in Denmark is challenged by conflict. To nuance the understanding of conflicts and conflict management in relation to implementation of RE projects, this article seeks to add to the growing knowledge base concerning what constitutes the conflicts over RE projects in the Danish context.

The issue of conflicts over RE projects has prompted different research responses. One field of research is building knowledge about the actual impacts from RE installations, e.g. the noise impacts on neighbours or the impacts on bird populations. Integrating knowledge about these different impacts into decision-making and public dialogue often takes place through different forms of impact assessment, which is a pivotal tool for policy-making and planning as well as project design (Thygesen and Agarwal, 2014). Conflicts often arise at the project level, when local citizens face the realities of specific facilities in their local area (Breukers and Wolsink, 2007; Thygesen and Agarwal, 2014), and

---

in many jurisdictions, several types of these RE projects are subject to EIA.

1.1. EIA and conflicts over RE projects

In the EU, EIA has been regulated since 1985 by the Directive on "*the assessment of the effects of certain public and private projects on the environment*". The Directive requires a screening for significant impacts of *industrial installations for the production of electricity, steam and hot water* and *installations for the harnessing of wind power for energy production*. (European Union, 1985). This means that EIA covers projects consisting of, but not limited to, wind turbines, biogas facilities and photovoltaic power plants. The role of EIA is to identify and assess the most significant impacts, negative and positive, of the project on the surrounding environment including the population, based on state of the art scientific knowledge. Further, the role of EIA is to mitigate the significant impacts and to communicate knowledge of them to the decision-makers for an informed decision, and to the public to support participation and dialogue about the project (see e.g. Senécal et al., 1999). Research shows that conflicts often play out during processes such as EIA, because it creates this opportunity for stakeholder interactions (Devlin and Yap, 2008; Prenzel and Vanclay, 2014; Geißler et al., 2013). This makes exploration of the role of EIA an interesting point of departure for analysing conflicts over RE projects.

Little literature exists concerning the role of EIA in conflicts in RE projects. Research has pointed towards environmental assessment as an important factor for whether a RE project causes conflicts or acceptance, and how this develops (see e.g. Thygesen and Agarwal, 2014; Smart et al., 2014). Research has addressed specific characteristics of EIA that may influence the contentiousness of RE projects, for example: how alternatives are treated, issues of information and 'information overload', the complexity and technical nature of EIA which make it not accessible to all actors, and how public participation is carried out (see e.g. Smart et al., 2014; Devlin and Yap, 2008).

At the same time, previous research identifies different impacts that are considered particularly significant to the local communities, and thus part of whether a RE project causes conflict or acceptance. These include environmental impacts such as impacts on noise, air, water quality, and landscape but also, to a large extent, social and socio-economic impacts, such as impacts on local ownership, job creation, place attachment, landscape, local identity and recreational possibilities (see e.g. Wolsink, 2007; Broekers and Wolsink, 2007; Langbroek and Vanclay, 2012; Thygesen and Agarwal, 2014; Shortall et al., 2015; Spiess et al., 2015; Tabi and Wüstenhagen, 2017).

1.2. EIA, social impacts and conflicts

The international EIA framework promotes assessments based on a broad concept of the environment, rather than merely biophysical environmental impacts. Social and socio-economic impacts can thus also be covered (Larsen et al., 2015). Social impacts can be defined, in accordance with the international best practice principles, as summarised in Table 1 below.

Social impacts are central to the conflicts over RE projects and authors have discussed the role of Social Impact Assessment as a means of contributing to conflict management (see e.g. Barrow, 2010; Prenzel and Vanclay, 2014). This makes it interesting to examine the role of social impacts in EIA in the conflicts over RE projects. Larsen et al. (2015) suggested that many EIA statements and processes focus on the direct environmental impacts, while many local citizens are more concerned with social impacts, and that this discrepancy contributes to conflicts.

1.3. Research aims

Based on the above, this article seeks to explore the role of EIA as a central decision-making tool in the implementation of RE policy, plans and projects, and its role in conflicts concerning these policies. We base our research on previous research which has pointed to social impacts as reasons for opposition, the fact that local citizens put emphasis on social impacts, and the hypothesis put forward by Larsen et al. (2015), that a discrepancy between this and the handling of social impacts in the EIA process contribute to raising conflicts. This article seeks to address the following research gaps

- Very little has been written about the role of EIA in relation to conflicts over RE projects, despite the fact that EIA is a pivotal tool at the project level, where many of the conflicts manifest themselves. This article will add to existing research in this area.
- Most of the literature that does exist on the role of EIA in the conflicts over RE projects is focussed on analysing the EIA regulations and procedures demanded in legislation and guidance, and especially on how public participation is carried out. This article will add knowledge on contradictions over specific content in the EIA process and documents, especially on the social impacts.
- A literature review by Fast (2013) showed that scientific literature on social acceptance of RE generally and especially from Denmark is dominated by studies on wind power. This article seeks to broaden the knowledge base by adding knowledge about biogas plants and solar power plants.

In the following section a broad conceptual framework for working with conflicts is set up, the methodology is presented in Section 3, results of the analysis in Section 4 and ends with discussion and conclusions in Sections 5 and 6.

2. Conceptual framework: three elements of conflict

In the impact assessment literature Prenzel and Vanclay (2014, p. 30) state that conflict is "*an undeniable characteristic of human interaction*". However the term 'conflict' has no single clear meaning, and can thus be defined in various ways (Rahim, 2010). Most definitions, however, explain conflict as some kind of disagreement between two or more parties, through which the parties perceive a threat to their needs, interests or concerns (Rahim, 2010).

The origin and management of conflicts may also vary. They vary in relation to the topic of the conflict, the escalation and the potential for resolving. Conflict analysis can be different in scope, and be based on different methodologies depending on the focus of the investigation. The design of the framework for a conflict analysis therefore depends on the topic of the study, as well as the context in which the conflict takes place.

The perception of conflict and the focus of conflict theories in sociology have developed over time. In the 1950s, conflicts generally were considered as dysfunctional deviations, as a result of a failure in socialisation, or caused by an externally induced imbalance between different parts of a larger system (See e.g. Parsons, 1951 and Coser, 1956). Conflict analysis was therefore focused on identifying and curing the problem causing the conflict. From the 1970s and onward, conflicts have been considered healthy dynamics of interactions between different social groups, through which development of society takes place, and new balances are achieved. Therefore, the focus of analysis has been investigating the potential, function and impact of conflicts on social systems (See e.g. Dahrendorf, 1972 and Collins, 1975). Additionally, the sociologists Emilie Durkheim and Erving Goffmann contribute to the debate and interpretation of the concept of conflict, when they state that consensus and social relations are established through social rituals. This inspired, among others, Randall Collins (1986) who defined a new conflict theory perspective based on the understanding that society is a result of actors' battles over resources, and that actors form opposition groups as a result of their efforts to promote their interests. This is also in line with Giddens structuration