



# The role of dialogue in fostering acceptance of transmission lines: the case of a France–Spain interconnection project



A.R. Ciupuliga<sup>a,\*</sup>, E. Cuppen<sup>b</sup>

<sup>a</sup> Delft University of Technology, Dept. Electrical Sustainable Energy, Mekelweg 4, 2628CD Delft, The Netherlands

<sup>b</sup> Delft University of Technology, Dept. Technological Dynamics & Sustainable Development, Jaffalaan 5, 2628BX Delft, The Netherlands

## HIGHLIGHTS

- We investigate fostering acceptance of transmission lines through participation.
- A disputed France–Spain interconnection project is analyzed in detail.
- Participation should embrace instrumental, normative and substantive rationales.
- Participation is a dialogue allowing for “congruency of meaning”.

## ARTICLE INFO

### Article history:

Received 22 November 2012

Accepted 8 May 2013

Available online 6 June 2013

### Keywords:

Societal acceptance

Dialogue

Transmission lines

## ABSTRACT

It is a recognized fact that the lack of public and political support is one of the main sources of delay in building new transmission lines. In an energy era where there is an increasing lag between transmission grid development and the rapid generation growth, it is essential to streamline the related transmission line approval procedures. There is a strong relationship between stakeholder engagement on one side, and acceptance and support on the other side. The aim of the paper is to investigate ways of fostering acceptance of transmission lines through participation by analyzing in detail the case of a disputed France–Spain interconnection project. We argue that participatory processes should embrace not only an instrumental rationale, but also normative and substantive rationales. Based on literature and the case study, we analyze this important condition for effective participation in transmission planning procedures.

© 2013 Elsevier Ltd. All rights reserved.

## 1. Introduction

Planning procedures of new transmission lines generally take a long time. One of the most important tasks of transmission system operators (TSOs) is the planning and development of grid infrastructures. This is especially urgent since Europe needs to expand its extra high voltage electricity grid for ensuring a secure, sustainable and competitive power system (European Commission, 2010a). In most European countries the transmission grid planning process has several stages (ENTSO-E, 2010). First the TSO performs studies and decides what grid expansions are needed, after which it presents its planned projects to the external decision makers for approval. Next, the TSO applies for authorization and realization of the project. This process takes on average 5–10 years, going up to 20 years in extreme situations. For projects that involve transmission lines crossing

multiple countries, it is important to decide on a physical interconnection point at the border before starting the rest of the procedures. There is a history of situations where finding an interconnection point took longer than expected (Sentmenat (ES) - Bescano (ES) - Baixas (FR) line, Udine Ovest (IT) - Okroglo (SI) line). If the authorization process is longer for one of the involved countries, the whole project will be delayed. Another disputed interconnection project is Aubange (BE) - Moulaine (FR), where a long delay was caused by a combination of public opposition and differences in TSOs visions.

Reducing the time needed for infrastructure realization is an objective clearly stated by the European Commission (EC) (European Commission, 2008). It is worth noting that the EC envisages that planning and approval procedures for projects of European interest should be completed in a maximum time span of 5 years. Improving decision-making processes for new European infrastructure projects is highly important for achieving the EC 2020 targets (European Commission, 2010b).

The EU research project REALISEGRID proposed to combine two approaches in order to streamline and facilitate the transmission

\* Corresponding author. Tel.: +31 634466406.

E-mail addresses: [A.R.Ciupuliga@tudelft.nl](mailto:A.R.Ciupuliga@tudelft.nl),

[arciupuliga@gmail.com](mailto:arciupuliga@gmail.com) (A.R. Ciupuliga), [E.H.W.J.Cuppen@tudelft.nl](mailto:E.H.W.J.Cuppen@tudelft.nl) (E. Cuppen).

planning process (Ciupuliga et al., 2011): (1) an efficient decision-making process targeting the increase of societal acceptance (bottom-up approach) and (2) a clear regulatory approach (top-down approach), harmonized throughout Europe. The analysis of TSOs' practices revealed that there are mainly two types of obstacles in the path of building a new transmission line: related to authorization-procedures and related to reaching agreement. We focus here on the latter type of obstacles. More specifically, this paper focuses on (lack of) societal acceptance as a key factor that can cause delays in planning procedures. One of the most striking examples is the Matera–Santa Sofia transmission line in the South of Italy which took almost 20 years to complete due to strong local opposition against a short 7 km line portion ([www.terna.it](http://www.terna.it)). Delays due to public opposition may refer to the failure of the authorities and the TSOs to effectively engage the public; to projects not being recognized by the local stakeholders as essential; to the growing fear for public health because of electromagnetic fields and other environmental concerns; to the public not seeing the benefits of the liberalized electricity market, refusing the “traditional” energy supply model (big power plants remotely situated from the consumers) and showing instead a preference for distributed generation and local renewables integration, which allegedly should obviate the need for “big” transmission lines. On the socio-political level (Wüstenhagen et al., 2007), there is insufficient support from politicians for transmission line projects. On the community acceptance level (Wüstenhagen et al., 2007), it is difficult to build lines in both protected natural areas and populated areas.

One of the cases studied in the REALISEGRID project was the France–Spain interconnection project (Baixas–Santa Llogaia). This project was first proposed in the 1980s and has met several obstacles delaying the planning of the project. The project met quite some public opposition; people opposed because they did not want to have the line built in their vicinity and there was objection to the crossing of touristic and protected natural areas. After quite intensive participatory procedures, issues seem to have been resolved and the line is expected to be operational by mid 2014. In this paper we analyze the participatory processes that have been organized for the Baixas–Santa Llogaia project in order to derive insights into factors contributing to agreement amongst stakeholders in this project. Based on these insights and aided by literature, we aim to investigate ways of fostering acceptance of transmission lines through participation.

There is not much literature available on the topic of societal acceptance of transmission line projects. There are numerous publications on societal acceptance, for example in the fields of renewable energy technologies (Devine-Wright, 2011; Wüstenhagen et al., 2007; Wolsink, 2007; Evans et al., 2011; Breukers, 2009), carbon capture storage (Van Alphen et al., 2007; Huijts et al., 2007), or siting of waste facilities (Wolsink and Devilee, 2009; Gallagher et al., 2008; Bull et al., 2010; Hisschemöller and Midden, 1989). These topics have in common that the projects have a local character, and that they usually create costs for the local communities, whereas the benefits are generally on the collective level. This is similar to transmission lines, but transmission line siting is an even more complex problem due to the large geographical span of a line, creating many interdependencies between different locations. Furthermore, in Europe there are plans for lines connecting multiple countries, adding a new international challenge to planners.

Devine-Wright et al. (2010) conducted a study on public beliefs about electricity supply networks in the UK. They state that public opposition to transmission infrastructure projects is provoked by relative invisibility of network organizations and low expectations of participatory involvement. The stakeholder involvement with transmission lines seems to fail to include citizen's perspectives and preferences in the decision making process in UK (Devine-Wright et al., 2010; Cotton and Devine-Wright, 2011), and

opposing stakeholders in Norway feel that there is no real possibility for them to influence the project during the participatory phase (Ruud and Lafferty, 2011). This is in line with Besley (2012) who suggests that the public perception in general regarding public engagement procedures is that citizens do not have opportunities to actually have a say in the matter. Moreover, failing in providing sufficient background knowledge for the participatory process through the media has a negative effect on stakeholder involvement (Ruud and Lafferty, 2011). As a solution for improving societal acceptance of transmission line projects Buijs et al. (2011) propose to consider more technological alternatives to AC overhead transmission lines, that might face less public opposition or need less complicated authorization procedures.

In this paper we aim to contribute to the understanding of the timely, yet underexposed issue of participation and societal acceptance of transmission line projects.

The paper is structured as follows. Section 2 goes into more detail into the notions of societal acceptance and participation. Based on relevant literature we will conceptualize acceptance as a social process, and discuss the relevance of substantive and democratic notions of participation in addition to the commonly used instrumental notion. Section 3 presents the Baixas–Santa Llogaia project and the participatory processes that were organized for this project. In Section 4 we derive insights about the factors that contributed in the end to agreement amongst stakeholders in the project. In the final section we will conclude on this by drawing more general insights into means to foster acceptance of transmission lines through participation.

## 2. Acceptance and participation

In the introduction to a special issue in this journal on social acceptance of renewable energy technologies, Wüstenhagen et al. (2007) distinguish three dimensions of societal acceptance. The first dimension is socio-political acceptance and refers to general acceptance of both technologies and policies by the general public, key stakeholders and policy makers. The second dimension is community acceptance, which refers to acceptance of projects at local level, and which addresses local stakeholders (affected population, key stakeholders and local authorities). At this level, the interaction between the project developer and the stakeholders plays an essential role and the level of acceptance is mainly influenced by issues such as trust in project developer, and perceived procedural justice (fairness of decision making process) and distributional justice (fairness of distribution costs and benefits) (Wüstenhagen et al., 2007). The third dimension is market acceptance. This relates to the process through which market parties (consumers, investors and firms) adopt and support an innovation in the energy field. Especially the dimensions of socio-political and community acceptance are relevant in the context of transmission line projects. From the two, the one that causes most delays is the community acceptance (Ciupuliga and Gibescu, 2010) and therefore it is further considered in this paper.

In the field of science and technology studies and (environmental) policy and planning, there is a rich body of literature on how society (consumers, citizens, stakeholders, sociopolitical arenas, etc) responds to and interacts with science and technology (e.g. Beierle and Konisky, 2000; Breukers, 2009; Devine-Wright, 2011; Eden, 1996; Fischer and Forester, 1993; Hisschemöller et al., 2001a; Irwin and Wynne, 1996; Wynne, 1993). One of the conclusions that can be drawn from this literature is that responses to new technologies and projects are largely determined by the process through which publics are informed and engaged with Walker et al. (2011) and Ellis et al. (2007). That means that not only the characteristics of the technology or project are

متن کامل مقاله

دریافت فوری ←

**ISI**Articles

مرجع مقالات تخصصی ایران

- ✓ امکان دانلود نسخه تمام متن مقالات انگلیسی
- ✓ امکان دانلود نسخه ترجمه شده مقالات
- ✓ پذیرش سفارش ترجمه تخصصی
- ✓ امکان جستجو در آرشیو جامعی از صدها موضوع و هزاران مقاله
- ✓ امکان دانلود رایگان ۲ صفحه اول هر مقاله
- ✓ امکان پرداخت اینترنتی با کلیه کارت های عضو شتاب
- ✓ دانلود فوری مقاله پس از پرداخت آنلاین
- ✓ پشتیبانی کامل خرید با بهره مندی از سیستم هوشمند رهگیری سفارشات