Testing Better Practices

Final Report of the BESTGRID Project
October 2015

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Executive Summary

Europe's energy system is currently experiencing an exciting phase of transition. The widely held desire to move towards a low-carbon society and to increase the proportion of renewable energy sources in use necessitates a renewal of the existing European electricity grid infrastructure. Transitions of this nature are not, however, without their attendant challenges. The planning and implementation of grid development projects is often difficult and time-consuming, owing to complex permitting procedures, opposition on a local level, and the challenge of minimising impacts on nature and local communities. Between 2011 and 2012, members of the Renewables Grid Initiative (transmission system operators, or TSOs, and environmental NGOs) jointly developed the 'European Grid Declaration', which highlights a need for the integration of a large proportion of renewable energy sources while respecting environmental legislation and ensuring effective transparency and participation. The signatories of this declaration pledged to cooperate in the research and implementation of new approaches aiming to improve transparency, participation and environmental protection during grid development.

Europe's energy system is currently experiencing an exciting phase of transition.

The BESTGRID project was designed to put these ambitions into practice. Its consortium consists of five European TSOs (50Hertz, Elia, TenneT, National Grid and Terna), two NGOs (BirdLife and Germanwatch), and the research institute IIASA, with project coordination conducted by the Renewables Grid Initiative (RGI). Several other local NGOs also contributed to the project, all working towards three objectives:

The three BESTGRID objectives

1. **To improve public acceptance for grids on a local level by applying best practices regarding participation and transparency in pilot projects**
2. **To speed up permitting procedures, while respecting environmental protection standards in the pilot projects**
3. **To ensure implementation of best practices in future "Projects of Common Interest" concerning the electricity grid**

The BESTGRID project itself is based on five pilot projects, located in the UK, Belgium and Germany. Three projects (the German projects Bertikow-Pasewalk and SuedLink, and the Belgian Waterloo -- Braine-l'Alleud) implemented new approaches to ensure the engagement of stakeholders. Two projects (the UK Nemo Link project and the Belgian Stevin project) conducted retrospective assessments of engagement and environmental protection and permitting activities that had already taken place.

What sets BESTGRID apart from other projects of its kind is that all initiatives were jointly developed. NGO partners played an active role in the design and implementation of activities and served as observers throughout the project, providing TSOs with feedback on the various measures taken. Via activities such as "info-marts", detailed environmental studies, site visits, a mobile citizen office, EMF measurements and roundtable discussions with authorities, a broad spectrum of stakeholders including local decision- and opinion- makers were consulted.

The findings generated by these initiatives were summarised in two handbooks: the first on transparency and participation, and the second on grid development and nature protection. The exchange and further dissemination of insights was a core ambition of the project. To this end, BESTGRID held five public dissemination workshops, as well as a series of roundtable events in Lithuania, Romania and Slovenia, and targeted NGO capacity building events.

Quantitative and qualitative assessments carried out by the research institute IIASA confirmed that overall, the BESTGRID measures were welcomed, and helped to identify factors critical to successful stakeholder engagement. Some key findings of the projects can be summarised as follows:

Key findings

- Application of good practices requires adaptation to specific circumstances
- Personal interaction and relationships are potentially the most important element of successful stakeholder engagement
- Honest stakeholder engagement requires strong organisational and political backing
- Legislation cannot resolve the specific challenges of a project, but it can help to improve engagement processes
- Even if it is too late to debate the need of a project, you must always be ready to explain it
- It may take years to see the effect of actions taken
- Systematic knowledge management is required in order to secure cross-border/cross-project learning
- The first step to meaningful stakeholder dialogue is mutual understanding
- Involving NGOs in the design and delivery of stakeholder engagement and environmental protection procedures helps to improve projects and build trust

What sets BESTGRID apart from other projects of its kind is that all initiatives were jointly developed by NGOs and TSOs.

BESTGRID was designed as an implementation project. Significant insights have been gained concerning the best means of initiating cooperation between NGOs and TSOs in challenging, high-risk contexts. All parties involved in the BESTGRID project now have a better understanding of the challenges of this undertaking than they did before the project. All parties confirm the benefit of such cooperation, and are eager for it to continue beyond the lifetime of the BESTGRID project. Trust has been built among parties, with consortium members more motivated to find ways to continue following the paths that BESTGRID has paved.

1. Introduction
How It All Began

The challenges of tackling the global issue of climate change, adapting the electricity market to accommodate wind and solar, and maintaining security of supply have triggered new ideas and initiatives. The electricity sector is currently transitioning towards a heavier reliance on renewable energy sources, with electricity grids acting as an important facilitator in this transition. Many previously crucial parameters are no longer valid: most renewable power is generated far from centres of consumption, and sources such as solar and wind are weather-dependent. New power lines can connect remote generation sites with principal consumer areas, and can smooth variability, allowing electricity exchange across regions. Thus, the modernisation and expansion of the European electricity grid is an essential step in enabling the effective transition of Europe's energy system.

The challenges of tackling the global issue of climate change, adapting the electricity market to accommodate wind and solar, and maintaining security of supply have triggered new ideas and initiatives.

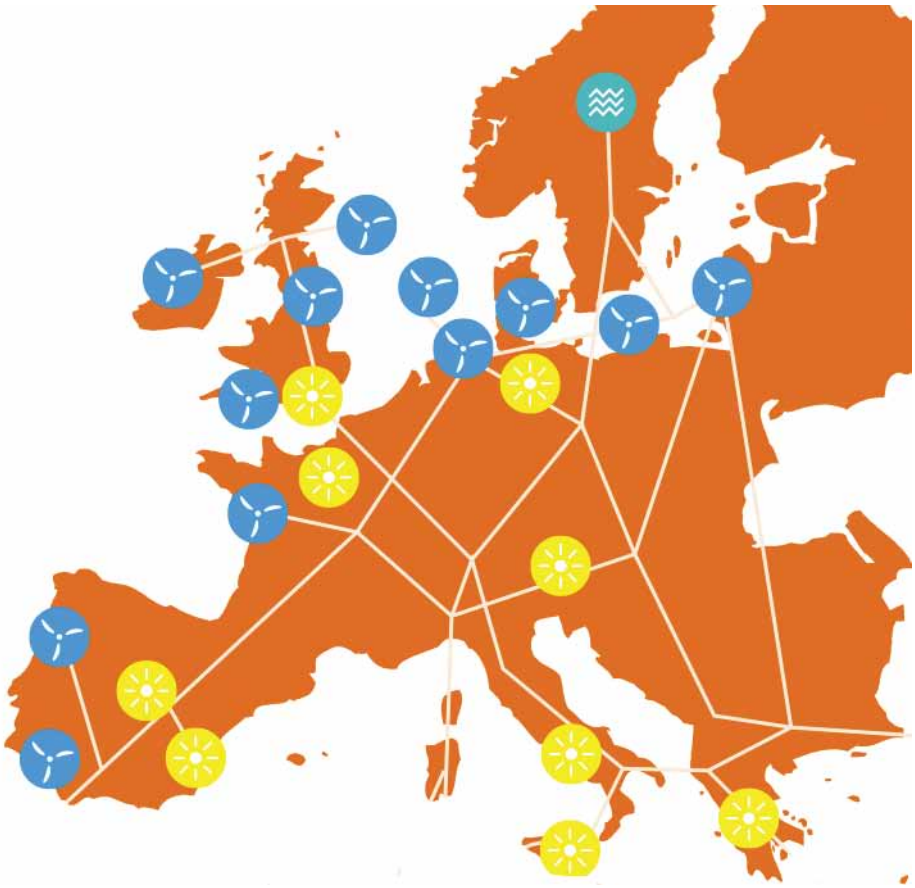

Fig 1 Renewable energy generation and power grids in Europe. Source: Germanwatch

This BESTGRID consortium has its roots in the Renewables Grid Initiative (RGI), an organization founded in 2009 by TSOs and NGOs with a view to fostering TSO-NGO communication, cooperation and joint problem solving. Under the umbrella of RGI, partners join forces in exploring new methods of developing the infrastructure required for the integration of a larger share of renewables.

Between 2011 and 2012, RGI and its members developed the “European Grid Declaration on Network Development and Nature Conservation in Europe” and its extension on “transparency and participation”, the “EGD”. The EGD confirms the joint belief of all signatories that the grid development necessary to integrate a larger share of renewable energy both can and must be implemented in full observance of existing environmental legislation, and with respect for the concerns of those most impacted by new infrastructure. It underlines the willingness of all parties to cooperate in learning about new approaches, and best practice for their implementation. At the time of its publication, the EGD attracted a great deal of interest, as it brings together two rather unexpected partners: the ~30 signatories are drawn primarily from the spheres of industry and civil society, two groups with relatively little history of collaboration. In this declaration, grid operators committed to help meet European objectives concerning the protection of nature, such as the minimisation of risk to birds along any planned route. At the same time, NGOs pledged to support grid development crucial to the integration of renewables, on the condition that projects are completed responsibly. The BESTGRID project was designed in the spirit of the EGD, putting these commitments into practice.

Signatory ceremony of the “European Grid Declaration”, 2011

The grid development necessary to integrate a larger share of renewable energy both can, and must, be implemented in full observance of existing environmental legislation, and with respect for the concerns of those most impacted by new infrastructure.

BESTGRID:
A Summary

The BESTGRID project brings together a diverse group of partners: five TSOs (50Hertz, Elia, TenneT, National Grid and Terna), two NGOs (BirdLife and Germanwatch), the research institute IIASA, and the Renewables Grid Initiative.

Fig 2 BESTGRID consortium structure. Source: RGI

Under the banner of the BESTGRID project, this group worked in close cooperation to gather insights pertaining to three distinct objectives:

1. To improve local public acceptance for grids by applying best practices in participation and transparency in pilot projects
2. To speed up permitting procedures while respecting environmental protection standards in pilot projects
3. To support implementation of best practices in future "Projects of Common Interest" relating to the electricity grid

Three pilot projects in the early planning phase and two in the later stages were chosen.

In the three "early" pilot projects, NGOs provided advice to TSOs during the drafting of action plans and engagement strategies. These plans detailed the development of new and additional measures for an earlier and more substantial consideration of environmental impact, for the provision of information, and for the involvement of organised stakeholders as well as the broader public. Two additional retrospective assessment pilots focused on the evaluation of previously completed stakeholder engagement and environmental protection/permitting activities, with analyses undertaken to identify successful actions, major stakeholder concerns, the level of participation achieved, and to establish best practice for future projects.

BESTGRID partners focused particularly on the exchange of good practices throughout the project, and an effective exchange of information concerning experience gained, and the measures most beneficial to achieving the objectives of the project. A key facilitator in this work was the Italian TSO Terna, which provided “transferability workshops”, examining how measures and insights resulting from these pilot projects could be applicable to other situations.

This publication seeks to share the experiences and lessons of the BESTGRID project, by detailing the structure of the various activities of the project, and what important lessons were learned. In Chapter 2, each of the pilot projects is introduced, accompanied by a brief of measures implemented, the outcomes, and the subsequent observations and conclusions drawn by project partners. Chapter 3 outlines the methods used for the dissemination and validation of these insights. Chapter 4 shares the joint lessons learned and how the findings of BESTGRID can be applied beyond its original remit and positively impact upon the design of future grid projects.

For further information, contact details of the different partners involved can be found at the end of this document. A list of all documents produced as part of BESTGRID is included in annex A, with the full accessible archive available at www.bestgrid.eu.

Fishbowl discussion at 2nd BESTGRID workshop in Berlin

Networking speed dating at 3rd BESTGRID workshop in London

2. The BESTGRID Pilot Projects

The BESTGRID project comprised two main areas of action, one focusing on securing public acceptance through the testing of new measures of stakeholder information and engagement, and a second focusing on speeding up the permitting process by integrating the consideration of environmental concerns at an early stage.

To achieve this, BESTGRID used five pilot projects. 50Hertz's Bertikow-Pasewalk, Elia's Waterloo -- Braine-l'Alleud and TenneT's SuedLink implemented new approaches in the planning phase of the pilot projects, while the previously completed pilot projects National Grid's Nemo Link and Elia's Stevin were the basis for retrospective assessments.

These first three approaches were jointly developed and evaluated in collaboration between the BESTGRID consortium partners. NGOs BirdLife Europe and Germanwatch, as well as the research institute IIASA, played an important role in the design and implementation of action plans, as well as providing feedback as observers, with RGI coordinating activities.

BESTGRID was designed to be a blueprint for implementation and the testing of new approaches, and was required to adjust to the often complex reality of each pilot project. It was occasionally the case that plans made by the consortium could not be put into practice as circumstances changed. Often what first appeared an undesirable setback ended up leading to some of the project's most valuable insights.

TenneT – Deepening NGO-TSO Cooperation

Background

For BESTGRID, the German TSO TenneT chose the 800 kilometre SuedLink project. SuedLink is the largest infrastructure project of Germany's *Energiewende*: the "energy transition". This phasing out of nuclear power and carbon-heavy generation aims to see renewable energy meeting at least 80 percent of the electricity demand in Germany by 2050. With a transmission capacity of 4GW, SuedLink's power transmission line will create a critical link between wind power generated in the north and the consumer centres in the south of Germany. The partners collaborating to complete the SuedLink project are the two TSOs TenneT and TransnetBW. TenneT believes that the planning of SuedLink is only possible with the support of both the local population and the authorities involved. Today, the development of new infrastructure requires a multi-layered, participatory debate in order to gain public acceptance. Whether incorporated into the regulatory approval process, or initiated informally and independently, public engagement must be comprehensively integrated into a TSO's project planning. Planning procedures can only be improved, and scope for manoeuvre guaranteed, by means of systematic programme of public information and participation.

In February 2014, TenneT presented the first proposal for a SuedLink corridor route, providing a basis for public dialogue. Accompanying material on the planning criteria and methodology, technology and environmental implications were launched both online and in print. The initial informal public consultation process gathered contributions during local dialogue events, by post and email, via the project hotline, as well as online. As many as 3,000 contributions reached TenneT. Proposals and preferences from the public were included in the application documents for the official planning procedure, well before it was officially required. It was in this context of early-stage consultation that the BESTGRID activities began.

Planning procedures can only be improved, and scope for manoeuvre guaranteed, by means of systematic programme of public information and participation.

Fig 3 SuedLink connection between Wilster and Grafenrheinfeld. Source: OpenStreetMap

Measures Implemented

As part of the strategies developed within the framework of BESTGRID, TenneT, in cooperation with NGO partners, designed a range of engagement activities to be conducted and subsequently shared with the BESTGRID consortium, including:

- Communal public consultations: these so-called “info-marts” were set up in more than 30 locations along the proposed corridor, targeting the overall population, and were partly facilitated by the NGO German Environmental Aid (Deutsche Umwelthilfe, or DUH)
- NABU (BirdLife) Lower-Saxony pledged its involvement in a set of in-depth roundtables and field trips. Its contribution to these events focused on opportunities to improve the biotope network via SuedLink, this produved a detailed report on recommendations for future grid-planning in order to facilitate consideration of these opportunities.

Communal info-marts

These info-marts were designed to establish direct, face-to-face dialogue with local stakeholders, gathering suggestions and opinions “on the ground”. This aimed to provide a detailed explanation of the project and, at the same time, to garner suggestions for the improvement of the planning procedure from an early stage. These info-marts also provided an opportunity for the public to comment explicitly on the existing route corridor proposal, to make specific improvement suggestions, or to propose alternative corridor routes.

The SuedLink project was initially discussed at 22 local forums along the entirety of the corridor route through five federal states (Schleswig-Holstein, Lower Saxony, North Rhine-Westphalia, Hesse and Bavaria). TenneT invited identified stakeholders, such as mayors, local authorities, and NGOs ahead of time. Invitations were subsequently extended to the public via press invitations and advertisements in regional media.

Eight additional info-marts were held to present the results of these consultations to citizens of the affected regions, and to document the means used by TenneT to assess and, where possible, incorporate the suggestions four months later. This second generation of info-marts were strategically developed together with and facilitated by German environmental and public dialogue NGO Deutsche Umwelthilfe (DUH).

Site visits

TenneT and NABU LS (Lower Saxony), a local partner of BirdLife, began their cooperation in March 2014, with the aim of identifying the major environmental challenges and concerns related to the project, helping to overcome these at an early stage. One of the key ecological risks incurred in the construction of new power lines, the risk of segmenting forest habitats in the surrounding area, was selected for closer consideration. One measure considered to prevent this was to develop the power line corridors in such a way that they would integrate and connect otherwise disconnected habitats.

The cooperation activities began with two site visits to the secondary mountain region, near the proposed SuedLink corridor. This was attended by the project partners, local citizens and other environmental stakeholders. Discussions focused primarily on strategies for identifying areas deemed particularly sensitive from a conservation perspective, and how during construction planning, these sensitive regions can initially be avoided. If (due to other restrictions) avoidance is not feasible, then appropriate prevention and minimisation measures should be taken.

Roundtables

Two roundtables were also held on the topic of “Route planning in Germany’s low mountain ranges – conflicts and opportunities for conservation and species protection”. Representatives from local governments, planning offices, nature conservation groups, scientific organisations, citizens’ groups and TSOs participated, with discussion focusing on the development of new standards for nature conservation in the power line planning and development process.

From these roundtables, TenneT and NABU LS defined three principles for future route planning:

Three principles for future route planning

1. **To consider risks to and opportunities for nature at the routing stage**
2. **To use existing infrastructure corridors, but propose alternative routes if these pass through protected areas**
3. **To make initial corridor proposals 4 km wide (rather than 1 km) to enable more variation at the permitting stage.**

Engaging in bilateral talks at TenneT‘s info-mart

Feedback from Project Observers

The partners confirmed that they appreciated these early exchanges, the development of innovative events facilitating local dialogue, and the roundtables on issues of environmental conservation. The effort involved in organising such a high number of events, allowing hundreds of people to attend the info-marts and providing upwards of ten representatives to respond to questions from the public at each event was perceived as impressive.

Given that this was the first incidence of such an info-mart in this format and on this scale, some suggestions for further improvement were made. These included:

- Better explanations of the information contained in the maps
- Availability of more visual material; for example, regarding pylon design
- Explanation of the basic facts regarding grids and electricity/the electricity system

The partners confirmed that they appreciated these early exchanges, the development of innovative events facilitating local dialogue, and the roundtables on issues of environmental conservation.

The question of whether the grid-line was actually needed was frequently raised, and initially, not enough suitable information on this topic was provided.

Germanwatch and RGI appreciated how calmly TenneT representatives responded to a group of protesters present at some of the info-marts, involving them in discussions, and directly answering their questions. It was often the case that protesters ended up using the info-mart to get information, along with other citizens.

IIASA monitored the pilot projects, providing feedback by conducting surveys which aimed to evaluate the public info-marts from the perspective of the attendees. The majority of people surveyed gave positive reactions to the format:

- 66 % considered that the info-marts deliver important information
- 71 % saw them as an opportunity to participate with individual comments
- 48 % felt that the info-marts show that TenneT takes the public's opinion on the topic of SuedLink seriously
- 61 % stated that the events made the planning procedure more comprehensible to them

Beyond these specific observations, SuedLink also demonstrates the importance of political backing on both the federal and national level. While Germanwatch confirmed that TenneT put a great deal of effort into this early dialogue, the public debate regarding the need for the development, which technology should be applied, and the number of corridors to be examined in detail was ongoing at the time that this report was published. These questions are now central to a more general political dispute concerning national power grid planning in Germany, sparked by the state of Bavaria's disagreement with the federal German legislator's decision regarding the need for the planned DC power lines. This means that, while the SuedLink planning team improved the quality of the planning by including local viewpoints in the application, this progress will be largely undone as a consequence of the ongoing political dispute, as well as planned legislation concerning the justification of the project and the types of technology to be applied.

Assessment by TenneT

TenneT designed the info-marts as two-way dialogues, with face-to-face discussions aiming to address fears concerning health and environmental impacts, and a possible decline in property value. Third-party experts (for example, technical planners, planning authorities, etc.) participated in the events, and provided external expertise. This was considered a necessary and productive means of engagement, albeit one requiring a considerable investment of time and money from both the TSO and the experts.

When presenting the project information to stakeholders, TenneT deemed it crucial to provide a neutral brief of the facts. The comprehensive website, brochures and factsheets, covering all facets of the planning methodology, technology and the overarching context of energy policy, were essential in establishing the necessary foundations for public participation. DUH suggested that a brief keynote outlining the current status of the project could be helpful in order to "set the stage" and outline the basic facts before stakeholders proceed to explore the project in greater depth in the info-mart. This will be incorporated in future TenneT activities.

The permitting process for such a large project is especially complex. With this in mind, TenneT made it their goal to keep local and regional governments informed of project milestones as early as possible. This then enabled these stakeholders to assess potential effects in the region and thus prepare to answer respective questions from constituents. Local government played a critical role in the dissemination of information to citizens; for example, advertisements for info-marts were published in communal information papers, mayors offered town halls and schools as easily accessible venues for info-marts, and sector experts from municipalities and regions provided informed insights regarding spatial planning expertise gained from previous projects. Finally, municipalities started offering their own information events about SuedLink, often inviting TenneT experts. In this way, the scope of the dialogue could be increased.

Although this resulted in a deeper understanding on the part of the stakeholders of the overall process, the various stages of the planning procedure were often confused: the informal participation process designed to complement TenneT's full planning proposal was mistaken by some stakeholders for a definitive opportunity to participate. TenneT concluded that it is important to underline consistently that this early informal participation does not substitute or preclude involvement in the official planning procedure: in future, a more explicit differentiation of information should be offered. In other words, the dissemination of material and face-to-face events are used as a means of familiarisation as the project proposals progress, accompanied by a clear explanation of the distinction between early engagement activities and the later formal planning consultations. Staff from the permitting authority were present at the info-marts to explain the different steps of the process in more detail, and support TenneT in their efforts to delineate clearly the formal and informal steps of the process. While this was considered very useful, it cannot be a substitute for a clear explanation from decision-makers of the need for, and greater context of, the proposed line.

The permitting process for such a large project is especially complex. With this in mind, TenneT made it their goal to keep local and regional governments informed of project milestones as early as possible.

IIASA conducted profiling of the most active stakeholders, and identified that men over the age of 40 who owned private property in the direct vicinity of the planned project (less than 1 km) were the most active participants. They were also the most willing to provide feedback, and to express their views. On the other hand, according to IIASA's evaluation, young people were more critical and questioned the necessity of the project, but they also did not actively seek out information, and participated less actively in public information events. Therefore, IIASA's recommendation was to develop tailor-made engagement tools designed to target young people. In light of these insights, TenneT is currently developing a strategy designed specifically for younger audiences and female stakeholders, in order to ensure a fairer representation of all societal groups.

Due to the interdisciplinary composition of the roundtables, the attendees were able to address issues with a contentious but constructive dialogue.

As public interest became increasingly focused on the likely local corridor routes and their respective methodologies, a more detailed discussion of the planning documents, and an exploration of methodology and criteria used to determine the feasibility of these local sites was required. This helped to explain, in detail, TenneT's planning framework to the citizens' initiatives.

TenneT recommended that, in future, the timing and nature of engagement events must remain flexible, as the familiarisation with the project proposals develops. It also became apparent to TenneT that an exchange at a professional level between environmentalists, conservationists, planners and authorities was fundamentally important. Due to the interdisciplinary composition of the roundtables, the attendees were able to address issues with a contentious but constructive dialogue.

The cooperation with NABU on specific themes demonstrated that while their involvement in this process is important, it must be undertaken as part of a long-term strategy. During the course of the two roundtables, general themes were identified which could potentially lead to feasible pilot projects as the planning and approval processes continue. Discussions on how NGO involvement can be secured beyond the timeline of the SuedLink project are on-going (see Chapter 4).

For a project of this nature, political will and backing is fundamental. It is clear that the task of gaining broad support from policymakers for the power grid developments required for the energy transition must constitute one of TenneT's key communication activities. Due to its scale and importance, SuedLink will be used as a template for future grid expansion projects. Within TenneT, participation in the BESTGRID project has already acknowledged a commitment to broad early public participation. It is generally agreed that a planning process should no longer ignore the importance of such measures, and that the insights resulting from this early informal dialogue must be more effectively integrated into the formal planning procedure. While adjustments and improvements in the implementation continue to be necessary, the direct dialogue and info-marts have become a best-case method for the provision of information, and for the facilitation of individual questions and dialogue. TenneT will seek to incorporate the lessons learned from the BESTGRID project into its future operations.

Within TenneT, participation in the BESTGRID project has already acknowledged a commitment to broad early public participation.

TenneT explains the project SuedLink at info-mart

LESSONS LEARNED:

- Traditional “frontal” information formats, with experts on the podium and the public below, are not effective. Local citizens have very individual fears about their health, environment and property values, concerns which can only be addressed in a satisfactory manner by personal discussions. This entails considerable personal effort, time and resources, but is a key means of gaining the acceptance of the local population.
- Before beginning a dialogue and engaging the public in a far-reaching participation process, it is crucial to enable all stakeholders to become fully informed about the project.
- Due to the early stage of the planning process, a great deal of information such as technical settings, cabling, etc. could not be provided in detail by the TSO; this was seen as unhelpful. Therefore, third-party experts such as technical planners, cabling companies, etc. were integrated into information events and were able to provide credible explanations of which details would be available at which stage of the project.
- Stakeholder groups attending info-marts are made up overwhelmingly of well-educated, older, property owning men. Therefore, when advertising info-marts, TenneT is now attempting to target a younger and more female stakeholder group.
- When communicating proposals for possible route corridors, it is necessary to explain the eavlaluation criteria very thoroughly.
- Information needs to be prompt, continuous, first-hand and as personal as possible. For this purpose, TenneT has appointed public liaison officers.

LIST OF RELEVANT DOCUMENTS:

Action Plan for TenneT’s pilot project
http://www.bestgrid.eu/uploads/media/D4.1_TenneT_Action_Plan.pdf

Public information document TenneT
http://www.bestgrid.eu/uploads/media/D4.2_Public_information_document_on_specific_grid_development_TenneT.pdf

Report on 4 public information events and on 2 permitting/planning stakeholders meetings
http://www.bestgrid.eu/uploads/media/D4.3_BESTGRID_Report_in_information_events_and_stakeholder_meetings.pdf

Handbook on planning procedures for onshore grid development projects (in German):
http://SuedLink.tennet.eu/fileadmin/tennet_sl/SuedLink/infomat/140826_TENNET_Handbuch_BESTGRID.pdf

TenneT Newsletter archive (in German):
http://SuedLink.tennet.eu/SuedLink-im-dialog/SuedLink-news.html

NABU final report “Power line planning through the German Low mountain region” (in German and English)
https://niedersachsen.nabu.de/umwelt-und-ressourcen/aktionen-und-projekte/bestgrid/index.html

National Grid – Effective Stakeholder Engagement and Efficient Permitting of Offshore Infrastructure

Background

For its pilot, National Grid retrospectively assessed the Nemo Link project, which had already advanced beyond both the permitting and stakeholder engagement phases. In this assessment, National Grid aimed to understand how the completed projects could have been improved upon, by achieving greater public acceptance and faster permitting. National Grid conducted its analysis in close partnership with the RSPB (UK wing of BirdLife), with subsequent recommendations made to the BESTGRID consortium and distributed within National Grid.

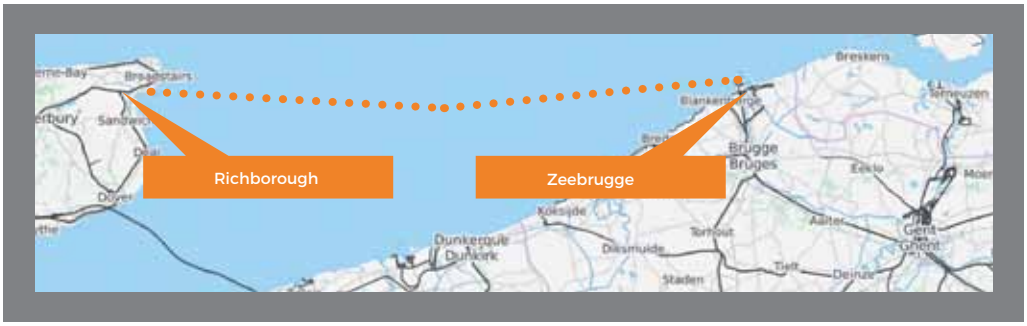

Fig 4 Planned route of the Nemo Link project. Source: OpenStreetMap

Nemo Link is a planned 1,000 MW, 130 km high-voltage DC electricity interconnector between the UK and Belgium. The subsea cable will run from Kent in the UK to Zebrugge in Belgium, and pass through English, French and Belgian waters. It is a joint project of the Belgian TSO Elia and the UK's National Grid plc. The project consists of subsea and underground cables, with a converter station on each side connecting the electricity systems of the two countries. The project had been in the pre-planning stages for several years, until all consents in both countries were secured in 2015; with construction contracts awarded in June 2015.

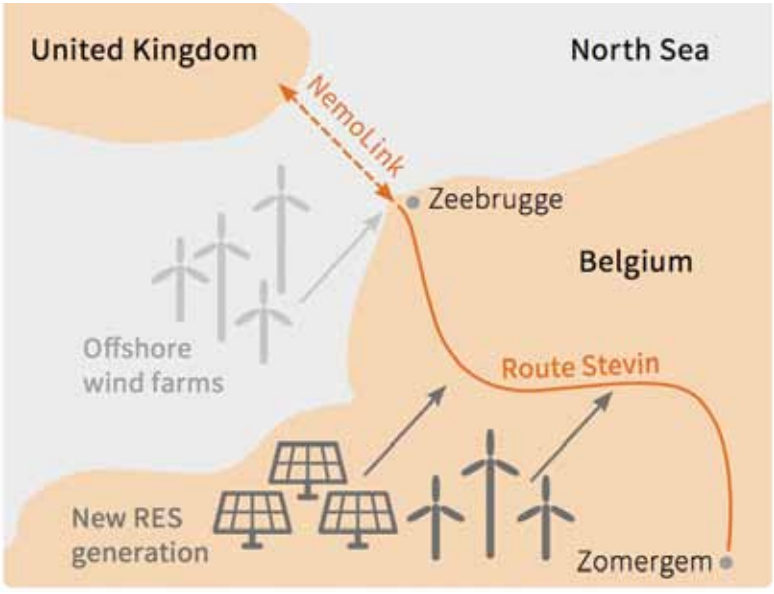

Fig 5 Diagram of the planned Nemo Link and Stevin project connection. Source: *National Grid*

Measures Implemented

The review and assessment of the stakeholder engagement process was conducted via a variety of methods and focused on various stages of the process, including:

- A series of stakeholder workshops based on the research done on the Nemo Link and other interconnector and marine projects, as well as a report by the RSPB on its experiences as a stakeholder in grid projects
- The gathering of further input by means of a stakeholder questionnaire, developed in conjunction with IIASA

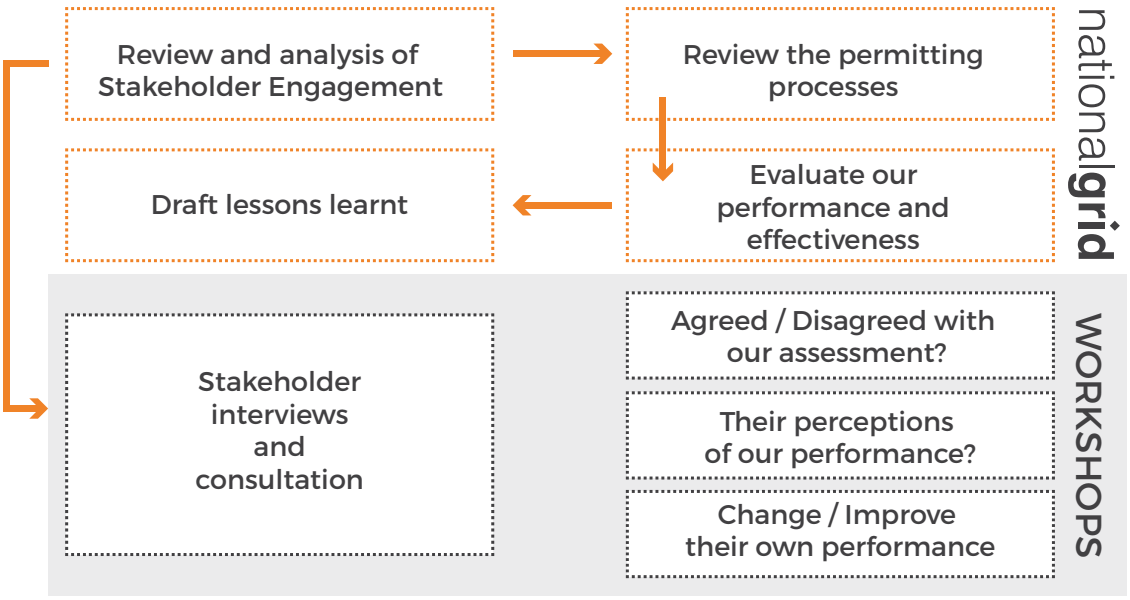

Fig 6 Process diagram of National Grid's retrospective analysis. Source: National Grid

The "desk-based" analysis

The "desk-based" analysis of the stakeholder engagement activities identified a number of stakeholders that could become involved in the questionnaire stage, the workshops or both, due to their past involvement with the Nemo Link permitting process. This included NGOs such as the RSPB and Natural England, community and business groups such as the Thanet Fisherman's Association and Sandwich Port and Haven Commissioners, TSOs involved in the project (Elia and National Grid), and permitting authorities such as th Marine Management Organisation (MMO - UK) and Management Unit Mathematical Models North Sea (MUMM) in Belgium.

Interviews with consultants

Insights were gathered during interviews with consultants and National Grid officers with experience of the permitting activities of a range of other marine projects. These enabled the preparation of a set of improvement "themes", under which specific common issues could be grouped in order to facilitate discussion in the workshops. These themes were:

- Knowing your stakeholder
- Discipline (records, timekeeping, planning and preparation for engagement)
- Knowledge transfer and continuity
- The facilitation of stakeholder engagement
- Data access and co-ordination
- Environmental impact assessment, and Habitat Regulations assessment

International workshops

Under each of these themes, a series of questions was developed to facilitate discussion among participants. All participants were encouraged to highlight their own direct experiences, offer their thoughts on how processes could be improved, and consider how such improvement could be integrated into an action plan on marine projects in the future, both in projects spanning borders and within a country's own territorial waters.

Key points raised across all workshops included;

- Resourcing challenges for stakeholders
- The desirability of stakeholder-led engagement
- The importance of effective stakeholder mapping
- Methods of engagement; for example, face-to-face, telephone, etc.
- The challenges of marine development as a new but rapidly developing area

These key points were discussed and presented to the BESTGRID consortium and examined internally by National Grid, and they in turn informed the conclusions formed from the project, by National Grid in particular.

Feedback from Project Observers

For the RSPB, the lessons generated by National Grid's review of its engagement with stakeholders, permitting, and environmental protection were valuable, not only for their potential application to future marine cabling projects, but also for use with other grid infrastructure projects.

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It also prompted the RSPB to review its own engagement activities over the last ten years, with the findings then presented to National Grid in order to inform their review in more detail. This highlighted some mutual challenges faced by TSOs and NGOs when attempting to organise and sustain dialogue between the right people, on the right issues at the right level of detail at the right times. In bringing their experiences to National Grid's workshops, the RSPB were able to examine the causes for issues they themselves have experienced in the past, and to observe the similar challenges faced by other stakeholders.

Information stands at final BESTGRID Conference in Brussels

The RSPB also found it useful to observe how other key stakeholder groups, such as fisheries, engage with TSOs, and to hear their perspective on how engagement can be better organised. The workshops were considered small, but involved participants with in-depth knowledge of the issues. This setting enabled detailed and constructive conversations, and led to some important recommendations emerging from National Grid's work.

Germanwatch underlined the future benefit of joint workshops with stakeholders from the UK and Belgium. The BESTGRID pilots Nemo Link and the Stevin project (discussed under 2.4) are physically linked to one another, with Nemo Link interconnecting with the Belgian Stevin line at the Zeebrugge substation. In this context, a sustained and intensive exchange between Belgian and UK TSO staff, planning authority staff on both sides of the channel, and marine and environment stakeholders strengthens the direct communication required not only for the Nemo Link but also for the Stevin project. A better understanding of the mutual planning framework and relevant stakeholder groups on the part of TSO staff and authorities allows for a more efficient cooperation during the realisation phase of both projects, as well as within future projects. This means that beyond the insights discussed during the workshops, the relationship building brought about by the joint participation in workshops will prove beneficial in the future.

RGI concluded that an understanding of the reasons why stakeholders do not accept invitations to join the workshops is essential, and can provide the key to effective management of stakeholder relationships in future projects. The acceptance or rejection of an invitation can indicate whether a stakeholder group is sufficiently satisfied with past procedures. It can also reflect whether stakeholders expect their contribution to lead to a meaningful improvement, whether they are motivated by the availability of time to attend such meetings, whether they have pre-existing knowledge of the project, etc. Understanding these facets and responding to them (for example, by joint development of a meeting agenda, by providing an upfront briefing to new staff about the project and what has happened so far) and making sure the benefits of a meeting are clearly understood by all invitees, can be critical to whether or not the necessary participation is attained.

The acceptance or rejection of an invitation can indicate whether a stakeholder group is sufficiently satisfied with past procedures.

Assessment by National Grid

The primary objective of the consultations in this work package was to identify which issues could be addressed using practical means, and to consider the form that solutions to these issues could take, based on experience. These findings were then documented and developed into an action plan to be shared across all sectors.

This pilot project has highlighted similar constraints, concerns and approaches to those experienced across several of the BESTGRID pilots, while also demonstrating significant technical differences. For example, in Belgium it is more common than in the UK for developers to submit draft EIA chapters for comments prior to submitting the application. This leads to an overall saving in time, as the authorities have more time to assess an application, make comments and suggest alterations, but as a result an earlier initiation is required on both sides. An increased awareness of the various methods of assessment and discussion can improve the approach.

The opportunity for National Grid to gain open and honest feedback from stakeholders has been identified as an additional benefit of this project. Feedback from RSPB casework officers on their experiences of engaging with grid projects provided a new perspective, and highlighted ways in which strategic engagement with such stakeholders could be improved.

The opportunity for National Grid to gain open and honest feedback from stakeholders has been identified as an additional benefit of this project.

TSOs and NGOs working together beyond BESTGRID

BESTGRID has facilitated further opportunities for on-going dialogue between stakeholders. As a result of discussions at the workshops, National Grid and the MMO are now actively pursuing the establishment of an "industry interchange", wherein employees of the two organisations can engage further in order to gain a better understanding of the constraints and processes of each organisation. In addition, the RSPB has been invited to attend National Grid's Consents Team meeting to explain in more detail their experiences of engaging in consultations on grid planning and permitting.

In the UK, the NGOs Marine Management Organisation (MMO) and Natural England highlighted the importance of early engagement, as this is of assistance to them in their own resource planning. However, it was equally important that in the early stages, information must not be overly detailed, but rather a simple outline of the sites being considered and the criteria for the choice, with appropriate information supporting each option. At this stage of the process, the NGOs are able to offer initial advice, including the proposal of alternatives to National Grid, with a view to preventing more in-depth work on sites that, for environmental reasons, may prove unsuitable.

The involvement of the Thanet Fisherman's Association (TFA) at the workshops allowed for constructive feedback from a group representing the interests of an otherwise fragmented stakeholder grouping; that is, individual fishermen. Identifying and engaging effectively with such groups was highlighted as an efficient way of working, and straightforward for the group, the consenting authority and the project developer. At one point, the TFA representative gave the example of an instance that, due to poor engagement from one offshore wind developer, the Association had begun to oppose all offshore wind developments. This experience was then contrasted with the meaningful engagement experienced with National Grid during the Nemo Link consultations.

Proactively enacting company policies and procedures

BESTGRID caused some introspection within National Grid. It had been assumed that these good practices were embedded within the culture of the company and were working well, with the relevant principles documented in both communication material and corporate policies.

However, it was clear from the feedback and analysis conducted through BESTGRID that these practices were not always implemented effectively at a project level, for a variety of reasons.

As such, appropriate communication material was designed to outline these reasons, as well as the insights gained from the project and the measures identified to address the issues, in order to ensure that these good practices become embedded within the culture.

Something else that became very clear throughout the analysis was the value of good personal relationships among both developer and individual stakeholders, achieved by way of regular face-to-face meetings, continuity of knowledge and commitments throughout a project lifecycle and, most importantly, the willingness of each to listen to and understand the objectives and perspectives of the other.

LESSONS LEARNED:

- NGOs often have resource constraints; developers should consider how they can help to alleviate this issue, without the NGO being perceived to have compromised its integrity. This can be done by supporting independent sources of financing for NGOs.
- Guiding principles for stakeholder mapping need to be documented, agreed and suitable guidance prepared.
- Providing the opportunity for stakeholder groups to discuss the challenges of a project in a structured meeting can be effective in alleviating some of the pressures on a project, particularly at a strategic or very early development stage.
- Face-to-face engagement is crucial, coupled with adherence to good meeting discipline and careful management of expectations. All of these elements require time and resources, and are too often overlooked or undervalued.
- There is a need to demonstrate within corporate management structures how good stakeholder engagement can increase efficiency of permitting for a project.
- Stakeholder risks must be better understood and included in a maintained risk register in order to highlight the value of, and to improve, effective management.
- Education and/ an experience exchange between developers and stakeholders is required; it is clear that the most successful relationships are between parties who have previous experience of working together, or have staff who have “sat on both sides of the fence”.
- A neutral repository of key information from major infrastructure projects pertinent to permitting should be established in order to provide information on past projects, organised by project type and geographical location. This would provide NGOs and other stakeholders with a valuable resource in learning about, and engaging with, the various stages of the permitting process.

LIST OF RELEVANT DOCUMENTS

National Grid‘s workshop report
http://www.bestgrid.eu/uploads/media/D6.2.Workshop_report.pdf

Presentation on National Grid‘s pilot project Nemo Link
http://www.bestgrid.eu/uploads/media/D6.3_BESTGRID_Presentation_National_Grid.pdf

Marine Action Plan
http://www.bestgrid.eu/uploads/media/D6.1_Marine_action_plan.pdf

50Hertz – Innovative Community Outreach

Background

50Hertz is the electricity grid operator for northeastern Germany, operating a transmission grid of over 10,000 km. The region itself is a relatively sparsely populated area, and a major exporter of renewables-based energy to other parts of Germany. Increasing capacity for export will remain possible only if the existing infrastructure can keep pace with the growth and subsequent integration of renewable energy.

Fig 7 Connection between Bertikow and Pasewalk. Source: OpenStreetMap

Elaborate responses to technical questions are often inappropriate in discussion with laypersons, meaning that communication activities must strive to provide an unabridged account of the facts while remaining easy to understand, without appearing patronising.

The pilot chosen by 50Hertz for the BESTGRID project was the Bertikow-Pasewalk project, a project currently in the permitting phase. The project aims to increase the capacity for electricity transmission in the northeast of Germany from renewable energy sources to consumers. The timing of the engagement and permitting processes fit well within BESTGRID, since the project itself offered a blank canvas for the testing of some innovative engagement practices. During the project, 50Hertz plans to replace an existing 220 kV overhead line with a more powerful 380kV overhead line, with new pylons to be constructed on the 40 km long route between the substations of Bertikow in Brandenburg and Pasewalk in Mecklenburg-Western Pomerania.

The application for the Bertikow-Pasewalk project was submitted in September 2014. Following the application, 50Hertz received the go-ahead for further assessment of the proposed corridors from the permitting authority. The final application for the project was submitted by 50Hertz in July 2015.

One important benefit of the public debate on grid development in Germany for 50Hertz is the opportunity to explain some often complex technical issues. Most projects actively pursued by 50Hertz involve the replacement of infrastructure on existing line routes; existing 220kV overhead lines are being replaced by overhead lines with a voltage level of 380kV. This change requires larger pylons, which in turn alters the nature of the planning and environmental issues that need to be addressed.This complex situation makes communication of the project a crucial element of the permitting process. Elaborate responses to technical questions are often inappropriate in discussions with laypersons, meaning that communication activities must strive to provide an unabridged account of the facts while remaining easy to understand.

Measures Implemented

For the pilot project, 50Hertz sought to define the key parameters of its project communication. In order to define objectives, 50Hertz asked several questions which were to inform the measures they subsequently chose to take. These questions included:

- What are the most frequent questions from stakeholders when dealing with the content of environmental, scientific and planning reports?
- How do 50Hertz employees communicate complicated technical content to laypeople?
- What role do information brochures, verbal explanations or participation in measurement procedures play in helping residents to understand the subject?
- How can 50Hertz complement and effectively coordinate these different sources of information?

Informed by the above questions, various innovative engagement measures were carried out over the course of the pilot project, aiming both to inform the public, and to offer participants the opportunity to make suggestions and provide feedback concerning the on-going planning process. One focus was the issue of electric and magnetic fields (EMF); these electric and magnetic fields are produced by all electrical equipment, including high-voltage lines, and are often of concern to stakeholders due to feared health risks

Stakeholder Management

At an early stage of planning, 50Hertz established contact with the local authorities to inform them about the permitting process and the planned measures for the open public dialogue and asked for advice on preferred information activities. As a result, 50Hertz was invited to a village open council, where the community got to know the project at an very early stage of planning.

Route corridor workshops

Two workshops were held in March 2014 (prior to the official permitting procedure) in the municipalities of Prenzlau and Pasewalk. This was in order to discuss the proposed route corridors, with both workshops serving three purposes.

In both workshops, minutes were taken and all information gathered was published on the 50Hertz website. The workshops were additionally used to introduce the local press to the details of the project.

Purpose of the route corridor workshops

1. Bringing together the most important regional and local disseminators
2. Gathering feedback and bundling information from the region where the line is to be constructed
3. Fine-tuning the details of the mobile citizen office tour, and forging links with local authorities for the future organisation of on-site events in the municipalities

50Hertz mobile citizen office at farmers' market

Tour of the mobile citizen office

A "mobile citizen office" was created, visiting a total of eleven destinations along the route of the new line. During the tour, citizens were informed of the current status of the project and given the opportunity to raise questions with a team of experts, as well as to provide input on the current planning process. Furthermore, measurements on electric and magnetic fields were also taken, with various household electric devices such as alarm clocks and hair dryers being displayed and tested for EMF. This was then repeated near the existing power line, with all measurements supervised by experts from the University of Duisburg-Essen. 50Hertz also collaborated with a regional newspaper, which featured a blog documenting the tour on its website. Blog posts were provided by 50Hertz, the regional newspaper "Blickpunkt", RGI, and from NGOs who joined the tour.

Roundtable events in cooperation with NABU Germany on bird protection

In the course of the BESTGRID project, two roundtable events were organized in cooperation with the federal branch of the German Nature and Biodiversity Conservation Union (NABU). As well as providing information on the status of the project, both events focused on the issue of bird protection within the 50Hertz pilot project, discussing potentially critical spots along the proposed corridors and relevant potential mitigation measures, and gathering useful data for the further planning process. The workshops were held in Pasewalk (September 2014) and Prenzlau (April 2015) and approximately 40 participants from public authorities, politics, NGOs, local businesses and civil society were in attendance at each of the events.

The last roundtable included a field trip to the existing 220 kV line, located in a local recreational area named "Kirchenforst", where further 110 kV lines span the forest. Potential options for the implementation of the upgrade from 220 to 380 kV were explored onsite, and various concerns such as local, agricultural and environment conservation issues could be discussed at this early stage of the permitting procedure.

Workshops on electric and magnetic fields in cooperation with Deutsche Umwelthilfe

50Hertz, in cooperation with Deutsche Umwelthilfe, organized two workshops in Prenzlau (September 2014) and Potsdam (September 2015) hosted by the Ministry for Economic Affairs and Energy of Brandenburg. Here, academic experts, public authorities and NGOs discussed public concerns relating to power-frequency EMF, and how best to address these concerns.

Information material on the pilot project and BESTGRID activities

Various information materials regarding the pilot project and EMF were published in the course of the on-going project. The objective of this was to provide all stakeholders interested in 50Hertz's grid projects with all necessary information. To this end, 50Hertz launched a project website for all grid development projects (www.50hertz.com/en/Grid-Extension/Projects). Members of the public can use the website to access information on the current status of the planning process, including maps for the proposed corridor routes and documentation on the events and activities accompanying the planning process. This also includes the information and guidance produced for the BESTGRID project, such as a brochures and a short video on EMF.

Regular exchange between 50Hertz and NGOs

During the course of BESTGRID, 50Hertz met regularly with all partners who were involved in its pilot project. In small discussion groups, which included representatives from both the planning and communications departments, issues could be raised by participants and discussed in an atmosphere of trust.

Information and explanations from 50Hertz were of particular help during the environmental analysis carried out by the nature conservation groups. In return, NABU provided authoritative advice concerning the regional environment at an early stage, thus improving the quality of the application. One result of this was the integration by 50Hertz of an alternative corridor option in the application, included upon request from NABU.

Individual EMF measurements

Feedback from Project Observers

Early dialogue on the ground allows for ease of contact between local people and project planners.

For Germanwatch, the results of the 50Hertz mobile citizen office demonstrate that early dialogue on the ground allows for ease of contact between local people and project planners. Members from all environmental NGOs involved in the Bertikow-Pasewalk project took the opportunity to discuss the consequences of the German Energiewende policy and environmental impacts of different corridor alternatives with local people and TSO staff. Furthermore, the presence of an EMF expert from the University of Duisburg-Essen, who explained the effects of EMF using measurements of the field under the existing 220 kV line in the area, was considered valuable. The NGOs spoke to local people who expressed appreciation for the opportunity to discuss directly with TSO planning staff and EMF experts.

In the opinion of RGI, the provision of measurements conducted by scientists is one means of making the topic more tangible. However, the task of explaining these technical details to laypeople requires sophisticated communication skills on the part of both the TSO staff and accompanying experts, such as scientists. Supporting information material is indispensible. Since the topic is highly emotive information needs to be sensitively communicated. Language can easily be misinterpreted and measurements, if presented without comprehensive accompanying explanations, can be viewed as misleading and an effort on the part of the TSO to downplay risks. Critical reaction to some information provided by the TSO can be anticipated from people with a certain pre-existing mind-set.

The delivery of direct face-to-face communication is time-consuming, but can be the key to meaningful stakeholder engagement.

Field trip to existing 220kV line with 50Hertz and NABU

RGI also observed that the mobile citizen office proved particularly successful in sparsely populated regions. Reaching out to people during their everyday activities (for example, at weekly markets) widens the spectrum of people engaged and informed at a very early stage of the planning process. In contrast to, for example, a general project office in the region, the mobile office is a useful tool in addressing the commonly experienced “participation dilemma”. This often occurs during the early stages of the process, when plans are still relatively vague, the exact route is not yet determined, and public engagement is therefore weaker, since the impact on local communities is not yet clear. The participation of stakeholders at this stage is, however, very useful, since grid operators still have significant scope to incorporate suggestions and alterations. Proactively approaching the public and extending an invitation of involvement with the mobile office could be done effectively by grid operators in other projects as a means of overcoming this dilemma. Many drop-in visitors to the mobile office expressed their appreciation of the ease of access to the project planning team and the convenience of having information delivered to them at the place where they live. They felt that they were being taken seriously as stakeholders, which is an important lesson: the delivery of direct face-to-face communication is time-consuming, but can be the key to meaningful stakeholder engagement.

In cooperation with NABU, which distributed feedback forms at the stakeholders workshops, IIASA analysed the feedback from stakeholders. This analysis revealed that 88 % of participants were interested in the events, 80 % considered the experts knowledgeable and the content of the presentations appropriate, and 75 % were considering participating in follow-up events.

Through observing and analysing the concerns raised by the participants of these workshops, IIASA concluded that the question of the actual need for the line could successfully be addressed by means of roundtable discussions. The most effective measures were the provision of more detailed information, personal responses to the concerns of participants during direct discussion with employees of 50Hertz, as well as development of detailed maps of the preferred corridor and potential impacts on environment.

Assessment by 50Hertz

For 50Hertz, the purpose of the pilot activities was to implement a holistic combined approach to engagement and communication, and within that, test some new approaches for the BESTGRID project.

In general, 50Hertz received positive feedback from stakeholders engaged with the consultation process. They also reported some very interesting practical learning experiences, which can be transferred to other projects.

The cooperation within BESTGRID demonstrated the fundamental willingness of all partners to strengthen ties, work together and trust one another, while the public meetings provided a basis for an objective debate on technical subjects.

Joint measuring of EMF (electric and magnetic fields)

An important aspect of the mobile citizen office was to offer members of the public the shared experience of measuring EMF levels underneath an existing 220kV line (to be upgraded by a 380kV line). EMF and its perceived health risks are a frequently expressed concern of those living close to existing or proposed high-voltage lines. This process of joint measurement provided information in a hands-on manner, while ensuring transparency of the methods used by 50Hertz for measurement. Thanks to the cooperation of an independent observer (the University of Duisburg-Essen), residents could raise questions concerning their own specific situation, and receive an immediate response and guidance from an impartial observer.

The purpose of this activity was to attempt to improve levels of trust by demonstrating that levels of EMF are within prescribed safety levels, and to discredit the idea that 50Hertz is withholding potentially important information relating to health and safety. The activities were widely appreciated by the stakeholders involved, and will become an important part of 50Hertz's engagement activities in the future.

50Hertz expressed a conviction that the organisational framework of BESTGRID has helped ensure continued and high-quality dialogue, both within the organisation and externally. Also expressed was that the cooperation within BESTGRID demonstrated the fundamental willingness of all partners to strengthen ties, work together and trust one another, while the public meetings provided a basis for an objective debate on technical subjects.

50Hertz also observed that BESTGRID significantly influenced the quality of their information activities, as participation in the EU project itself increased the scope and quality of communication. In addition, the pilot project made it possible for 50Hertz to dedicate a great deal of thought to certain measures, and to assess the quality of their implementation. Finally, the dialogue with the expert NGOs involved with the project was established in such a way that maintaining ongoing cooperation into further projects was easy. In this regard, 50Hertz considered the successful termination of BESTGRID as the start of a new project: the development of beneficial interfaces with NGOs during the planning phase.

LESSONS LEARNED:

- The mobile information office facilitated the communication to the media of important facts concerning the planning progress and the approval procedure, as it acted as a focal point for coverage.
- 50Hertz visited many smaller towns and municipalities along the proposed route with its mobile information office. As such, it was able to establish contact with an entirely different set of people than those participating in the local meeting formats, thus significantly widening stakeholder inclusion.
- As 50Hertz rotated the staff working on the mobile information office, many 50Hertz engineers were also offered the opportunity to gather first-hand experience of community engagement. This broadened the perspectives of many 50Hertz team members, and contributed to an improved understanding of stakeholder concerns throughout the more technical departments of the company.
- Together, the mobile information office and themed meetings created a chain of measures that ensured continuity of dialogue.
- The dialogue with NABU and local nature conservation authorities provided a constructive means of collecting data about bird migration and breeding grounds at a very early stage of the project. NABU wrote a very useful detailed report on sensitive bird habitats along the route options.

LIST OF RELEVANT DOCUMENTS

Action plan for 50Hertz' pilot project
http://www.bestgrid.eu/uploads/media/D5.1_50Hertz_Action_Plan_5.1___5.pdf

Presentation on 50Hertz's pilot project Bertikow-Pasewalk
http://www.bestgrid.eu/uploads/media/D5.4_BESTGRID_Presentation_50Hertz.pdf

Report on 50Hertz activities including; presence of mobile citizen office, two information events and two permitting/planning stakeholder meetings
http://www.bestgrid.eu/uploads/media/D5.2_Report_50Hertz_mobile_citizen_tour_events.pdf

Public information material on EMF produced by 50Hertz (in German)
http://www.bestgrid.eu/uploads/media/D5.3_Public_information_material_on_EMF.pdf

Report on the cooperation between NABU and 50Hertz
http://www.bestgrid.eu/uploads/media/NABU_Final_Report_BESTGRID.pdf

MEF measurements beneath existing 220kV line

Elia – Waterloo – Braine-l'Alleud – Improving Stakeholder Involvement

Background

The first pilot project chosen by Elia was a planned high-voltage underground cable (150 kV) running between the Braine-l'Alleud and Waterloo substations in Wallonia, south of Brussels. The planned corridor is notable for the variety of environments it passes through, including densely populated urban spaces, a river, a railway, main roads and farmland.

For Elia, the grid connection met a number of practical needs.

- The need for a greater supply of energy to the Waterloo substation. Grid capacity modelling suggested that, by 2018, the existing facilities would no longer be able to support the needs of the local population due to rising demand for electricity from both residential inhabitants and small and medium size enterprises.
- A need to increase the density of its grid and establish 150 kV loops to optimize the transmission of energy generated by the growing number of local renewable energy installations (for example, wind farms and photovoltaic facilities).
- Improve grid security by ensuring the reliability of supply.

Fig 8 Route of postponed Waterloo-Braine l'Alleud project. Source: OpenStreetMap

During the course of the project, Elia received new forecast data from the distribution system operator regarding the Waterloo zone. This data indicated that plans for a new link between the substations in Braine-l'Alleud and Waterloo must be postponed for several years on economic grounds. The forecasts indicated that growth in electricity consumption in the region is stabilising, and a number of large one-off connection requests were cancelled.

As a result, Elia stopped its planned investment programme, and BESTGRID activities were refocused to the Stevin project in July 2014.

Measures Implemented

Despite the early termination of activities, a great deal of work had already been done in order to engage local people with the planned project, and many informative analyses and conclusions can be drawn from this completed portion of work.

Elia worked with the locally operating NGO Inter-Environment Wallonie (IEW), a federation of environmental conservation organizations in Wallonia, to complete the relevant measures.

Stakeholder mapping

IEW and Elia collaborated on the design and implementation of an innovative and detailed stakeholder mapping exercise. A range of strategies was used to reach out to and engage with the various stakeholder groups likely to be impacted by the planned project. IEW ran ten in-depth interviews (using questions developed with IIASA) with local key stakeholders, in order to gain understanding of the situation on the ground.

Regional workshop

A workshop with representatives of regional and local governments was organized, with a view to further improving the transparency of the consultation process. This event was run by Elia, and attended by IEW. The main goal of the workshop was to improve transparency regarding; context, key players, procedures, necessity and the process of highlighting environmental issues.

Roundtable

Afterwards, IEW organized a roundtable discussion with identified environmental stakeholders and local environmental authorities. This first roundtable was a largely informative exercise, disseminating some of the facts of the project, and including a presentation of the environmental context, produced by the NGO Natagora. The author of the Environmental Impact Assessment (EIA) was invited as an environmental expert, with Elia also attending. The main goals of this roundtable discussion were to take transparent action on the above points, and foster a genuine dialogue between the affected stakeholders at an early stage.

Feedback from Project Observers

According to reports from Germanwatch, the biggest challenge faced during the process was the difficulty experienced by Elia and the cooperating Walloon NGO association IEW in explaining both the need for the power link, and the criteria for the route selection. One concern repeatedly raised by IEW member organisations was whether the line was needed at all. Several stakeholders felt that the question of need had not been sufficiently addressed from the outset. When it later transpired that the underground cable was no longer deemed necessary, stakeholders asked IEW for an explanation. For this reason, the lesson that Germanwatch considered most important, for both Elia and IEW, was that more emphasis needs to be placed on the needs assessment of any future project.

Despite these difficulties, Elia and IEW developed a very good working relationship. In a spirit of cooperation, they developed stakeholder mapping for the participative dialogue. They invited local stakeholders from affected communities to roundtable discussions, to provide input concerning the route planning. The joint contribution of Valérie Legat (Elia) and Valérie Xhonneux (IEW) to the public workshop in Hamburg in May 2014 was viewed as symbolic of their effective cooperation.

RGI emphasised that the strong involvement of IEW, clearly presented and explained to all stakeholders, made an important difference. Facilitation by an NGO created an atmosphere quite different from a TSO-organised event. Especially by way of the in-depth interviews, it can be assumed that, as an independent NGO, IEW was able to obtain more open feedback than otherwise would have been possible. In addition, the decision of IEW to engage in the process sent a strong signal to stakeholders regarding the benefits of cooperation.

The early enagagement measures implemented by Elia and the NGO partner IEW did a great deal to strengthen the relationship between the TSO and the NGO.

Assessment by Elia

The early engagement measures implemented by Elia and the NGO partner IEW did a great deal to strengthen the relationship between the TSO and the NGO. The collaborative efforts in preparing and implementing the actions outlined in the action plan were the first positive consequence of the project. This close cooperation fostered greater trust among community stakeholders, demonstrated credibility to the authorities, and provided Elia with a clearer understanding of stakeholder perspectives on the project.

It eventually became necessary to communicate the news of the termination of the Elia project. This measure was appreciated by the stakeholders, but was also the source of some frustration. This highlights the importance of full and transparent communication regarding the needs and status of the project, in order to develop a productive dialogue and build support.

For stakeholders, having such topics explained by a representative from civil society rather than the project developer makes a great difference.

LESSONS LEARNED:

- The in-depth interviews conducted by IEW closely complemented the stakeholder mapping exercise conducted by Elia. Carrying these out in parallel adds value because the local stakeholders, most likely reassured by the intermediary, provide more complete information than expected.
- The workshop with representatives from local and regional authorities and the environmental roundtable were both jointly organised by the NGO and the TSO, which lent credibility to the process. A clear understanding of the stakeholder context by means of the mapping and interviews should have been established prior to such a meeting.
- The TSO must attend these early meetings informed and prepared, but also anticipate and manage the frustration caused when not all of the stakeholders' legitimate questions can be answered.
- It is greatly beneficial to have independent experts present. In this specific case, the NGO Natagora had carried out a detailed mapping of flora and fauna in the area surrounding the cable, presenting the findings at a roundtable event, and clearly demonstrating the consideration of environmental issues at an early stage.
- At the same event, a resident with scientific expertise, who is also member of a local civil action group, held a presentation on EMF. He also shared his insights on the question of need, stating that, based on the available information on planned urban development, an increased demand for electricity was clearly foreseeable. Both EMF and "need" are critical topics in discussions about grids.
  For stakeholders, having such topics explained by a representative from civil society rather than by the project developer makes a great difference. However, finding such "lay-experts" is not a simple task, this challenge further emphasises the benefit of diligent and in-depth stakeholder mapping.

LIST OF RELEVANT DOCUMENTS

Action plan for Elia's pilot project
http://www.bestgrid.eu/uploads/media/D3.1_Elia_Action_Plan.pdf

Public Information Document for Elia's pilot
http://www.bestgrid.eu/uploads/media/D3.2_Elia_Public_information_document_Part1.pdf

Presentation by Elia
http://www.bestgrid.eu/uploads/media/D3.6_Presentation_on_Elia_pilot_IEW.pdf

Presentation by IEW
http://www.bestgrid.eu/uploads/media/D3.6_Presentation_on_Elia_pilot_Elia.pdf

Elia - Stevin – Improving Stakeholder Involvement

Background

Fig 9 Connection between Zeebrugge and Zormegem. Source: OpenStreetMap

Once the Waterloo - Braine-l'Alleud project was halted, Elia chose the Stevin power line as a second pilot project for BESTGRID. This line is one of the largest new high-voltage power lines planned in Belgium; with a total length of about 40 km and a 380 kV high-voltage, the project runs between Zeebruges at the coast and Zomergem, where the connection is made with the Belgian grid. From the coast, the high-voltage line largely re-uses the route of an existing 150 kV line until Bruges. From there, the connection continues as an underground cable running a distance of ten kilometres underneath a canal and through a Natura2000 area. This part of the project was undergrounded due to the environmental concerns of the authorities relating to collision risk for geese that use the area during winter months. From this point, the high-voltage power line runs parallel to an existing 150 kV line.

For a small and densely populated country like Belgium, this is a large-scale project. The new power line will pass through several different landscapes: residential areas, industrial estates, agricultural landscapes, natural areas, etc. Accordingly, a range of different stakeholders are involved in the planning and permitting process, including citizens and action groups, local authorities, administrators and environmental NGOs.

This high-voltage power line is needed for a number of reasons, including:

- To connect future offshore wind farms to the onshore electricity grid. A further growth of energy production at sea can only be supported by the construction of a 380 kV connection.
- To connect additional wind turbines on land, as well as solar parks and biomass installations, to the grid. Today, the maximum capacity of the electrical grid in the coastal region has been reached.
- To achieve an interconnection with the United Kingdom, and have the ability to import and export more energy in this way. This additional interconnection is essential to guarantee the electricity supply for Belgium via the Nemo Link project.
- To improve security of supply for the port of Zeebruges and the coastal region. For a further industrial development of the port of Zeebruges, access to greater electrical capacity is necessary.

The Stevin project went through a lengthy planning and permitting process spanning a total of ten years. The high-voltage power line was first included in the federal development plan of 2005-2012. The Flemish permitting procedure for the line started in November 2009 with the spatial planning and strategic environmental assessment, with the full planning permission procedure starting in October 2012. Permits were granted in the spring of 2014 and construction work began in early 2015.

The Stevin power line provides a great deal of insight into participation and the engagement of various stakeholders. The permitting and planning procedures were already well advanced by the time the project was included in BESTGRID, which meant that Elia's work was primarily an analysis of activities that had already taken place, dating back to years before the BESTGRID project began.

Measures Implemented

The Stevin case was considered an interesting project for study, as Elia had provided various opportunities to participate and engage at different stages of the permitting process, exceeding the legal requirements. By using Stevin as a pilot for BESTGRID, Elia and its NGO partner were able to evaluate the effectiveness of these voluntary participation activities.

Collaboration with BBL

Due to the location of the project, Elia chose to partner with the Flanders-based NGO group Bond Beter Leefmilieu (BBL). BBL is the umbrella organisation for 140 environmental organisations in Flanders and represents most of the environmental NGO community in the region

BBL's role was to cooperate in the analysis of the engagement process used, and the participation procedures followed, for the Stevin project. This was to produce a set of findings to shape Elia's future engagement strategies, and contribute to informing the BESTGRID objectives concerning the improvement of local public acceptance, and the precipitation of permitting procedures via early engagement.

In order to assess the permitting and stakeholder engagement processes of the Stevin project, BBL organised the following activities:

- Two workshops involving citizens and organisations (one in the province of West Flanders, and one in the province of East Flanders)
- A focus group session with local authorities
- An expert meeting with civil servants from the Flemish administrations involved in the procedure
- Interviews conducted by BBL with key stakeholders, drawing from a questionnaire developed in cooperation with IIASA

Visualisation at Elia info market for Stevin project

Workshops

During the workshops, discussions were held on the following themes:

- The need for the project
- The assessment of possible route alternatives
- The possible impact electric and magnetic fields might have on health
- The environmental impacts
- The methods of involving stakeholders
- The format of information exchanged
- The feedback given to the public
- Possible measures to mitigate environmental impact
- The costs and benefits of the project

Interviews

In addition to these workshops, ten in-depth interviews were conducted with important stakeholders. Interviews were held with the NGO Environmental Federation of West Flanders, Greenpeace Belgium, and the administration of Bruges and Zomergem, among others.

In order to encourage an open conversation, it was decided that Elia would not be present at the meetings and interviews, with the exception of the expert meeting.

Desk-based analysis

BBL also undertook a desk-based analysis of the planning and permitting procedure. This included examining reactions and opinions expressed by participants at the various stages of the project. Also discussed was the impact of the complementary participation initiatives set up by Elia, and the communication materials released as part of these initiatives. Another source examined was the press coverage during the permitting phase.

Published report

The research, interviews and workshops resulted in a report with 25 conclusions and recommendations for the improvement of stakeholder involvement in the construction of new high-voltage power line connections, with a view to significantly improving the planning and engagement processes.

Visualisation of new power line

Feedback from Project Observers

RGI believes that a key dynamic of the work done for Stevin in BESTGRID was that the NGO acted (in part) as the primary "interface" with the stakeholder. For the large majority of participants the absence of the TSO in roundtable discussions fostered a willingness to share critical impressions openly. A very small minority suggested that Elia didn't "dare" to face the stakeholders: absence of the TSO should therefore be either proactively explained, or happen only in the evaluation stage meetings.

For the large majority of participants the absence of the TSO in roundtable discussions fostered a willingness to share critical impressions openly.

Furthermore, RGI observed the importance of understanding how the dynamics of such meeting can be strongly influenced by individuals. In the case of one of the roundtables (but also at other stages during BESTGRID) one person dominated the discussion fully from a certain point onwards. Sophisticated moderation skills are required in order to find a balance in such a situation, giving enough space to very vocal participants, without missing out on the important contributions that other less vocal attendees may be able to provide.

After IIASA's observations of the workshops and interviews, a set of common concerns was identified, these included; a lack of information regarding alternatives and regarding the criteria of decision-making, a need for more clarity on national planning procedures, and a need for elaboration regarding the impacts of projects

Assessment by Elia

Elia believes that great strides were made in the creation of a comprehensive and rigorous permitting and engagement process. Information was well researched and many different alternative routes were examined. A general compensation policy was implemented for farmers, and a programme of green zoning around the high-voltage substations and line was established in cooperation with the Regional Landscape Associations. As mentioned above, the permitting and engagement activities were deemed appropriate for study as they began early in the process and were relatively extensive. Nonetheless, some issues did arise.

Information material at Elia's info market

BBL research shows that in the early stages of the process Elia was not successful in gaining the trust of the stakeholders, which had negative consequences for the project. This was blamed in part on a lack of mutual understanding of interests and concerns between the local authorities and citizen associations on the one side, and Elia and the Flemish and federal governments on the other. Not only the citizens and local committees, but also the municipal authorities felt that everything had already been decided, and that they were not provided with any credible alternatives. In spite of the extensive research compiled by Elia, stakeholders felt that the concept of the local "quality of life" was not taken into account, and that alternatives were not properly examined and were dismissed without justification.

One aspect of the activities that was considered useful was the early-stage engagement with the Flemish administrative authorities, which took place before the notification of the strategic environmental assessment. An unofficial "follow-up group" was put together, which included the relevant Flemish authorities and Elia. It was appropriate for this engagement to take place at an early stage, in order to gather unofficial feedback concerning alternative routes and the environmental research that had taken place, which could then be incorporated by Elia accordingly.

Following the example of this unofficial working group, it is deemed beneficial to implement a similar mechanism that includes officials and politicians from the municipalities involved, the local NGOs and civil society.

Local opposition to the Stevin project was fuelled by the perception that the benefits and the burdens of the project are unequally distributed. For several stakeholders, this is more problematic than the visual impact or local disruption. There was a strong conviction that the local population are required to shoulder the burden, while a few energy companies reap all the benefits. For this reason, it is advisable to explore ways of sharing burdens and benefits equitably.

The cooperation between BBL and Elia was very successful. All parties showed a strong willingness to work together, which will certainly have positive consequences for future projects. Further cooperation between BBL and Elia would be very useful, particularly for the more strategic "grid development plans".

The "third-party" role of the NGO is clearly advantageous when gathering the opinions of stakeholders, both for the TSO and for the stakeholders themselves.

In the course of the project, the issue of a mutual misunderstanding between TSOs and NGOs became evident: neither party properly understood the workings of the other, or the constraints in place. For example, the willingness of a TSO to incorporate environmental measures is often stronger than reality allows, due to technical, financial and/or social constraints; this kind of lack of understanding exists in both directions.

An important lesson learned from the analysis itself is that some stakeholders had a negative opinion of the communication and participation measures, despite Elia's efforts to inform them. Such open and clear feedback would most likely not have been possible if elicited directly by Elia.

The importance of appropriate and timely communication

One of the main conclusions drawn from the Elia Stevin pilot was the importance of appropriate and timely communication. Technical and complex matters must be explained in terms that laypeople can understand; local stakeholders reported that Elia's communication was overly technical and unclear, and that they struggled with terminology relating both to electrical transmission and to the permitting process.

Another issue concerned the timing of communication. For instance, almost two years passed between the notification for the strategic environmental assessment (November 2009) and the public inquiry for the spatial plan (September 2011). Between these two formal information milestones, the stakeholders were not sufficiently kept informed of the progress of the project. Because of the long duration of the examination, and the time required to compile the documents, stakeholders begin to feel disengaged and alienated. Many stakeholders also felt that proper attention was not paid to their comments, which they felt entered a "black hole".

The final communication-related issue identified in BBL's work was a miscommunication of the "bigger picture". The opportunity to explain the project in terms of national need and context was missed. It was taken for granted that local people had a comprehension of this plan and the broader energy context.

LESSONS LEARNED:

- Involving stakeholders much earlier in the process, giving people the opportunity to raise questions, and clearly defining the positions of stakeholders.
- To prevent disengagement, publishing a periodic newsletter with background information, the results of the partial inquiries, the development of wind turbines at sea, examples abroad, and so on. Periodic stakeholder meetings could also be convened on condition that sufficient new and significant information is available.
- Informing citizens in a simple, straightforward fashion of the reaction from the government to the objections or remarks submitted, in order to discourage disengagement during the often-complex procedure.
- Emphasising the Belgian national energy development plan, and explaining the broader context of energy infrastructure in the country in simple terms.
- Accompanying official reports and documents such as EIAs, with a simple, comprehensible summary, drafted in plain language. The use of clear and effective imagery such as 3D landscape visualisations is encouraged.
  Providing a budget or setting up a fund to finance local projects that improve the quality of life. This fund does not (solely) focus on financial compensation; practical measures designed to improve the local quality of life are often much better appreciated by stakeholders than direct financial transfers.

LIST OF RELEVANT DOCUMENTS

Summary of the stakeholder engagement process and planning and permitting procedures in the Stevin project
http://www.bestgrid.eu/uploads/media/D3.3_BESTGRID_Summarising_analysis_of_stakeholder_engagement_EN.pdf

Elia report on information events and roundtables.
http://www.bestgrid.eu/uploads/media/D3.4_Report_on_information_events_and_roundtables_EN.pdf

Action plan for Elia's pilot project
http://www.bestgrid.eu/uploads/media/D3.1_Elia_Action_Plan.pdf

Public Information Document for Elia's pilot project
http://www.bestgrid.eu/uploads/media/D3.2_Elia_Public_information_document_Part1.pdf
http://www.bestgrid.eu/uploads/media/D3.2_Elia_Public_information_document_Part2.pdf

3. Transferring Experiences and Insights

A better grasp of good practice is essential if there is to be a comprehensive improvement in the acceptance of projects on a local level, and for a streamlining of permitting procedures across Europe. For this reason, the BESTGRID project comprised an extensive knowledge- and experience-sharing component. This work included workshops, training sessions, handbooks, and public outreach activities targeted at other consortium members and at external interested parties. These activities were also important in building additional relationships and trust between the BESTGRID partners, especially between NGOs and TSOs.

Building Capacity BirdLife NGO Workshops

As one of the largest environmental NGO partnerships in Europe, BirdLife Europe was well placed to take the lead in an exchange of the experiences and lessons learned from the BESTGRID pilot projects. To facilitate this exchange, BirdLife organised two workshops to share insights resulting directly from the pilots, in combination with relevant current topics relating to European grid development.

First workshop – BirdLife International partners

The first workshop mainly included delegates from BirdLife's various national partner organisations, including representatives from Bulgaria, Croatia, Estonia, Germany, Greece, Hungary, Ireland, the Netherlands, Portugal, Slovenia, Spain, and the UK.

The content of this workshop was provided by a select set of experts, presenting both case study examples and broader recommendations regarding current BirdLife grid engagement practice. A briefing on the progress of the BESTGRID project was then given by several of the pilot project leaders. The key outcomes of this workshop were the following:

- An emphasis of the value of early "upstream" engagement; for example the development of "sensitivity maps", showing the location of vulnerable species that could be affected by electricity grid development
- Useful advice from the TSOs present on adapting the handbook to be produced by BirdLife for effective use in the energy industry, as well as by NGOs and public audiences
- The decision to update the BirdLife Europe's policy position on power lines to better reflect the group's growing focus on electricity transmission and the links to renewable energy delivery

The decision to review the BirdLife Europe policy position on power line development in order to reflect the work done as part of BESTGRID is an important outcome.

The workshop was found to be very useful for the BirdLife partners present. The representative from BirdLife International was very positive about the partnership's working approach, and has begun promoting the BESTGRID approach in his work programme in the Mediterranean region.

The decision to review the BirdLife Europe policy position on power line development in order to reflect the work done as part of BESTGRID is an important outcome. A revised policy position is expected to be in place in 2016, which will then inform how BirdLife's partners in each European country engage with grid-related development.

Second workshop - NGOs

The second workshop brought together representatives of major, mainly Brussels-based, environmental NGOs in order to share experiences of working on energy infrastructure policy and with grid operators, and to discuss the question "what more can NGOs do to make grid development work for climate and nature?" Fourteen people participated, representing Germanwatch, Climate Action Network, European Environment Bureau, E3G, IEW, ABSL Solon, CEE Bankwatch, the RSPB, BirdLife and RGI. The workshop was made up of short presentations delivered by NGO experts, followed by action-oriented discussions on how NGOs might develop their engagement more deeply in this area.

Some discussed topics went beyond the explicit brief of BESTGRID. This was a conscious decision made during the development of the agenda of the workshop. The range of potential measures and areas of engagement involved in European grid development far exceed the scope of the BESTGRID project, which provides a more in-depth examination of selected aspects. In light of this, the meeting was considered useful for the successful transfer of experiences between and beyond the BESTGRID consortium, and highly appreciated by participants. If resources and time – two perpetual challenges for the NGO community – can be found, such exchanges, possibly facilitated by RGI, will be continued beyond the boundaries of the project.

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BirdLife: Building Engagement Capacity in Central and Eastern Europe

Aiming to develop a strong partnership with authorities in order to disseminate the lessons from the BESTGRID pilots among NGOs, TSOs and authorities in selected Central and Eastern European countries, BirdLife partners in Lithuania, Romania and Slovenia held a series of three roundtables. These roundtables brought together NGOs, grid industry representatives and authorities, with the objective of raising awareness of EU grid planning (in particular the PCIs, or "Projects of Common Interest"), and enabling constructive engagement by NGOs, while promoting best practices in public engagement and environmental protection.

The first roundtable took place in Lithuania, and was hosted by the Lithuanian branch of BirdLife (LOD). The session focused on the LitPol Link, a PCI interconnector project that runs across the Poland-Lithuania border through some sensitive environmental areas, and which faced some serious late-stage stakeholder opposition. The speakers highlighted the PCI project as an illustration of an approach to avoiding significant impacts on nature. An opponent of the project raised issues pertaining to the engagement and permitting processes. A constructive debate followed, exploring the best methods of serving the interests of society, nature and individual property owners affected by new developments.

It was observed that, due to poor engagement practices, many of those likely to be impacted by the new line remained unaware and unengaged. It was recommended that the developer should in future hold local meetings in potentially affected communities before the commencement of the planning process in order to avoid misunderstandings and protests at a later stage. A consultant

in attendance also highlighted that measures for environmental protection and engagement with the public would be assisted by the development of good practice guidelines endorsed by well-known NGOs such as OTOP (BirdLife Poland). He also argued that planning would be more efficient and more acceptable to the public if grid development was one part of an integrated regional infrastructure plan, also comprising transport and housing developments. This could reduce wastage of effort in replicating environmental permitting studies in the same locations for different sectors, and would help to foster a public perception of grid development as part of regional development, rather than as a single issue.

Planning would be more efficient and more acceptable to the public if grid development was one part of an integrated regional infrastructure plan, also comprising transport and housing developments.

The second and third roundtables were held in Romania and Slovenia respectively. The Romanian roundtable was a well-attended event, bringing together NGOs, industry and local ministries. This event included practical steps to establish a process of cooperation, including listing the institutions that need to be involved in all engagement activities. Two of the grid operators (TSO Transelectrica and the DSO ČEZ) maintained a very active presence at the workshop, and expressed interest in future partnership work with SOR (BirdLife Romania) in order to jointly explore methods of safeguarding affected bird species. SOR hopes to begin work with ČEZ, and to draft a Cooperation Memorandum to be circulated between, and agreed upon by the interested parties. This outcome was considered a highlight of the workshops.

The third workshop in Slovenia addressed several issues of bird protection, particularly the need to intensify technical measures to prevent the electrocution of birds by low- and medium-voltage lines in Slovenia, as well as identifying criteria for the routing of new high-voltage lines. Furthermore, Germanwatch was given the opportunity to review the BESTGRID guidelines on "Public Participation and Transparency in Power Grid Planning" with a targeted audience. The key message conveyed was the importance of involving local politicians in the "need debate" during the consideration of new power lines.

Germanwatch Workshops

Germanwatch played an important role in the review and analysis of the BESTGRID project from a societal consultation perspective. In addition to monitoring the pilots, Germanwatch also ran two workshops seeking to draw preliminary conclusions from the work done, and to focus on the key outcomes that deserved closer attention.

First workshop

Attendees included representatives from grid operators, ministries, authorities, NGOs, citizen action groups and scientific institutions. Most participants agreed that there exists several major challenges to transparent planning and participation procedures which need to be addressed in any knowledge-sharing exercise. These challenges include:

- The provision of an easily comprehensible explanation of the complexities of the project background, as well as detailed information for experts
- The clear communication of the need for transmission grid projects within the context of renewable energy
- A clear distinction between the two planning levels (with more room for participation at the second planning level):
    1. Needs assessment ("Why is the line needed? Is it really needed?")
    2. Corridor / route finding ("Where exactly will the line be located?")
- By way of continuous dialogue, the alleviation of a lack of trust on the part of stakeholders toward power grid operators, with regards to the independence of information provided

The insights gained from discussions during the first workshop were used by Germanwatch for the development of the BESTGRID handbook on participation and transparency within power grid planning. This handbook was published in Spring 2015 (see next section).

Continuing best practice exchanges

The workshops held by Germanwatch contributed to the drawing of some broader conclusions from BESTGRID. The continuation of such knowledge-sharing was also suggested, with one regulator present suggesting that "[w]e should meet once a year to continue an exchange on good standards for participation in power grid projects".

Another related recommendation drawn from the workshops is that NGOs and stakeholders in other states should be encouraged to replicate this format, and establish a consistent stakeholder dialogue on national level. The workshops were organised by the independent NGO Germanwatch instead of a TSO, bringing together the most important stakeholders in a neutral setting, and thus allowing for a constructive debate.

Second workshop with experts

A second expert workshop in the summer of 2015 focused on motives for opposition to new extra high-voltage lines, which are not always addressed within the planning procedures.

There are various reasons for the rejection by stakeholders of a new high-voltage line or development of grid infrastructure; for instance, a strong emotional attachment to the landscape or a specific area, feelings of being at home in the environment, etc. Most emotional sources of conflict such as these cannot sufficiently be addressed during the legal planning procedure.

The workshop attendees considered a variety of ways to deal with these reasons for conflict, including:

- Financial and non-financial benefits for local stakeholders
- Technological solutions designed to help alleviate conflict, such as new pylon design options, or partial underground cabling
- Development of grieving mechanisms and farewell rituals to accompany processes resulting in changed landscapes
- Further research and enhanced communication on health-related issues

A strategy for dealing with emotive issues resultant from the transition to a low-carbon economy must be developed, not only by power grid operators, but also in cooperation with a large number of civil society stakeholders. Politicians, priests, trade unions, psychologists or other civil society stakeholders can play an essential role in this transformative procedure.

Most emotional sources of conflict cannot be sufficiently addressed during the legal planning procedure.

LIST OF RELEVANT DOCUMENTS

Presentation from BirdLife Europe regarding their involvement in the pilots.
http://www.bestgrid.eu/uploads/media/D7.4_BESTGRID_Presentation_BirdLife.pdf

Presentation from Germanwatch regarding their involvement in the pilots
http://www.bestgrid.eu/uploads/media/D8.4_1st_BESTGRID_workshop_SuedLink_Germanwatch.pdf

BirdLife Europe's "Briefing document on good practices in consideration of the environment and engagement with environmental stakeholders"
http://www.bestgrid.eu/uploads/media/D7.1_Internal_briefing_Document_Best_Practices_Grids_and_Nature_Conservation.pdf

Germanwatch's "Briefing document on good practices in consideration of public participation and transparency"
http://www.bestgrid.eu/uploads/media/D8.1_Internal_briefing_Document_Best_Practices_Transparency_and_Participation.pdf

Informing Society
Germanwatch Handbook

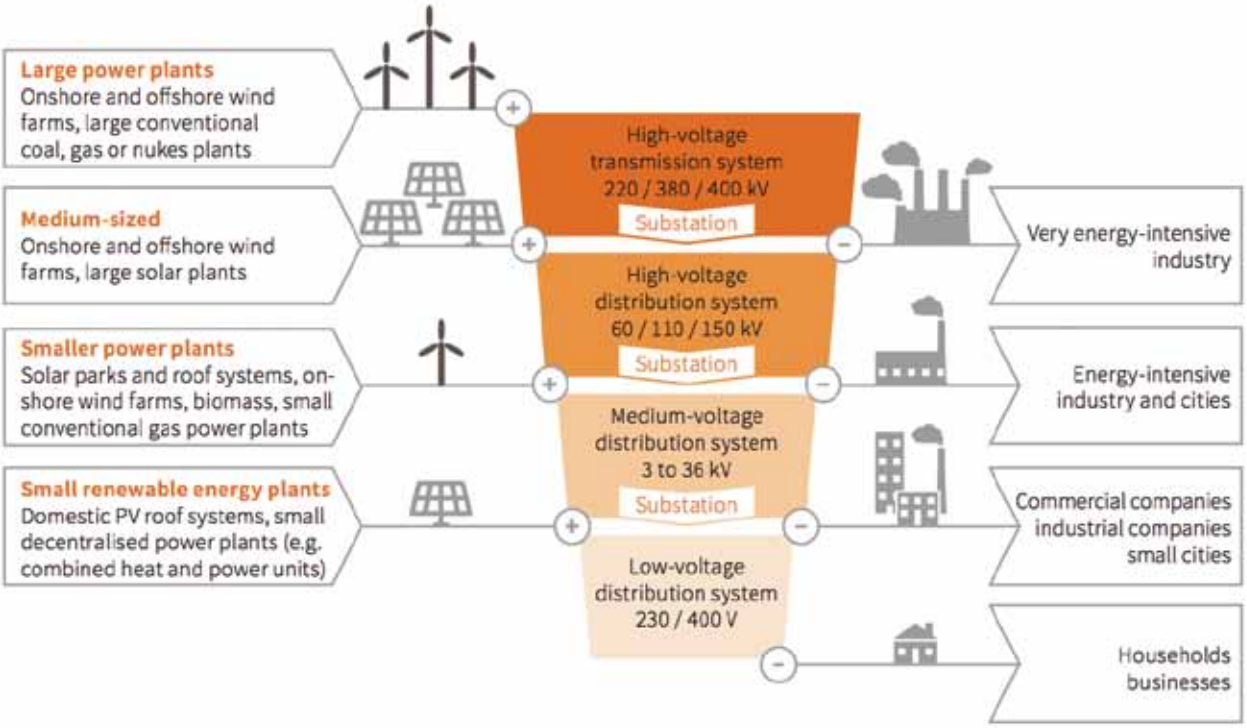

Fig 10 Market structure diagram of energy producers and consumers. Source: Germanwatch (based on 50Hertz)

Observing the various approaches of the BESTGRID pilot projects in Belgium, the UK and Germany, Germanwatch identified a wide gap in knowledge between stakeholders at the national and local levels regarding the justification of national power grid planning. With this in mind, Germanwatch decided to develop a series of recommendations to local stakeholders based on the findings and lessons learned from the BESTGRID pilot projects. Meaningful participation in electricity grid planning must be based on a deeper understanding of a number of complex issues, including:

- The complex planning procedure
- The future renewable energy-based power system
- Stakeholder roles and interests
- Technological options (alternating or direct current, overhead lines or underground cable technology)
- Health issues and nature conservation

Germanwatch has compiled its findings in a handbook, providing answers to questions such as:

- Who is responsible for power grid planning, and how can I participate in the decision-making process?
- Where do I find information on power line projects in my area?
- What conflicts might arise during the different phases of the planning process?

The handbook invites local stakeholders to contribute their experience and expertise concerning the energy transition and the much-needed transformation of the power grid. It also provides TSOs with examples of good practice in formal and informal stakeholder engagements. It is complemented by Birdlife's BESTGRID handbook, part 2: "Protecting Nature in Power Grid Planning: Recommendations from the BESTGRID project".

BirdLife Handbook

Birdlife's BESTGRID handbook, part 2: "Protecting Nature in Power Grid Planning: Recommendations from the BESTGRID project" builds on Part 1 by providing a resource for stakeholders interested in the nature-related lessons learned by BESTGRID. Using case studies and reports developed for BESTGRID by participating NGOs, and insights from the NGO roundtables and workshops, the report highlights three areas requiring action from all concerned:

1. Ensuring grid development reduces climate change risks for nature
2. Ensuring grid development in forested areas avoids damage to habitats and, where possible, creates improved opportunities for wildlife
3. Protecting birds from the risk of collision with power lines

The handbook explains the importance of each of these issues, how each is usually dealt with in grid planning, and which new ideas and approaches are applicable. It emphasises the importance of environmental protection, and also calls on supporters of nature conservation to "see the big picture" in terms of risks to nature caused by climate change and the necessity of energy system development in order to reduce those risks. Recommendations to environmental stakeholders, authorities and TSOs concern:

- The consideration of impacts on nature beginning at the earliest stages of decision-making
- The better use of environmental assessment procedures to enable this consideration, and to facilitate engagement with environmental groups
- The consideration of the benefits of working with independent wildlife experts possessing in-depth knowledge of local ecological conditions

LIST OF RELEVANT DOCUMENTS

Handbook "Public Participation and Transparency in Power Grid Planning"
http://www.bestgrid.eu/uploads/media/D8.2_Guidelines__22Public_Participation_and_Transparency_22.pdf

Handbook "Protecting Nature in Power Grid
Planning"http://www.bestgrid.eu/uploads/media/D7.2_Guidelines_Protecting_Nature.pdf

The BESTGRID consortium

4. Lessons Learned and the Way Forward

Lessons Learned

1: Adapt to specific circumstances

The testing, exchanging and sharing of good practices is of great benefit for all stakeholders. Good practices are often transferable, providing that the specific circumstances of the project are considered. The history of the project, existing stakeholder relationships, political context, participative culture or experience of the region with other (extra) high-voltage lines or other controversial landscape-impacting infrastructure projects, among other factors influence whether and how a practice is implemented. There is great benefit in discussing the context of a specific project with internal and external stakeholders in order to determine which concrete steps are to be taken.

It is essential to have a portfolio of measures that can be implemented according to need. Overall, smaller continuous measures have been proven to facilitate a steady dialogue and relationship with the relevant local and regional stakeholders; when done well, this is an opportunity for the TSO to establish itself as a consistently transparent and reliable partner.

2: Successful stakeholder engagement needs personal relationships

Genuine and continuing personal interaction and relationships are one of the most significant determinants of successful stakeholder engagement. It is indispensible that the TSO provide a dedicated official representative who is responsible for stakeholder engagement, possesses the time and resources required to establish trusted relationships, and maintains these even during “no news” periods. Ideally, these relationships should not be project-specific, but should already be in existence long before a project is required. At the same time, such dedicated staff need to be an integrated part of project teams to be able to make and keep promises (see item 3).

Opposing interests must be brought to the same table, instead of addressing stakeholders on an individual basis. Joint fact-finding regarding different interests and motivations helps to develop mutual understanding, and provides a means of balancing different concerns in a transparent way. This helps to establish a shared definition of issues, and a clarification of possible solutions, enabling better stakeholder engagement in the route-finding process or the design of impact mitigation measures. It counteracts the commonly held belief that TSOs are exclusively driven by economic considerations when planning power lines. Such interactions require a great deal of honesty between the parties involved. If handled properly, they are an important factor in the development of mutual trust.

In rare cases, strong opponents can become important partners in communicating with local communities to seek the best solutions. It takes a mixture of courage, art, luck and resource-intensive persistency to turn what starts with a conflict into a mutually beneficial interaction. In the cases where this is successful, it is definitely worth the effort.

3: Successful engagement needs organisational backing

Trust can only grow if those responsible for stakeholder engagement are able to make and keep promises, and speak frankly concerning the extent of the power and interest of the organisation they represent. This is not always the case for a variety of reasons; for example, the fear of legal repercussions, or because strategic support from within the company is lacking.

Those responsible for interaction ”on the ground” are frequently not empowered to make promises, or freely describe the circumstances. However, they must be confident of the support of those higher-up in the hierarchy, in order to be taken seriously as discussion partners by the external stakeholders.

4: Always be ready to explain the need

“We don’t believe this project is needed” is probably the most frequently heard argument from opponents of a proposed power line. Many of those affected require reassurance that a project is indeed necessary from a societal viewpoint in order to consider accepting the burden imposed by the development. Explaining the need for a project is therefore a task that is never fully completed, even if the debate has taken place and technical ‘proof’ has been provided in previous steps of the process. Project promoters require strong external support from decision-makers and politicians responsible for energy policy in answering the question of need. The determination of need is a result of political and societal decisions regarding the design of the electricity sector as a whole, which is not the responsibility of individual TSOs. As the Suedlink BESTGRID pilot project demonstrated, withdrawal of political backing is one of the biggest setbacks a project can suffer.

5: Legislation can help the process

Legislation cannot be used as a tool for the establishment of the necessary relationships of trust, although it does ensure a minimum level of transparency and public participation. Legal procedures need to be clearly defined and applicable to projects of very different kinds. Meanwhile, stakeholder engagement processes must be flexible in order to be able to respond to the specific type and scale of the project, as well as any unforeseen developments. A TSO should have a portfolio of ready-to-use measures allowing for adjustment of type and intensity of communication needed. The demand needs to be assessed in cooperation with local stakeholders, such as public authorities and NGOs.

Consequently, legislation cannot be the only tool used to speed up the planning and implementation procedures. However, it should enable the use of informal procedures, and the subsequent integration of the results of these into the formal procedure; for example by requiring project promoters to develop and consistently update an action plan for informal stakeholder engagement activities. Regulatory recognition of costs incurred through such activities is indispensible.

6: It takes time to see the effect of actions taken

In order to build trust and avoid later obstacles, several steps must be taken at a very early stage. The results of these may only become evident years later, perhaps in another project altogether. In particular, proper stakeholder engagement requires suitable resources relative to the size of the project. This, in most cases, is contrary to the logic of regulatory recognition of costs as it does not produce immediate visible results. Evidence of successful measures will, instead, be the relative absence of serious problems or opposition.

Furthermore, the avoidance of problems may not allow for a clearly designated “hero” among the individuals responsible, whether among TSOs or stakeholder groups. This contradicts the logic of usual procedures for the recognition of achievement and the celebration of success within organisations. It adds to the challenges of early engagement, as those who engage early in order to prevent later problems do not experience rewards comparable to those of “winning a battle” at a later stage.

7: Need for knowledge management

In common with many other sectors, the grid sector would benefit greatly from a more systematic approach to cross-project and international knowledge sharing. It is inherent to human and organisational nature that valuable experience often gets lost or is insufficiently disseminated, because of staff turnover and because the suitable knowledge exchange processes and tools

are not in place. Organisational procedures must secure satisfactory intra-organisational learning and handover of experience and relationships in order to safeguard established knowledge and relationships. For the benefit of inter-organisational learning, the establishment of a knowledge hub (for example, a systematically managed project/experience database) would be of major benefit, not only for project promoters, but also for authorities and other stakeholders.

8: Meaningful dialogue needs mutual understanding

Conversations with stakeholders are often challenging, due to discrepancies in comprehension and the framing of key issues on all sides. Basic concepts relating to electricity generation, transport, and legal procedures may be poorly understood among the public and some stakeholder groups. Important aspects of local history, politics and environmental knowledge are likely to be unfamiliar to TSOs. The issue is not one of incapacity to understand, but rather a perception on both sides that knowledge of these topics is not essential for effective engagement. Understanding the locality or explaining the basic technical issues when route planning is at an already advanced stage is often too late, as the context is already loaded with too many diverse interests and emotions. Therefore, such topics should be dealt with outside the context of specific projects, and particularly not at times of conflict.

Regional and local 'multipliers' (e.g. mayors, journalists etc) play a key role in educating TSOs and local people at the very early stage of the planning process, and it is crucial that they are themselves aware of this role, and are prepared to take responsibility for fulfilling it.

Some TSOs choose to focus on schoolchildren, in order to strengthen understanding of basic physics, foster a fascination for electricity, and through these means, contribute to a more positive attitude to grid development (see for example: http://www.eirgridprojects.com/schools/scienceprogramme/). Over time, this may help to overcome the frequent "demographic dilemma": engaged stakeholders are often simply too old to represent the section of society that will be affected by the completed infrastructure some decades later.

Developers must do more to understand how the issues are framed by public and stakeholder groups, to treat their concerns as legitimate, to learn from them and adapt to them. All parties must work together in pursuing a joint approach to problem solving.

9: NGO involvement helps to improve projects

Some more established NGOs, in contrast with some local action groups and most members of the general public, possess relatively sophisticated understanding of the formal procedures of grid development and the technology involved. In BESTGRID, and in a growing number of infrastructure projects of all kinds, it has proven useful to subcontract respected and knowledgeable organisations in order to help inform project planning, improve public engagement, and to help identify and implement better solutions for environmental protection or enhancement. If this is undertaken at an early stage of project planning, future problems and disagreements may be avoided, and trusting relationships can be developed, which can help maintain good relations with those organisations throughout the development and in other similar projects in future.

This engagement needs to be complemented by using the often extremely useful local knowledge of smaller groups and individual experts to improve the final project design.

10: Engagement beyond the concrete project provides additional value

The project's industry and NGO partners agree that working on BESTGRID has contributed significantly towards finding solutions. Personal relationships have been established between NGOs and TSOs, which will continue well beyond this project. Regular meetings have substantially improved inter-organisational learning, with the NGOs involved confirming that they now have a much better understanding of the functioning and challenges of project development. The TSOs involved state that they much better understand the necessity of early, continuous

and integrated stakeholder engagement processes, as well as on how these should be implemented. In some of the projects, BESTGRID was the stage that allowed NGOs to express clear vocal support for the need to work with grid infrastructure to allow for more renewables.

Field trip with NABU and 50Hertz

First BESTGRID workshop in Hamburg

Good practice information fair at 3rd BESTGRID workshop in London

Networking dinner after final BESTGRID Conference

Simulation game at 3rd BESTGRID workshop in Milan

Small discussion round at first BESTGRID workshop in Hamburg

The Way Forward

The BESTGRID project terminology refers to the projects examined as “pilot projects”, reflecting that the objective was always to apply these various approaches to stakeholder engagement more widely; specifically the close cooperation between TSOs and NGOs. Members of the BESTGRID consortium and many of its stakeholders want the insights gained to be implemented in a multitude of further grid development projects.

However, active engagement is often limited by resource constraints, especially in the case of NGOs. By planning joint activities at a very early point in time, it was assured that qualified staff would be available when active engagement on a project was needed. In addition, and more importantly, BESTGRID secured remuneration for NGO staff from a neutral source. This neutrality is of great importance to many NGOs, as their independence and credibility is directly linked to their funding.

Members of the BESTGRID consortium and Advisory Board, therefore, support the idea of setting up an independent fund, which would provide resources to facilitate the cooperation of TSOs and NGOs to engage in grid-related activities, both at the strategic level and on the ground. NGOs would obtain funding from a neutral source, under the condition that a TSO has committed to contribute its own share of resources to the joint cooperation. The fund would be required to stand on solid financial ground, and able to finance also longer-lasting engagement. Such a fund would then require a regular income stream, which would likely be a small share of grid infrastructure investment budgets. The fund could also be fed into by relevant national and European programmes or by internationally operating foundations. The regulatory recognition of these costs would be indispensible.

Thanks to the experience gathered during the last three years, RGI and the BESTGRID consortium share the conviction that it is indispensible to develop such a solution and commit to working on it together.

Discussion round at final BESTGRID Conference

List of abbreviations

ABSL	Association sans but lucratif (non-profit)
BBL	Bond Beter Leefmilieu
CEE	Central and Eastern European Bankwatch
ČEZ	České Energetické Závody (Czech Power Plants)
DC	direct current
DSO	Distribution System Operator
DUH	Deutsche Umwelthilfe
EGD	European Grid Declaration (on Network Development and Nature Conservation in Europe)
EIA	Environmental Impact Assessment
EMF	Electric and magnetic Fields
EU	European Union
GW	Gigawatt
IEW	Inter-Environment Wallonie
IIASA	International Institute for Applied Systems Analysis
kV	Kilovolt
LOD	Lithuanian Ornithological Society (Birdlife)
LS	Lower Saxony
MMO	Marine Management Organisation
MUMM	Management Unit Mathematical Models
MW	Megawatt
NABU	Naturschutzbund Deutschland (“Nature and Biodiversity Conservation Union”)
NGO	Non Governmental Organisation
OTOP	Polish Society for the Protection of Birds (BirdLife)
PCI	Project of Common Interest
RGI	Renewables Grid Initiative
RSPB	Royal Society for the Protection of Birds
SEA	Strategic environmental assessment
SOR	Romanian Ornithological Society (BirdLife)
TSO	Transmission System Operator

List of figures

Project partners

Transmission system operators:

50hertz, elia, nationalgrid, Terna Rete Italia, TenneT

NGOs:

BirdLife International, GERMANWATCH

NGOs that cooperated in pilot projects:

Bond Beter Leefmilieu (BBL), Deutsche Umwelthilfe (DUH), Fédération Inter-Environnement Wallonie (IEW), Naturschutzbund Deutschland (NABU), NABU Lower Saxony, The Royal Society for the Protection of Birds (RSPB)

Research institute:

International Institute for Applied Systems Analysis www.iiasa.ac.at

Project coordinator:

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