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Enhancing the Public Acceptance of Crossborder Electricity Interconnection Projects: A Crucial Step in the EU Energy Transition Process

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Highlights

While electricity interconnectors bring concrete and measurable benefits to the European economy and citizens, there is, nevertheless, a number of key prerequisites that must be fulfilled, in order for these interconnectors to unfold their full socioeconomic potential, namely: i) establishing a well-functioning EU energy market ("software"), ii) involving the public constructively and effectively, iii) meeting the financing challenge of cross-border investments, and iv) accounting for the specificities of national energy policies, mixes and profiles.

Public involvement and acceptance is one of the most crucial and challenging factors that may strongly influence the design, the realisation rate, but also the final outcome of an electricity infrastructure project. Many such projects have had to find solutions to public acceptance issues, typically because of perceived risks to health (despite converging scientific evidence to the contrary), the visual impact of the infrastructure in the landscape and/or the impact on the natural environment. As a result, such public concern has often led to significant procedural and time delays, or redesign of some projects, such as for instance change from overhead technology to technologically more challenging and considerably more expensive (3-8 times higher cost for the same capacity) undergrounding, in the middle of the process.

The present paper explores the important issues associated with the involvement of the public (citizens, civil society groups and relevant stakeholder groups), potentially affected by the development of new interconnectors, in their design, permitting and realisation process. The paper identifies a number of distinguishing features, weaknesses and obstacles that can strongly influence public attitudes towards new interconnector development, and probes relevant questions, such as: Are the practices applied to ensure public acceptance fit for purpose? Where is the space for improvement? Are some projects affected more by the lack of public acceptance than others, and how can this be balanced? Finally, the paper proposes specific measures, actions and initiatives that can significantly raise public awareness, promote constructive involvement and enhance acceptance of important cross-border electricity infrastructure by the public.

1. Introduction

A well-integrated, smoothly functioning and cost-efficient energy market is a fundamental prerequisite to safely driving Europe's energy transition process and, thus, to achieving the EU energy and climate objectives. The trans-European energy networks, and in particular the interconnectors thereof, are the "backbone" of the internal energy market, the vital physical component that makes this market truly European, by connecting Member States' networks and offering them adequate capacity for energy trade.

Adequately interconnected networks provide important socio-economic value, which, as the recent report of the Commission Expert Group on Electricity Interconnection Targets points out[1], stems from their ability to increase the efficiency of the electricity systems, by reducing the costs of meeting electricity demand and, in parallel, by improving security of supply and facilitating the cost-effective integration of the rapidly growing share of renewable energy sources, especially the variable ones (solar, wind). New electricity interconnectors, and their efficient use, are needed to transmit renewable electricity from remote and isolated generation sites (e.g. off-shore locations, mountainous regions, islands, etc.) to consumption centres and storage areas, and to connect regions with complementary characteristics or renewable generation, thus enabling the consumption of clean energy by European citizens.

As the Expert Group's report stresses, while electricity interconnectors bring concrete and measurable benefits to the European economy and citizens, there is, nevertheless, a number of key prerequisites that must be fulfilled, in order for these interconnectors to unfold their full socioeconomic potential, namely: i) establishing a well-functioning EU energy market ('software'), ii) involving the public constructively and effectively, iii) meeting the financing challenge of cross-border investments, and iv) accounting for the specificities of national energy policies, mixes and profiles[1].

Public involvement and acceptance is one of the most crucial and challenging factors that may strongly influence the design, the realization rate, but also the final outcome of an electricity infrastructure project. Many such projects have had to find solutions to public acceptance issues, typically because of perceived risks to health (despite converging scientific evidence to the contrary), the visual impact of the infrastructure in the landscape and/or the impact on the natural environment. As a result, such public concern has often led to significant procedural and time delays, or redesign of some projects, such as for instance change from overhead technology to technologically more challenging and considerably more expensive (3-8 times higher cost for the same capacity) undergrounding, in the middle of the process.

Therefore, addressing the societal acceptance of energy infrastructure, electricity interconnectors in particular, is key to their successful and timely realisation. The present paper explores the important issues associated with the involvement of the public (citizens, civil society groups and relevant stakeholder groups), potentially affected by the development of new interconnectors, in their design, permitting and realisation process. The paper identifies a number of distinguishing features, weaknesses and obstacles that can strongly influence public attitudes towards new interconnector development, and probes relevant questions, such as: Are the practices applied to ensure public acceptance fit for purpose? Where is the space for improvement? Are some projects affected more by the lack of public acceptance than others, and how can this be balanced? Finally, the paper proposes specific measures, actions and initiatives that can significantly raise public awareness, promote constructive involvement and enhance acceptance of important cross-border electricity infrastructure by the public.

2. Political and Societal Challenges/ Obstacles to Electricity Interconnector Development

In the paragraphs that follow we will identify and outline a number of important issues and challenges related to public involvement/acceptance of electricity interconnectors development that, if not addressed properly and effectively, can present serious obstacles and, in some cases, become insurmountable problems to their realisation.

2.1 Political Divergences and Regulatory Uncertainty

The lack of political will and regulatory certainty are major obstacles for the realisation of key energy infrastructures projects, obstacles that, in general, can be tackled more effectively at the EU level. Political divergences, including diverging national energy interests and lack of political determination by certain Member States and other actors to meet key EU objectives, often hamper efforts to get crucial energy infrastructure projects off the ground and keep them going. As the recent CCE position paper on the interconnection of energy infrastructures points out[2], there is an urgent need for positive political engagement/support for more regional infrastructure initiatives at the highest political level, that will follow in the steps of the successful Commission initiatives for a) the Baltic Sea Region ('BEMIP'), b) the South Western Europe, and more recently c) the Central and South Eastern Europe ('CESEC') and d) the Northern Seas. These regional cooperation initiatives contributed, in particular, to the identification and prioritisation of key projects of common interest in the region.

Regulatory uncertainty and regulatory mismatch between involved Member States, such as differences in permitting procedures, taxation, issues related to cross-border cost/benefit allocation, etc., also create obstacles and slow down the development of important infrastructure projects. Lack of clarity on who will bear the costs of these infrastructures is increasing political resistance: national decision makers do not have a clear vision of how the costs of these projects are going to be shared and, therefore, do not want to commit themselves if they do not have a guarantee regarding the financial consequences for different national stakeholders[2]. On the other hand, citizens are confronted with the negative consequences of infrastructure development in their direct environment, without seeing the benefits of the investments being made. Transparency and communication are essential, but citizens and local interest groups must also feel that they gain something by the project, locally or through a positive impact of the ensuing market integration on their energy bills[2].

2.2 Distribution of Interconnector Costs and Benefits Across Borders/Countries

As Beato and Vasilakos have recently elaborated[3], power interconnectors belong to the category of transnational infrastructure that incur large sunk costs and yield benefits in several countries, benefits that are mostly related to trade. Two groups of issues are usually associated with power interconnectors. The first derives from the fact that these interconnectors are only useful for the trade of a single good, namely electricity. The second is associated with the distribution of the costs and benefits of an interconnector across the countries involved. Power interconnectors whose costs and benefits are distributed symmetrically across countries do not give rise to problems greater than those expected from pure national grid projects. However, additional problems do arise when one country bears a disproportionate share of the costs, or enjoys the largest share of the benefits. The interaction of these two groups of issues often leads to situations where a project may be regionally desirable, but may be undesirable from the point of view of an individual country[3].

Until the entry into force of the Regulation on trans-European energy networks (347/2013)[4], there was a

lack of well defined, detailed and socially acceptable mechanisms to balance costs and benefits between countries. Each country typically supported the costs of the infrastructure located within its own borders ("territorial principle"). It was rare for countries to agree, in principle, on some sort of cost-benefit sharing. It typically takes a great deal of time for two countries to enter into a dialogue about a project with costs and/or benefits in both nations, if they lack rules for cooperation and/or incentives to communicate with each other about the project's costs and benefits. For instance, after identifying the benefits to a second country, the government of the first country must persuade the government of the other country to contribute to the costs of infrastructure located in the first country. Once the second country accepts the notion of contributing to the cost of the infrastructure, the two countries must agree on the actual amount that the second country must pay the first. The length and complexity of the process usually makes the implementation of power interconnectors a lengthy task[3]. Therefore, increasing interconnectors in a region calls for the establishment of well-defined mechanisms to solve or mitigate the problems that lead to less-than optimal levels of interconnection investment.

Beato and Vasilakos have pointed out[3] that the asymmetric distribution of costs and benefits between countries is especially relevant for small countries, because, for them, interconnector costs have a large impact on final consumers. This is so, because cost asymmetries in small countries are distributed among a relatively small number of consumers and the impact is large, while in large countries they are distributed among many consumers and the impact is smaller.

As already mentioned, a useful balancing tool in this direction is the TEN-E Regulation[4], which offers the possibility to go for the so-called cross-border cost allocation (CBCA), if one of the promoters/TSOs deem it useful. The Regulation sets a clear process with deadlines and a cost-benefit methodology. Such CBCA becomes mandatory if the promoters/TSOs apply for EU grants under the Connecting Europe Facility (CEF). Nevertheless, additional work for designing and implementing proper mechanisms for balancing costs and benefits of interconnectors within each country - between consumers, producers and other stakeholders - is still needed.

2.3 Lack of Sufficient Information and Involvement of the Public

Building an electricity interconnector is a highly complex task. Therefore, involvement of the public (citizens, civil society groups and relevant stakeholder groups), potentially affected by the development of new interconnectors, is necessary at an early stage of interconnector development, in order to address perceived concerns about health issues, or adverse impact on the landscape and nature ecosystems, and, thus, to reduce the length and impact of procedural delays. However, European citizens are in many cases unaware of the benefits that interconnection infrastructures can bring to consumers. The opposition of a (vocal) minority of citizens and other local actors to building/upgrading infrastructures is still an important obstacle for the realisation of key electricity interconnection projects of truly European interest (for example, PCIs).

This lack of sufficient information about the benefits of power interconnectors concerns not only citizens, but also the Member States involved. Even when a country is able to identify the benefits that it would accrue, it lacks information on how its own investments may reduce costs or yield benefits in another country. In addition, countries lack incentives to attempt to identify third country benefits, since doing so involves extra costs. Precise information on the benefits that a country would derive from an infrastructure project will increase the incentive for closer cooperation and mutually beneficial agreements between neighbouring countries[3].

The establishment of the European Network of Transmission System Operators for Electricity (ENTSO-E) and the development of a Europe-wide, ten-year network development plan (TYNDP), every two years, provide a coherent framework that goes well beyond the national perspective. The TYNDP and the accompanying cost-benefit analysis provides the stakeholders with the necessary information on infrastructure needs and bottlenecks, as well as on the benefits of individual interconnectors in different future scenarios. These tools must be further developed, to ensure that they provide realisable information to underpin stakeholders views on the project and, thus, to ensure evidence-based decision making.

Early involvement of the concerned local communities, as foreseen in the Guidelines for trans-European energy infrastructure (TEN-E Regulation[4]), is important when designing a project, in order to overcome justified concerns, as is professional communication to national, regional and local decision makers. Nevertheless, although public involvement/acceptance primarily needs to be addressed at the local and national level, a stronger presence and involvement of representatives of the EU institutions 'on the ground', highlighting the European added value of key infrastructure projects, could also be beneficial in many cases. The regional cooperation initiatives mentioned above, could be an important means for such involvement.

2.4 The Crucial Need for Targeted Compensation Measures at the Local Level

Even if the above issues and challenges are effectively tackled at the European and national levels, through the application of proper policies, regulatory mechanisms, good practices and efficient communication (see next chapter), at the local level, still, this may not be enough. Local perspectives are driven by specific territorial needs, which are often at odds with projects of European interest and a real obstacle to permit granting and public acceptance. This general-interest infrastructure often provides diffuse benefits to the whole of a country or to a wider region, but concentrates inconveniences in particular areas, which see neither the interest nor the justification for them. In this respect, even monitoring and control procedures/instruments are not sufficient and should be coupled with a constructive hearing of local exigencies and suitable compensation measures, producing tangible results for the local economy and employment[2]. We will outline proposals for such measures and initiatives in the chapter that follows below.

3. Practices and Measures that can Enhance Public Involvement and Acceptance of New Electricity Interconnection Infrastructure

As already stressed in chapter 2.3, early involvement of the concerned local communities, as foreseen in the Guidelines for trans-European energy infrastructure (TEN-E Regulation), is an important precondition when designing a project, in order to overcome justified concerns, as is professional communication to national, regional and local decision makers. This involves a thorough explanation right from the start that sets out why a project is necessary, what benefits it brings to European citizens and the involved communities, how any adverse impact is minimised and what the wider benefits are, for instance, in terms of increased possibilities for reliance on renewable energy sources.

The report of the Commission Expert Group on Electricity Interconnection Targets considers collaborative decision-making processes to be useful and important in building trust and raising public support, possibly enlarging the scope of the initial project to associate side-projects of public interest, proposed by, and valuable for, the local population. Actual negative impacts of the infrastructure (e.g. a de facto loss of real-estate value in the vicinity) must also be acknowledged, avoided, reduced or compensated, in a transparent and fair manner[1]. In some

cases, where finding agreement on new pathways for infrastructure seems an insurmountable problem, it is recommended to consider involving citizens to find feasible alternatives, such as expanding current lines, or changing them from alternating current to direct current technology, to enable better use of these lines (for example partial undergrounding in sensitive areas, a solution applied in some Member States). This would still mean that necessary permits have to be secured, but the net result is less impact on the landscape as no new pathways have to be found[1].

A number of good public involvement practices developed across Europe are, indeed, available today (for example, Good Practice of the Year award[5]), and they are often put in place by TSOs themselves. In that regard, their sharing and learning, as well as better communication, is strongly encouraged. Such practices may include[2] the elaboration of Strategic Environmental Assessment of the national grid development plans, early hearing of territorial needs and preliminary agreements with local authorities on the localisation of new infrastructures, identification of technical solutions able to minimise environmental and territorial impacts (e.g. use of infrastructure corridors and rationalisation of existing network) and to adapt the project design to specific territorial needs, compensation measures, including direct realisation or financing of works of public utility, etc.

Although, as already mentioned, public acceptance primarily needs to be addressed at the local and national level, a stronger presence and involvement of representatives of the EU institutions "on the ground", highlighting the European added value of key infrastructure projects, could also be beneficial. The regional cooperation initiatives referred to above, have already proven their added value in speeding up the identification, agreement and implementation of key projects. Furthermore, the appointment of European coordinators has proven useful in the past to promote a constructive dialogue between the various stakeholders involved in a key infrastructure project (following the example of Mario Monti in the case of the Spain-France interconnection). This approach could also be used to mediate or better coordinate between the EU/national/local levels, as a useful complement to the regional cooperation initiatives[2].

In the same direction, an interesting proposal is put forward by the Derdevet Report[6], involving the creation of a European Forum of the Territories, as a permanent structure of exchange of information at the European level, about energy projects being undertaken and the best practices deployed to associate citizens. Such a forum could be established within the existing Copenhagen Energy Infrastructure Forum (EIF) and could be backed up by a European institution (Committee of the Regions of Europe or European Economic and Social Committee). The Copenhagen Infrastructure School, that will be launched soon to provide support the work of the EIF, could also be tasked to research acceptance and public involvement issues. The Forum would help systematise feedback and the emergence of good practice initiated locally and would facilitate thinking about the local regulations and how they fit in with the optimum national and European regulations. To succeed, the local energy measures taken in the territories must indeed be in line with the European and national policies[6]. It would also allow work on the issues of acceptability related to the various energy projects (means of production, developments of networks) to go ahead and work on the necessary solidarity that needs to be strengthened between urban and rural areas with respect to the energy transition. The expected positive effects from the establishment and operation of the said Forum include[6] an acceleration of feedback and the dissemination of local innovation, in particular with respect to public debates and participatory initiatives, an acceleration of the deployment of general interest investments having a local impact and directing the allocation of funding towards efficient local models.

Beyond the above, common-sense/no-regret, approaches and practices, the fact remains that new ideas and measures, of specific, localised and compensatory nature, are still needed to further advance the public involvement/acceptance area and, thus, to promote the efficient and timely realisation of much-needed electricity interconnection infrastructure, crucial to the entire EU energy transition process.

Such measures may include the payment, directly (and proportionally) to those local communities crossed by a new electricity interconnection project, of a specific percentage of its annual transmission-fee earnings, in the very same way that certain Member States have long legislated that a specific percentage of a renewable project's annual turnover is paid directly (and proportionally) to those local communities where the project is installed.

Another possible measure in the same compensatory direction is the establishment of a European Investment Fund for the territories crossed by strategic infrastructure, an idea proposed by the Derdevet Report[6]. Such a fund should invest in projects led by the affected territories, aimed at boosting their economic activities or providing more public facilities. This investment would be conditional on: i) a shortening of the time limits for consultation and an absence of appeals by the communities affected, and ii) approval by all of the local authorities crossed by the project and by a local referendum. The Fund would be supported by the Juncker Plan for the funding of infrastructure, of which it is the territorial counterpart[6], and include also non-cross-border lines when they have benefits for Europe (such as the EHV lines between the north and the south of Germany). The expected positive effects include a shortening of the period for the completion of transmission lines, a reduction in the cost of transmission infrastructure, an economic boost to the economy in the areas crossed by the transmission lines, a strengthening of the security of supply and of the integration of the European energy markets[6].

4. Conclusions and Recommendations

While electricity interconnectors bring concrete and measurable benefits to the European economy and citizens, there is, nevertheless, a number of key prerequisites that must be fulfilled, in order for these interconnectors to unfold their full socioeconomic potential. Among these prerequisites, public involvement and acceptance is one of the most crucial and challenging factors that may strongly influence the design, the realization rate, but also the final outcome of an interconnection project. Therefore, increasing the societal acceptance of new electricity interconnectors is key to their successful and timely realisation.

The present paper addressed a number of important issues associated with the involvement of the public (citizens, civil society groups and relevant stakeholder groups), potentially affected by the development of new interconnectors, in their design, permitting and realisation process. Distinguishing features, weaknesses and challenges that can strongly (and negatively) influence public attitudes towards new interconnector development have been identified, among them:

- i) Diverging national energy interests and lack of political determination by certain Member States and other actors to meet key EU objectives, as well as regulatory uncertainty and regulatory mismatch between involved Member States, such as considerable differences in permitting procedures, taxation, etc.
- ii) Asymmetric distribution of interconnector costs and benefits across borders/countries and lack of detailed, socially acceptable mechanisms to balance them within each country involved.
- iii) Lack of specific, targeted and sufficient information/communication of professional quality, at all levels and to all decision makers (EU/national/local), about the multifarious benefits of electricity interconnectors, as well as lack of early involve-

ment of the concerned local communities and the public, to openly address their concerns (environmental, health, property, etc.) on the infrastructure project(s) crossing their territory.

- iiii) Need for specific initiatives and compensation measures at the local level, that produce tangible results for the local economy and employment.

The paper presented a number of proposals for fit-for-purpose measures, actions and initiatives that can significantly raise public awareness, promote constructive involvement and enhance acceptance of important cross-border electricity infrastructure by the public. These proposals encompass, among others:

- i) Effective communication/dissemination and coordination (sharing and learning) of a number of good public involvement practices developed across Europe, which are, indeed, available today and they are often put in place by TSOs themselves.
- ii) Stronger presence and involvement of representatives of the EU institutions "on the ground", highlighting the European added value of crucial electricity interconnection projects. The Commission's regional cooperation initiatives offer a promising framework to speed up the necessary investments. The appointment of European coordinators, which has proven useful in the past to promote a constructive dialogue between the various stakeholders involved in key infrastructure projects, can also be used to mediate or better coordinate between the EU, national and local levels.
- iii) Establishment of a European Forum of the Territories[6], as a permanent structure of exchange of information at the European level, about energy projects being undertaken and the best practices deployed to associate citizens. Such a forum could be established within the existing Copenhagen Energy Infrastructure Forum and could be backed up by a European institution (Committee of the Regions of Europe or European Economic and Social Committee). It could also be supported by the upcoming Copenhagen Infrastructure School for relevant scientific data and analysis.
- iv) Concrete measures of specific, localised, compensatory (economic) nature, such as the payment, directly (and proportionally) to the local communities crossed by a new electricity interconnection project, of a specific percentage of its annual transmission-fee earnings, in the very same way that certain Member States have long legislated that a specific percentage of a RES project's annual turnover is paid directly (and proportionally) to the local communities where the project is installed.
- v) The creation of a European Investment Fund for the territories crossed by strategic infrastructure[6], that will invest in projects led by the affected territories, aimed at boosting their economic activities or providing more public facilities, the investment being conditional on a shortening of the time limits for consultation and an absence of appeals by the communities affected, as well as on the approval by all of the local authorities crossed by the project and by a local referendum.

5. References

1. 'Towards a sustainable and integrated Europe', Report of the Commission Expert Group on electricity interconnection targets, Brussels, November 2017.
2. 'Recommendations on the evaluation of the TEN-E Regulation', Conseil de Cooperation Economique (CCE), Task Force on the interconnection of energy infrastructures, Paris, October 2017.
3. 'Identifying and promoting missing EU power interconnectors', Paulina Beato and Nikolaos Vasilakos, European Energy Journal, Issue No. 25 (April 2018), pp. 30-37.
4. Regulation (EU) No 347/2013 of the European Parliament and of the Council of 17 April 2013 on Guidelines for trans-European energy infrastructure and repealing Decision No 1364/2006/EC and amending Regulations (EC) No 713/2009, (EC) No 714/2009 and (EC) No 715/2009 (Text with EEA relevance).
5. 'Good Practice of the Year' Award, Renewables Grid Initiative (RGI), http://renewables-grid.eu/activities/best-practices.html
6. 'Energy, a networked Europe', Michel Derdevet, Report addressed to the President of the French Republic Mr. Francois Hollande, Paris, 2015.

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