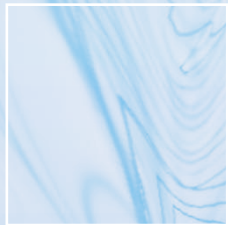


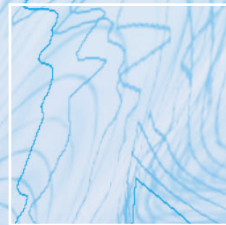
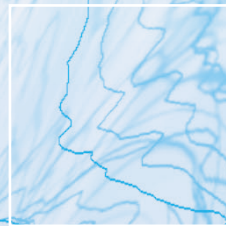
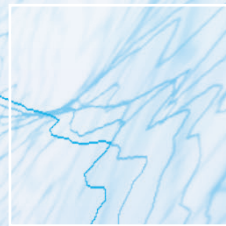


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Raising Public Awareness and Trust in Transmission Infrastructure Projects with Incentive Regulation: Tools and Biases

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Highlights

- Raising public awareness and trust in transmission infrastructure development is one of the key current challenges facing Transmission System Operators (TSOs) and other project developers. The result can be costly delays.
- Fine-tuning the regulatory toolbox that National Regulatory Authorities (NRAs) apply to incentivise TSOs can be part of the solution. The toolbox consists of cost-plus or rate of return regulation, price or revenue cap regulation, and output regulation.
- Each of these tools has strengths and limitations in terms of biases. In this brief, we identify the biases that are specific to stakeholder engagement activities that TSOs undertake to increase the public awareness and trust.
- Under the cost-plus approach, NRAs are biased towards the least controversial activity. Thus, the TSOs will try to anticipate the costs that will be more easily approved by the regulator. However, these least controversial activities may not be the most effective.
- Under the price/revenue cap, TSOs can be biased towards prioritising activities that result in the highest direct improvement of cost efficiency. They can also be biased in selecting the least controversial activities rather than the most cost-effective ones, simply because it can adversely affect their reputation and their engagement with the regulator.
- Under output regulation, independent experts can help the regulator to assess and challenge the stakeholder engagement activities undertaken by a TSO. This approach, however, requires a higher level of sophistication and complexity so that it can only be managed properly by a regulatory agency with sufficient resources and skills.



1. Introduction¹

Raising public awareness and trust in transmission infrastructure development is one of the key current challenges faced by project developers. In recent times, the affected public is becoming increasingly aware of and participative in the project development process. Therefore, project developers need to be innovative and to go beyond their traditional approaches to stakeholder engagement.

One of the key factors for encouraging project developers to apply innovative stakeholder engagement activities is the financial incentive attached to these activities. Since the liberalisation of the power sector, the use of ‘incentive regulation’ has become a standard practice among European regulators for effective and efficient implementation of grid tasks. The most commonly used incentive regulation tools in Europe are: cost-plus regulation (15 countries), price or revenue cap regulation (20 countries), and output-based regulation in three instances namely, Great Britain, Italy and Belgium. In these three countries, the regulatory frameworks for the transmission level have some elements to reward performance based on output proxies. In some countries such as France amongst others, a combination with a price cap for opex and cost-plus for capex has also been applied. Table 1 illustrates the current incentive regulation practices applied in Europe.

Table 1: current practice of incentive regulation (based on ACER Recommendation 2014/03² and own research)

Cost-plus / Rate-of-return (15)	Price/Revenue cap (20)	Output based (3)
AT, BE (capex), BG, HR, CY, CZ (capex), DK, FR (capex), GR, IT (capex), LV, MT, PO (capex), PT (capex), ES	BE (opex), CZ (opex), EE, FI, FR (opex), DE, GB, HU, IE, IT (opex), LT, LU, NL, NO, PO (opex), PT (opex), RO, SK, SI, SE	GB (some elements), IT (some elements), BE (some elements, since 2017)

Each incentive regulation tool has its strengths but also inherent biases when applied for stakeholder engagement that TSOs undertake to increase the public awareness and trust. Depending upon the tool applied, NRAs and the project developers can lean towards using one particular stakeholder engagement activity or another regardless of whether it is the most effective approach for raising public acceptance and trust. An important aspect is a bias that can arise in the decision-making process due to the degree of controversy attached to each level of stakeholder engagement, discussed below.

Project-level stakeholder engagement activities aim at creating goodwill for specific projects. Examples of such activities include local dialogue forums, stakeholder workshops etc. TSOs widely adopt such activities, which are seen as project development costs. A few stakeholder interactions are even mandatory by law, e.g. organising a public consultation. Thus, the costs of such activities have a low level of controversy.

Corporate level stakeholder engagement aims at improving the goodwill of stakeholders towards the whole business organisation. Examples of such engagement are corporate social activities, educational campaigns, advertisement, and sponsoring. The costs of such activities raise significantly more controversy than project-level stakeholder costs. The root of the controversy lies in the debate over

1. Also see the FSR report: Bhagwat, P. C., Keyaerts, N., and Meeus L., 2018. Enlarging incentive regulation to improve public awareness and trust in electricity transmission infrastructure development. URI: <http://hdl.handle.net/1814/54884>
2. ACER, 2014. Recommendation of the Agency for Cooperation of Energy Regulators No 03/2014 on incentives for projects of common interest and on a common methodology for risk evaluation. Ljubljana.



the need for a natural monopoly with a regulated income to spend money on activities to build a corporate reputation. On the one hand, it can be argued that such activities do not add any value in terms of the increase in quantifiable benefit. On the other hand, a positive image may be useful for improving public support during the execution of new transmission expansion projects.

Compensations are a way to mitigate negative externalities of a project. A common example is of compensating landowners who suffer a reduction in the value of their land. These costs are the most controversial among the three engagement levels. Not all TSOs have a mandate to make decisions regarding payments of compensation. For some TSOs, the quantity of money that can be spent on compensation is strictly regulated. Eventually, all consumers pay the cost of compensation. Therefore, it entails a significant reallocation of welfare from society as a whole, towards a set of selected parties. A degree of subjectivity is involved in assessing the purpose of such a transfer of wealth, even when it is done within the legal boundaries.

These biases have the potential to hamper the effective implementation of these tools. In this policy brief, we illustrate the biases in cost-plus regulation, price or revenue cap regulation, and output-based regulation.

2. Incentives and Biases Under Cost-Plus Regulation

In a cost-plus approach, the regulator is responsible for ascertaining the efficiently incurred costs of the TSO. In the cost-plus approach, the decision on the choice and level of stakeholder engagement that is to be incentivised lies with the NRA. The regulator can incentivise TSOs to engage in effective and innovative stakeholder engagement activities to raise public acceptance and trust by allowing the TSO to recoup the cost of such activities. Therefore, an inherent

incentive for innovation in stakeholder engagement is observed under a cost-plus regime.

However, on the other hand, the NRA can have a bias towards implementing the least controversial activities while deciding upon the costs from stakeholder engagement that the firm may recover. Consequently, the TSOs will try to anticipate the costs that will be more easily approved by the regulator. Therefore, there would be a bias towards giving project-level activities priority over company level and compensation activities. However, these least controversial activities may not be the most effective in achieving the said goal.

3. Incentives and Biases Under Price-Cap Regulation

In a price/revenue cap regime the firm is incentivised to improve its efficiency by reducing the costs over this period to maximise its profit. This regulatory framework is most effective in the case that the TSO activities improve the cost efficiency of the TSO. Consequently, the TSO can earn more profit within the regulatory period. Such a regime provides an intrinsic incentive for the TSO to innovate and participate in more stakeholder engagement activities, which have the potential to improve cost efficiency.

A good example of a stakeholder engagement activity that TSOs are financially incentivised to undertake under the price/revenue cap regime is one that helps them to reduce their maintenance cost, like in the Life ELIA-RTE project. The project applied innovative vegetation management techniques to create ecological corridors along the routes of the high voltage lines in the forests of Belgium and France. The project involves project-level stakeholder engagement in the form a co-creation by the TSOs and the NGO to innovate the vegetation management of the TSOs. The project was co-financed by the European Commission, the Walloon Regional government, Elia and RTE to varying degrees.



A cost-benefit analysis was conducted to assess the impact of this project in 2015.³ The analysis compared the innovative vegetation management methods used in the project with traditional vegetation management being implemented by ELIA in Belgium. The innovative vegetation management method leads to a significantly shorter time for costs to break even, between 3 to 9 years. Furthermore, it would be 1.4 to 3.9 times cheaper compared to traditional rotary milling. These cost savings would be directly captured by the TSO within the regulatory period under a price/revenue cap regime.

The analysis claims that the ELIA-LIFE approach would improve the societal acceptability of TSOs and build trust with concerned stakeholders, facilitate permitting, construction and renovation of overhead lines. Finally, the project also integrates European legislation such as Natura 2000 and similar directives.

In a price/revenue cap approach, firstly, TSOs will be biased towards prioritising activities that result in the highest direct improvement of cost efficiency. However, there will be a tendency to ignore stakeholder engagement activities that increase the overall benefit from the project without reflecting on the operational bottom-line of the TSO. Secondly, a price/revenue cap approach allows the TSOs to choose the type and combination of stakeholder engagement that they wish to apply. The company may have a bias towards using the least controversial level of stakeholder engagement from the three levels discussed in the previous section.

4. Incentives and Biases Under Output Regulation

The choice for output regulation is a very attractive option if there is an availability of a credible and robust proxy to measure the output performance of the TSO. The regulator can set targeted incentives for enabling TSOs to undertake high-quality and innovative stakeholder engagement activities such as in Great Britain where a targeted incentive, amounting to 0.5% of their annual allowed revenues, was provided for encouraging high-quality stakeholder engagement activities⁴. A panel of independent experts is appointed by OFGEM to assess the activities of the TSO and to allocate the reward. Such an approach allows the NRA to ensure stakeholder engagement by incentivising such activities specifically. Another innovative practice is of appointing external experts for assessing the stakeholder activities thus mitigating issues arising from the need for greater regulatory abilities for administering a complex incentive regulatory approach.

Alternately a more general incentive can be provided, as is the case in Belgium and Italy. During Italy's fourth regulatory period (2012-2015), a premium remuneration was provided for the TSOs that were able to meet predefined implementation timelines. The approach consisted of three types of incentives: a premium return on investment for completed projects; a premium for work in progress; and, a penalty for projects exceeding their planned commissioning date⁵. Similarly, in Belgium, there are dedicated incentives for 'strategic investment projects'. These mainly consist of additional remuneration for the project that is linked to the timely completion⁶.

3. LIFE Elia-RTE and Elia, 2015. A cost-benefit analysis of an alternative vegetation management.

4. For more information refer to OFGEM, 2012. RIIO-T1: Final Proposals for National Grid Electricity Transmission and National Grid Gas. London.

5. For more details please refer to Keyaerts, N., Meeus, L., 2017. The regulatory experience of Italy and the United States with dedicated incentives for strategic electricity transmission investment. Util. Policy 46, 71–80. doi:10.1016/j.jup.2017.04.005

6. For more details on this please refer to Elia Annual Report 2016. Brussels.

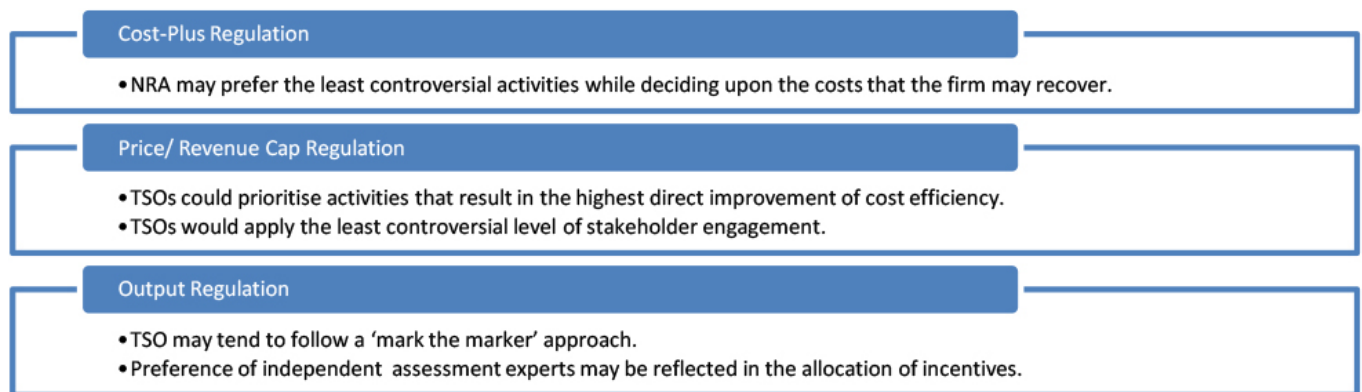


Two biases are observed in an output regulation regime. Firstly, there can be a bias by the TSO towards following a ‘mark the marker’ approach. In other words, TSOs would do just enough to tick the box and cash the premiums. Furthermore, stakeholder engagement activities that reflect well on the KPIs would be preferred. The second bias can be introduced when independent experts are involved in the assessment. Although these experts are expected to be unbiased (low bias) in their assessment, the approach is influenced by the ability of the experts selected by the TSO. Thus, the preference of the expert may reflect upon the allocation of incentives for different stakeholder engagement activities conducted by the TSO.

5. Summary

This policy brief illustrates the inherent implementation biases existing in incentive regulation that can hamper the effective implementation of the stakeholder engagement activities that are needed to increase the public awareness and trust in transmission infrastructure projects. Figure 1 summarises the identified biases within each incentive regulation tool examined. NRAs should ensure that these identified biases are minimised to enable greater and more innovative stakeholder engagement.

Figure 1: Summary of biases within each incentive regulation tool.



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