ENTSO-E response to the ERGEG call for evidence on

Incentive Schemes to promote Cross-Border Trade in electricity

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Introduction

ENTSO-E welcomes the ERGEG call for evidence on incentive schemes to promote cross-border trade in electricity and would like to submit its initial input on this topic, including some detailed answers to the questions raised in the paper. ENTSO-E is fully committed to the further development of cross-border trade in Europe. Therefore, ENTSO-E is willing to continue to work in close cooperation with ERGEG on the definition of potential incentive schemes for cross-border trade.

ENTSO-E also wishes to point out that at present TSOs assume several market integration functions. In particular, TSOs are responsible for the implementation of congestion management methods as well as for the calculation of cross-border capacities. Furthermore, **market integration** throughout Europe has **significantly improved** over the past few years. Several regulatory and TSO initiatives are currently underway to improve this integration further. In particular, such initiatives include the development of more efficient day-ahead and intra-day markets. Recently, the focus on cross-border balancing markets has also increased. The main motivation for TSOs to improve the market integration is to increase efficiency in the European power system. We believe it is entirely appropriate that National and EU regulatory regimes should recognise and appropriately reward TSOs for these activities. In this sense, **incentive schemes** may increase European market integration by encouraging TSOs to expand their present Initiatives.

One of the **main challenges** associated with incentive schemes is the definition of suitable and sustainable performance indicators and to incorporate them into existing regulatory regimes. This finding is compliant with the conclusion of the ERGEG consultation document.

Further issues with regard to the introduction of incentive schemes are:

- Inappropriate indicators and incentive schemes may negatively affect system security;
- Rewards to TSOs should be moderate (see the first issue above). This would also take into account the inaccuracies which are inherent in any incentive scheme (simplified representation of the reality). At the very least, TSOs should be able to cover the costs they incur in their market integration activities;
- Many performance indicators related to cross border flows and price differences do not take into account the costs of investment in new interconnectors;
- Costs and benefits of measures which TSOs take to improve market integration would have to be weighed against each other;
- It may be difficult to capture the impact that TSO activities have on performance indicators. These indicators are significantly influenced by other external factors and market participants. As a general rule, indicators and incentive schemes should measure and reward only actions which are dependent on TSOs. Furthermore, the impact of existing market rules (e.g. firmness) on TSO performance indicators needs to be considered;

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- Market development is at very different stages across Europe. Any incentive mechanism would have to take this into account. Compatibility of incentives across regions would have to be ensured;

- Any past achievements of TSOs (i.e. where a high degree of Market Integration already exists) would have to be considered. Incentive arrangements would need to be applied in a flexible but consistent way in order to recognise differing start points depending on the relative development of the markets.

- Conflicting and overly complex incentive schemes should be avoided.

Any discussion of incentive schemes needs to address the issues listed above. Particular attention should be paid to the interdependence between performance indicators and the overall incentive framework. A stand-alone evaluation of either the performance indicator or the incentive scheme would not be appropriate.

Furthermore, the various responses to the ERGEG call for evidence should contribute to such a discussion.

Answers to the specific questions raised by ERGEG

In the current regulatory and institutional framework could incentive schemes be a useful tool for promoting cross-border trade? If so, why?

In order to provide an answer to this question the aim of incentive schemes needs to be defined. Based on this definition, arguments for and against the introduction of incentive schemes can be derived. Once this has been completed, general conclusions can be drawn.

A) Definition of incentive schemes in the current regulatory framework

It is ENTSO-E's understanding from the consultation paper, that the main aim of the incentive framework proposed by ERGEG is to enhance **European Market Integration**. This enhancement would, in turn, increase the economic social welfare of the EU. ERGEG has raised the question of whether the scope of such an incentive scheme should be focused exclusively on short term initiatives. Alternatively, long term activities (investments) could also be included.

The **current EU regulatory framework** contains certain long term incentive provisions aimed at promoting cross border investments (e.g. EU Regulation 2005/89). Practical examples can be found on a national level, which are compliant with this EU legislation (e.g. the Italian regulatory framework which allows for cross border investment return surcharges). Furthermore, there are other examples of bilateral initiatives which foster incentives for increased interconnectivity (e.g. NorNed cable). It needs to be further analysed if the existing regulatory frameworks should be enhanced by raising them to a Pan-European level. There are conflicting arguments for and against any such approach. ENTSO-E wishes to contribute to the ongoing discussion by outlining its views and opinions on the subject.

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B) Reasons supporting the introduction of incentive schemes

Facilitating cross-border trade has become a core activity of TSOs and is a service which they provide to the market. TSOs are engaged in several initiatives which enable and enhance market integration. As a result, significant resources have to be dedicated to associated projects. European and National regulatory frameworks which would support these activities through the use of incentives, would be an appropriate measure to encourage TSOs.

C) Reasons against the introduction of incentive schemes

One argument against the introduction of incentive schemes relates to the link between congestion management and **system security**. From a pure market perspective, TSOs could be incentivised to increase the cross-border capacity offered to market participants. However, they are also compelled by licence or obliged by law to operate the Electricity network in a safe manner. This issue could be more significant in an interconnected system where TSOs depend on each others actions. Risks taken by some TSOs in order to obtain incentives might negatively influence the system security of other TSOs. For these reasons, it is imperative that incentives which promote and reward a change in a TSOs commercial risk profile should not be at the expense of operational risk and system security. Furthermore, TSOs should be incentivised to coordinate their actions in the common interest as opposed to individual actions which may force other TSOs to take system stabilising activities (e.g. redispatching).

There are a **wide range of actors** (notably different TSOs, Power Exchanges and generators) and **exogenous parameters** which impact on cross-border trade. This exogenous impact will increase with further market integration and increasing interconnectivity. Therefore, it would not be easy to assess the impact of a single TSO on cross-border exchanges.

This leads to the conclusion that if an incentive scheme were to be implemented, some general principles would apply:

D) General principles of incentive schemes

- Incentive schemes and performance indicators are interrelated. Therefore, **incentive frameworks** can only be discussed and developed together with their associated **performance indicators** (and vice versa);

- It ought to be acknowledged that the **impact of the actions of specific TSOs** on certain performance indicators is somewhat limited;

- When calculating performance indicators **all benefits** achieved **as well as costs** incurred by TSOs should be taken into account (e.g. if increasing interconnection capacity should require redispatching then the associated additional costs should be appropriately considered).

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- In order to avoid excessive risk-taking behaviour, **incentive mechanisms should be comparably moderate in nature.** TSOs effectively operate congestion management procedures to facilitate the integration of the markets. In principle, this activity should be financially neutral. Furthermore, TSOs should at least be able to cover the costs they incur for their market integration activities. As there is no extensive international experience with short term incentives, as defined in the ERGEG paper, it is prudent to take a more cautious approach;

- With a first priority incentive schemes would have to be **compatible within regional markets.** Thereafter, compatibility across adjacent regional markets within Europe would have to be ensured. This would lead to an equal non-discriminatory treatment of all TSOs. Mutually conflicting incentives to different TSOs would be avoided;

- Using indicators to assess the current situation without **taking into account the efforts of coordination made in the past** could be counterproductive. In particular, it would be unfair if past achievements were to lead to more ambitious future performance targets within a given incentive scheme;

- Conflicting incentives and overly complex schemes should be avoided. Incentives should be **clear**, **consistent** and **reasonably simple**;

- **Funding arrangements** for the incentive scheme would have to be established. This topic is discussed further in the next section.

D) Funding arrangements

From a pure theoretical viewpoint incentives should be funded by the beneficiaries in proportion to their individual social welfare increases. From a practical viewpoint, however, the calculation of individual social welfare increases due to TSOs' actions is difficult. Hence, a simplified approach seems reasonable. There are a number of options for this simplified approach to investigate (assuming the option is complaint with national legislation):

- **EU Funds**

  One option is a fixed pot funded by a central agency to promote cross border trade development. If no central fund is provided, either national tariffs or Congestion Revenues might be a source;

- **National tariffs**

  This approach would be equivalent to FERC (Federal Energy Regulation Commission) in the US which allows a percent surcharge for certain projects and recovery of prudently incurred abandonment costs. The main drawback of this approach is that national tariffs would be funding projects of overall EU interest. This, in turn, would lead to a financial imbalance between market integration beneficiaries and contributors to the incentive scheme.

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- **Congestion revenues**

  The original EU Regulation (EC) No 1228/2003 and the revised EU Regulation (EC) No. 714/2009 specify purposes for which congestion revenues shall be used. From a legal perspective it should be further analysed whether funding for a **short term** incentive scheme would be compatible with these purposes.

  As regards **long term incentives** for investments, the following remarks should be considered: TSOs obtain financial incentives from receiving the regulated rate of return on their assets. If the capital for investments was funded by collected congestion revenues rather than by the TSOs this return would no longer be allowed to them. This, in turn, would provide negative investment incentives. Therefore, congestion revenues should only be used to cover the regulated return on such assets – not to fund the capital itself.

  This leads to the conclusion that incentives are only provided if parts of the collected congestion revenues lead to actual financial benefits for TSOs.

Do you agree with the features of an "ideal" incentive scheme? If not, why not? What features should an "ideal" scheme have?

ENTSO-E agrees with the basic features and has amended one further criterion "risk of distortive incentives". "Distortive incentives" should be avoided and are of particular relevance when they are related to system security. The criterion "challenging for TSOs" has not been applied since this primarily depends on the overall incentive framework. In the present context, however, the "ideal" incentive scheme is exclusively used for the performance indicator evaluation. Furthermore, the criterion "EU wide applicability" has also been omitted as regional applications could be considered, specifically in a first phase. As a general principle, however, it has to be acknowledged that an "ideal" incentive scheme will never exist. A simplified representation of the reality and associated risks will always be part of an incentive scheme.

This paper presents "short-term" incentive schemes for improving capacity calculation and allocation methods. Should an incentive scheme address these short-term incentives together with longer-term incentives, e.g. for infrastructure investments? If so, how?

All incentive schemes have to take into account trade-offs between short-term and long-term congestion costs. In particular, it must be taken into account that inappropriate short-term incentive schemes could potentially lead to arbitrages. These may ultimately deter necessary investments for the future. **Short-term incentives** to promote cross-border trade in electricity need to be defined along with the **long-term schemes** for two different reasons: Firstly, in cases where congestion revenues were utilised for financing infrastructure projects, the sole focus on short-term incentives could potentially give distortive signals. TSOs could be incentivised to take mainly short term measures to relieve congestion. If no corresponding long term incentives were given, investments to relieve these congestions would not be realized. Thus the overall capacity available in the long-term would potentially be limited. Secondly, the congestion revenues resulting from short-term incentives have to be interrelated with long-term infrastructure projects, to ensure the long-term reduction of network congestion.

For **short term incentives** explicit payments to TSOs could be used. In order to provide **long term incentives** (e.g. incentivise TSOs to build new transmission lines on time) special

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rate on return surcharges (such as presently foreseen in the Italian Regulatory framework) could be granted either as a one time payment (lump sum) or as a series of payments made over time.

Which approach presented in this paper do you favour: an incentive scheme based on a single indicator of performance reflecting the efficiency of congestion management as a whole (Chapter 2), or one or several incentive schemes aiming at fostering one or several specific projects or topics related to congestion management (Chapter 3)? Why?

Regarding the different indicators there are some valuable ideas which might be investigated further. However, there are reasons for and against each indicator which need to be carefully assessed (see Annex). In light of these shortcomings of each indicator, a combination of more indicators could be considered.

Which, if any, of the indicators presented in Chapter 2 do you favour? Why? Do you have any alternative proposals for a single indicator of performance?

The indicators proposed by ERGEG could theoretically serve as targets for a TSO incentive scheme. ENTSO-E has analyzed these indicators employing the proposed features of an "ideal incentive scheme".

The **main finding** of the evaluation is that the **three suggested "single indicators of performance" are lacking precision**. This is a strong argument against using them as reliable incentive targets. While **social welfare increase** seems to be the most comprehensive measure, it is still a very aggregated market indicator taking into account volatile market effects that are not entirely related to the actions of TSOs. More fundamentally, none of the proposed indicators takes the issue of security (raised earlier) into account. Furthermore, whether the causal relationship between the indicators and the actions taken by TSOs can be appropriately reflected is open to question.

Further to the indicators proposed by ERGEG, ENTSO-E has developed two indicators related to long term incentives: A **complex investment indicator** could consist of a "profitability index" in order to estimate the benefits of an investment. By using this indicator the costs and benefits (=social welfare) of an investment would be weighed against each other. This general principle of comparing costs and benefits of market integration measures taken should theoretically be part of all indicators. However, defining the benefits and costs within this indicator is the key issue with regard to its implementation (e.g. unexpected costs due to price difference in building material, way-leaves etc. might occur)

A **simple investment indicator** would consist of a simple target (e.g. construction time until investment enters into operation). In particular, this simple investment indicator seems to provide appropriate incentives and could be analyzed further. Furthermore, such indicators are already used by some regulators (e.g. incentive scheme for the NorNed interconnector). However, the limited impact of TSOs on external factors which also influence this indicator would have to be taken into account (e.g. planning permissions).

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Further to this summary of key findings ENTSO-E has carried out a **more detailed analysis** of the proposed indicators. The **result** can be found in the Annex to this paper. Some of these basic findings are in line with the conclusions of the ERGEG consultation document.

Which, if any, of the incentive schemes presented in Chapter 3 do you favour? Why? Do you have any alternative proposals for a specific project or combination of projects which could usefully be incentivised?

ENTSO-E has analysed the individual indicators proposed by ERGEG using the proposed evaluation scheme. The analysis has been focussed on the most suitable indicators.

The **main finding** is that **incentives on market coupling** or **cross-border balancing** are ways that could be used to improve coordination between TSOs. It would incentivise them to converge towards common target models for capacity calculation, allocation and usage. Yet it should be stressed that the incentives for TSOs should be placed on the project items that relate to them. Other stakeholders would also have to be incentivised in order to support TSOs in their initiatives. Ultimately, this would lead to a quicker realization of market integration projects. Moreover, a range of constraints on the way to target models are tightly associated with features that do not depend on actors in the short term. For example, the feasibility of cross-border trade of balancing energy notably depends on local security criteria and on market harmonisation issues, which are elements that do not only depend on TSOs' actions. Finally, the achievements of the past would also have to be taken into account in order to provide fair and balanced incentives.

Maximization of cross border capacities at all costs should **not** be rewarded. This indicator is not entirely controllable by TSOs. Furthermore, it is not designed to maximize consumer benefit and there is even a risk of distortive incentives. Rather than incentivising TSOs to maximize interconnection capacities, an amount which under the given technical constraints can be considered optimal should be offered to the market.

The detailed findings of the overall evaluation are annexed to this paper.

Despite the potential limitations of all indicators for implementing an incentive scheme, do you share the view that their publication before any incentive scheme is set could help promote the development of cross-border trade and represent a step towards increased transparency?

Publication and discussion well in advance would be necessary. However, the resources and efforts necessary to gather information should be carefully considered. In order to avoid unnecessary administrative burdens, only information on indicators under serious consideration should be published and discussed. A further consultation after the publication of parameters would be essential in order to achieve a common interpretation of the published information.

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If so, at which frequency and on which geographical scope (bilateral/regional/European) should these indicators be designed and published?

Indicative values could be published for a limited period of time in the course of discussing a particular potential incentive schemes. The geographical scope should be compliant with the area under consideration for the incentive scheme application. The indicators might be different for individual Regions. Yet compliance between the regional incentive schemes must be ensured, specifically in a longer term, in the sense that no mutually distortive incentives are implemented in different regions.

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ANNEX Evaluation of indicators

Indicator	Main advantages	Main disadvantages
Social Welfare	Avoids any risk of distortive incentives as the indicator is identical with the overall EU market integration target itself and hence gives the "right signals".	Hard to measure; not controllable by TSOs
Congestion Costs	The indicator basically measures consumer benefits but less comprehensively than social welfare does	Hard to measure (depending on the level of detail); not entirely controllable by TSOs
Number of congested hours	Simple and objectively measurable	The indicator is not designed to maximize consumer welfare. There is even a risk of distortive incentives. (e.g. if the incentives toward removing congestions will be too strong, it will distort the incentives for investments) Furthermore, the indicator is not to a full extent controllable by TSOs.
Investment Indicator (complex)	Based on a cost-benefit analysis, it would be theoretically possible to calculate true regional value to society of an investment project. Some TSOs are carrying out such analyzes when assessing their investment pans. However, due to the complexity of such calculations and because of the dependency on volatile input parameters such results have to be interpreted carefully.	hard to measure; hard to implement from a practical perspective
Investment Indicator (simple)	Simple and compliant with targets	Controllability by TSO (e.g. delays due to external circumstances). This risks of penalizing uncontrolled outcomes could be avoided by giving moderate rewards..

Indicator	Main advantages	Main disadvantages
Implementation of market coupling	Simplicity, objectively measurable, compatible with other EU / national priorities; designed to maximize consumer benefit	Not fully controllable by TSOs; risk of distortive incentives from a regional perspective (a certain region might already have introduced MC or might be in the process of integrating the market and therefore may be reluctant to integrate further TSOs). However, the outlined risks of penalizing uncontrolled outcomes could be avoided by giving moderate rewards. Distortions from a regional perspective might be avoided by EU wide coordination of incentive schemes.
Implementation of cross-border balancing trade	The evaluation for cross border balancing trade is effectively identical to the one for market coupling. It might just be less simple to find an appropriate target (as there are different balancing products etc.)	
Optimization of transmission capacity distribution among different timeframes	Following market participants' needs for risk hedging	Lack of simplicity; not fully controllable by TSOs; it is not evident that this incentive is clearly designed to maximize social welfare as there are different diverging preferences from market participants; risk of distortive incentives in case of interconnections close to each other and the product mix preferences of certain market parties are different
Maximisation of cross-border capacities	Objectively measurable; compatibility with other EU / national priorities	Lack of simplicity; not fully controllable by TSOs / not designed to maximize consumer benefit; certain risk of distortive incentives
Reasons for capacity reduction per interconnector	The indicator could give stakeholders a better understanding of how the different TSOs operate their transmission system and contribute to an improved congestion management.	"Reasons" are not objectively measurable and hence not simple.