Towards a sustainable and integrated Europe –

Report of the Commission Expert Group on electricity interconnection targets

Executive summary (EN)
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The Expert Group acknowledges that achieving the EU's energy and climate objectives requires a well-integrated European energy market. Electricity interconnectors are the physical component of making this market truly European by connecting Member States' networks offering capacity for electricity trade, improved security of supply and allowing integration of the rapidly-growing share of renewable electricity production.

The Expert Group is of the opinion that the current interconnection target of 10% by 2020 has already given an important signal to the integration of the electricity markets. However, it acknowledges that the target was set in a radically different energy era when variable renewable energy comprised only a small share of total generation.

To address the new energy reality the Expert Group proposes a new approach for setting interconnection targets based on the underlying principle of maximising societal welfare.

**Firstly**, the functioning of the **European electricity market should be improved** and based on clear, stable and non-discriminatory regulatory rules to send consistent signals - both to investors in grids as well as to users of the infrastructure. This includes an effective and rapid implementation of the network codes and guidelines adopted in the framework of the Third Energy Package.

In particular, **the existing interconnectors should be used efficiently** and the capacity available to the market significantly increased compared to the current utilisation. For alternating current (AC) interconnectors, the net transfer capacity should be indicatively doubled. This should enable congestion management to be non-discriminatory and should maximise the European socio-economic welfare.

**Secondly**, new interconnectors must help exploit the benefits of market integration by enabling better prices for customers, help meet the electricity demand on the national markets and possibly offer supply of renewable electricity to neighbouring Member States. Therefore, the development of additional interconnections should be considered if any of the following three thresholds is triggered:

- **Minimising price differentials**: Member States should aim to achieve yearly average of price differentials as low as possible. The Expert Group recommends €2/MWh
between relevant countries, regions or bidding zones as the indicative threshold to consider developing additional interconnectors;

- **Ensuring that electricity demand**, including through imports, can be met in all conditions: in countries where the nominal transmission capacity of interconnectors is below 30% of their peak load options for further interconnectors should be urgently investigated.

- **Enabling export potential** of excess renewable production: in countries where the nominal transmission capacity of interconnectors is below 30% of their renewable installed generation capacity options for further interconnectors should urgently be investigated.

The Expert Group recommends that any project related to interconnection capacity, helping the Member States reach any of the 30% thresholds, must apply for inclusion in the Ten Year Network Development Plan and future lists of Projects of Common Interest. In addition, countries above the 30% but below 60% thresholds in relation to their peak loads and renewable installed generation capacity are requested to investigate regularly possible options of further interconnectors regularly.

**Thirdly**, as a *conditio sine qua non*, each new interconnector must be subject to a socio-economic and environmental **cost-benefit analysis** and implemented only if the potential benefits outweigh the costs.

**Fourthly**, involvement of 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 to address perceived concerns about health issues or adverse impact on the landscape and nature ecosystems. In this regard, the Expert Group recommends that the Commission as well as Member States continue and step up actions to **facilitate public involvement** in the relevant infrastructure projects.

**Lastly**, the Expert Group recognises that rapid technological developments in the near future are likely to strongly influence the functioning, the nature of and need for electricity network infrastructure. While many of these developments will open up new opportunities for electricity generation, transmission, distribution and consumption, their exact impact is difficult to predict. Therefore, the Expert Group recommends to **review the proposed methodological approach** of measuring interconnectivity and its associated methodologies regularly but not later than in five years.
The European Council of October 2014\(^1\) endorsed the proposal by the European Commission of May 2014\(^2\) to extend the current 10% electricity interconnection target (defined as import capacity over installed generation capacity in a Member State) to 15% by 2030 *while taking into account the cost aspects and the potential of commercial exchanges in the relevant regions.*

To make the 15% target operational, the European Commission decided to set up a Commission Expert Group to provide specific technical advice, among others to examine if regional, country and/or border level targets should be considered, and to study any other relevant elements that can have an impact on interconnector development.

The Expert Group was established by the Commission Decision of 9 March 2016\(^3\). The Expert Group started its work in October 2016, following a public call for applications.

More information on the Expert Group is publicly available on a dedicated website\(^4\).

The views in this report are the sole responsibility of the members of the Expert Group and do not necessarily reflect the views of the European Commission. The European Commission cannot be held responsible for any use which may be made of the information contained therein.

\(^1\) Council Conclusions of 23 and 24 October 2014
\(^4\) https://ec.europa.eu/energy/en/topics/projects-common-interest/electricity-interconnection-targets/expert-group-electricity-interconnection-targets