
ENTSO-E position on European Union policy framework for climate and energy in the period from 2020 to 2030

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1. Executive summary

- ENTSO-E welcomes the EU's ambition to define a stable, clear and coherent 2030 framework considering transmission network planning occurs at least a decade in advance. Early agreement on the 2030 framework will facilitate ENTSO-E's and TSOs' responsibility for the planning, investing and operating of the grid to ensure system security in the long term.
- The target model for European electricity markets needs to be implemented as soon as possible. Moreover, to meet the challenges of 2030 and beyond, the model needs to be reviewed, adding additional features to ensure correct price signals for all necessary investments.
- ENTSO-E strongly supports the importance the European Council, on 21 March, placed on infrastructure development for 2030. Carbon reduction and RES integration objectives will only be achieved if the right infrastructure is in place on time.
- Transmission system operators (TSOs) have difficulties implementing the required investments due to lengthy permit granting procedures, public opposition and unprecedented capital requirements. Therefore, a clear political willingness and commitment to build the required infrastructure, at EU, national and regional level, underpinned by more consistent regulatory frameworks, are needed to support the process.
- Interconnection objectives as well as the backbone transmission infrastructure within Member States should be adequate to the needs of the pan-European system and to the regional and national system characteristics. Due to significant geographical differences and power system characteristics across the EU's Member States, a single target for all of the EU could result in the discouragement of investments or, inefficient solutions.
- Therefore, ENTSO-E's ten-year network development plan (TYNDP) is the most suitable tool to derive adequate targets based on detailed studies and scenarios. Nevertheless, a minimum percentage objective might, in certain specific circumstances, provide a useful political signal for weakly interconnected regions.

2. Introduction

On 22 January, the European Commission (EC) published its *policy framework for climate and energy in the period from 2020 to 2030*. The headline proposals of the EC's Communication include a binding 40% reduction in greenhouse gas (GHG) emissions, compared to 1990 levels and a binding pan-European renewable energy target of 27% by 2030. The European Commission's proposal included no specific individual Member State obligations on renewable energy integration as the 2009 renewable energy directive does for the 2020 targets. The European Commission did not propose any specific targets for energy efficiency either, but is committed to examining this in greater detail following a review of the energy efficiency directive which will be concluded later in 2014. Along with the policy proposals for 2030, the Commission has also published its communication and report on energy prices in Europe, including assumptions on network costs.

In its meeting on 20/21 March, the European Council discussed the EC's proposals and emphasised the importance of transmission infrastructure. The Council concluded, among others, that speedy implementation of the 10% interconnection target for all Member States is required. It also asked the European Commission to propose specific interconnection objectives for 2030, by June 2014. Special attention should be paid to improving interconnections with more remote and/or less well connected parts of the single market.

From the perspective of European TSO's who need to plan and invest in the power grid at least ten years in advance, 2020 is just around the corner. European TSOs therefore welcome the ambition of the EU's

leaders in defining, in a timely manner, a stable, clear and coherent 2030 framework for energy and climate policy with an emphasis on transmission infrastructure. The framework is needed to help ensure the continued, efficient investment and development of renewables, the identification of appropriate levels of grid infrastructure development and associated investment costs and, the promotion of consumer welfare.

3. TSOs and the power system in the context of the 2030 targets

Electricity transmission infrastructure is a key enabler for Europe's energy and climate policy objectives. Therefore, when defining energy and climate policies, ENTSO-E urges Europe's leaders to consider the economic, technical and operational impact such policies will likely have on the power system and energy market so that they can be fully endorsed by all Member States and implemented by regulators, transmission system operators and stakeholders.

Whether the finally agreed 2030 targets are greenhouse gas (GHG) targets or renewables targets or a combination of both, one of the most cost effective ways to reduce GHGs emissions is through the use of renewable energy, particularly in the electricity sector. Renewable energy sources (RES) integration and carbon reduction objectives will only be achieved if the right infrastructure is in place on time. This places transmission system operators at the heart of any energy strategy that is finalised and agreed upon for 2030. What is more, GHG targets and RES targets are, from an energy perspective, interdependent. Europe's decision makers need to take into full account, these interdependencies when agreeing on the final 2030 targets.

ENTSO-E therefore fully supports the Commission's and Member States' ambition to define a stable energy and climate policy for the 2030 time horizon. This will provide much-needed investment certainty limiting the risk of stranded investments being borne by European citizens. ENTSO-E emphasises though that any agreement on specific GHG/RES targets needs to be supported by an appropriate regulatory framework and incentive instruments. However, support schemes for RES should take into account system needs and should not put at stake, system reliability.

It is important that agreement is reached on a clear and stable 2030 framework, as speedily as possible to facilitate TSOs' tasks of planning, developing and operating the grid to ensure a continuous and secure energy supply to Europe and a well-functioning market with unconstrained cross-border electricity exchanges. Specific targets for 2030, for instance on renewable energy sources or greenhouse gas reductions, should not contradict targets formulated for other time-horizons to ensure investor certainty. This needs also to be mindfully considered for the corresponding governance framework.

Energy policy needs to provide some form of visibility and stability to impacted stakeholders, and especially to investors. This feature is a major request from market parties, and is also important for TSOs as it impacts network investment planning. In this regard, long term visibility on the evolution of RES targets and support schemes would be extremely helpful.

To clarify opportunities for the deployment of additional renewable generation through to 2030, the European Commission has provided guidance on how renewable cooperation mechanisms between Member States might function in its package on the optimisation of public intervention in November 2013. This will become all the more important in a situation absent of binding renewables targets.

Over the next 15 years, in the lead up to 2030, economic drivers will exert a stronger influence on the development of the power system than is presently the case. As renewable energy technologies mature, market mechanisms and exposure of RES to price signals will need to replace old subsidy schemes. The phase-out of support for mature renewable technologies in the post-2020 period means that the market (along with carbon pricing) will need to provide appropriate signals for investors to enter the renewables sector. The current levels of RES and the resulting impact on electricity markets require these sources to be fully integrated into the market. With more ambitious RES targets, market integration of renewables will become even more important.

ENTSO-E therefore believes that a review and adjustment of the current market design is needed in order to continuously match the physical reality of the changing power system and to integrate adequately the increasing share of renewable energy sources into the European electricity market. ENTSO-E's member TSOs are already working on implementing the IEM through network codes, regional projects and initiatives such as North-West Europe market coupling (covering 75% of the market), a European intra-day platform, EAS, TSC, SSC, Coreso¹ and regional capacity allocation platforms. In addition, ENTSO-E's work stream on long term market design can help identify the appropriate framework for investments, especially in the post-2020 period.

One of the main ways of achieving Europe's GHG and RES goals is to implement a fully functioning Internal Energy Market (IEM) with increasing levels of RES. The challenge to complete the IEM and meet RES targets raises a number of important questions around energy security and generation adequacy. Against this backdrop, ENTSO-E reiterates the need to recognise that generation adequacy should be considered in an EU wide or at least regional context of energy and climate policies and be complementary to Member States' assessments, while at present, security of supply is often regarded as a purely national issue.

In this context, ENTSO-E and its member TSOs are actively and continuously improving their current tools, methodologies and techniques to better address these issues over time, including a European generation adequacy outlook, which is published biennially. In the near future, ENTSO-E is looking into providing a global pan-European adequacy assessment, utilising a standardised approach complementary to other assessments at national or synchronous area levels.

4. Transmission infrastructure & interconnection objectives for 2030

The development and operation of the European power grid, including interconnectors, have been a trigger for TSO cooperation from the start and are continuously promoted and improved through ENTSO-E since its establishment. Therefore, ENTSO-E strongly supports the importance the March European Council conclusions have placed on interconnection objectives for 2030. Transmission infrastructure is key to a sustainable, affordable and secure supply of electricity for EU citizens. In this context, interconnectors, as one key element of the power grid, contribute to increasing social economic welfare, facilitate the integration of more renewable energy sources, help reduce CO₂ emissions and are essential in contributing to market integration and system security. Beyond the need to invest in interconnector infrastructure, ENTSO-E emphasises the importance of adequate investments for internal grid reinforcements as identified by the TYNDP.

Interconnection objectives as well as the backbone transmission infrastructure within Member States should be adequate to the needs of the pan-European system and to the regional and national system characteristics. Due to significant geographical differences and power system characteristics across the EU's Member States, a single objective for all of the EU could result in discouragement of investments or inefficient solutions. In this context it is suffice to compare an island country with a country at the crossroads of power flows in central Europe. Both have entirely different interconnection needs and the latter may already have an interconnection capacity of over 100% of their installed generation capacity, with this still not proving sufficient. A general minimum percentage objective might, in certain specific circumstances, give a useful political signal for weakly interconnected regions, while the aim should be to develop differentiated targets based on in-depth technical, social and economic assessments to get the full benefit of integration, while avoiding over- or under-investing.

ENTSO-E's ten-year network development plan (TYNDP) could contribute to deriving adequate targets based on detailed studies and scenarios. The plan includes all TSO and third party projects for new transmission grid investments foreseen until 2030. Underpinned by system adequacy analyses, the biennial

¹ EAS: [ENTSO-E Awareness System](#); TSC: [TSO Security Co-operation](#); SSC: [Security Service Centre](#); Coreso: <http://www.coreso.eu/>

TYNDP applies continuously improved methodologies to assess investments against cost efficiency and overall contribution to Europe's energy and climate policy objectives. The TYNDP is thus the most suitable tool from which to derive adequate targets.

ENTSO-E is presently working on the 2014 edition of its well-established TYNDP process, driven by the expertise of all European TSOs and open for contribution from all interested parties. The plan identifies the objective value of interconnectors thus firming up deliverability of the required infrastructure. The projects included in the TYNDP, both individually and jointly, are fully justified by cost-benefit-analyses and imply higher interconnection levels for the ultimate benefit of consumers. The TYNDP can also trigger more proactive support for key investments, mitigating the risks of not reaching the ambition of an integrated market.

ENTSO-E is available and willing to support the Commission in setting interconnection objectives which adhere to the guidance and timeline set out by the European Council for the coming months and, beyond this, to advise European leaders in better connecting Europe's power systems. Taking the large uncertainties regarding the 2030 future into account, ENTSO-E is optimistic it can outline MW or percentage targets for each Member State based on the TYNDP's coherent set of investments. Those country-differentiated objectives would lend additional policy support to the necessary investments which actually occur and are being permitted.

Investment in grid infrastructure is not just critical to the integration of renewables, it is also required to complete market integration and to ensure energy security across the EU. Beyond a co-ordinated, long-term planning of transmission infrastructure investments, provided for by ENTSO-E's TYNDP, Europe's leaders should also better promote the coordination of grid and generation investments to improve the consistency of EU policy goals.

It is equally important to highlight that interconnection objectives can only be achieved if the required infrastructure is actually built. Today, TSOs still struggle to build urgently required infrastructure projects due to a lack of public support and, understanding of the need for such projects. For this reason, the EC and Member States should develop appropriate solutions to support the realisation of prioritised grid investments and to further address the permitting constraints which TSOs are facing. Thus, it is essential that the EU's 2030 energy and climate policy framework – however ambitious – supports the further development of the interconnected European network by way of smooth adoption of the network codes, appropriate regulatory regimes and permit granting procedures so as to enable TSOs to make the required investments on time.

Regulation (EU) 347/2013 sets a new framework to speed up the permitting procedures for *Projects of Common Interest*, which is a key step forward in this process.

Another common cause for delay is the securing of financing. The €104 billion investment needs identified by the 2012 TYNDP only represent a subset of the entire investment challenge for TSOs. This amounts to unprecedented capital requirements for TSOs. To maintain TSOs' credit ratings and financial ratios in a period of increased investment need, it is of utmost importance that the national regulatory frameworks are stable and sufficiently harmonised to attract investors and improve TSOs' ability to raise funds on international markets. In this context, mechanisms such as priority premiums could represent a suitable solution. Such a mechanism would contribute to fostering the timely delivery of transmission investments.

A clear political willingness and commitment to build the required infrastructure, at EU, regional and national level and with more consistent regulatory frameworks, will thus need to support the 2030 process.

5. Performance Indicators

In its white paper, the EC recognises that RES and GHG targets are not, in themselves, enough to ensure sufficient progress towards the overall objectives of competitive, secure and sustainable energy. For this

purpose it proposes to monitor some key indicators ‘to assess progress over time and to inform any future policy intervention’.

ENTSO-E considers the proposed indicators generally appropriate. However, we would caution any oversimplification as this may lead to either an underestimation or overestimation of effective progress. ENTSO-E is available to support the EC in identifying the most appropriate tools and measures to express such indicators.

In particular, with regard to indicator No. 4 “Intra-EU coupling of energy markets, building on the liberalisation of gas and electricity markets achieved already by EU legislation”, ENTSO-E suggests to measure either the percentage of European electricity markets (or “bidding zones”, more appropriately) which are connected to the single day-ahead coupling algorithm and to the single intraday coupling or market volumes of such coupled markets. Alternative measurements focused on wholesale market outcomes – such as the degree of price convergence between markets – would be misleading since the effect of “intra-EU coupling” could be offset by structural congestions, differences in generation mix, bidding zones configurations, etc.

Indicator No. 3, ‘interconnections between Member States, with particular urgency between those furthest away from meeting the already agreed objective for Member States, to ensure a level of electricity interconnections, equivalent to or beyond 10% of their installed production capacity’ should be re-aligned with ENTSO-E’s TYNDP (except for weakly interconnected regions) and the country-specific objectives ENTSO-E will derive from the TYNDP, as explained above (cf. point 5).

6. Energy prices and network costs

In its conclusions on 21 March, the European Council reacted to the EC’s report on electricity prices, calling on Member States to further examine their network costs with the objective of minimising negative consequences for energy prices. ENTSO-E wishes to support the EC, the European Council and Member States with a preliminary overview of transmission tariffs from 2008 to 2013.

Across Europe, TSOs recover costs related to energy transmission such as costs for infrastructure, energy losses, ancillary services, system balancing and re-dispatching, or, costs not directly related to TSO activities (such as support schemes for RES or other sources) in different ways. Various methods work side-by-side and a direct comparison of tariff rates is hardly possible. The basis for the below overview is ENTSO-E’s Overview of Transmission Tariffs² in Europe, which is published annually on a voluntary basis.

6.1. Evolution of tariffs from 2008 to 2013

In order to allow for the best possible comparison, the below account covers all of the energy transmission charges including not only components related to TSO activities (infrastructure costs operation and capital costs; losses compensation; internal congestion (but not auctions or market coupling/splitting); supply of system services; system balancing), but also other levies and/or regulatory charges not directly related to transmission costs (such as costs of supporting renewables, cogeneration energy production, or any support to technology, public services missions, regulatory levies, costs of diversification and security of supply if applicable, etc.).

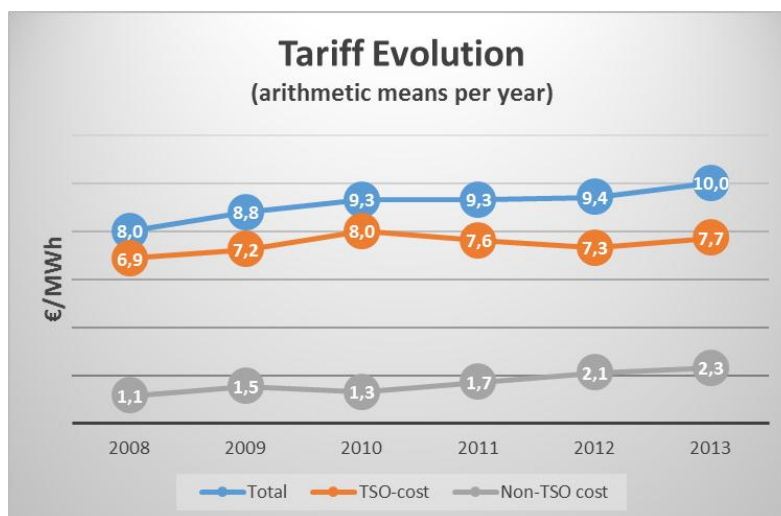
The figure below shows the tariff evolution on average³ from 2008 to 2013, using the following decomposition: total costs (including all components); TSO costs (including costs related to TSO

² See the ENTSO-E reports here: <https://www.entsoe.eu/about-entso-e/market/transmission-tariffs/>

³ Note that a simple approach is used to compute the average evolution of tariffs (arithmetic means per year). The use of weighted average (according to the number of inhabitants or the level of consumption) is more than reinforcing the results shown below.

activities from infrastructure to system services); non-TSO costs (including levies and/or other regulatory charges).

From 2008 to 2013, the total network costs (excluding the DSO component, but including taxes and levies) increased by 25%. Since the Council is presently discussing the extent to which the continued rise of energy prices for end-consumers is driven by increases in network costs, it is important to further analyse which component explains this 25 % increase.



Over the period 2008-2013, the cost to the TSO only increased by 11.5% while the non-TSO component rose by up to 109%. Therefore, ENTSO-E sees the need to emphasise that **the rise of the total network costs is mainly driven by the non-TSO component i.e. levies, taxes, subsidy schemes and public service charges. The increase of the TSO component, on the contrary, has remained moderate or has even decreased.** What is more, the DSO component, which is also a significant part of network costs is not accounted for in the above calculation.

To conclude, when Europe’s leaders discuss rising network costs as a driver for end-consumers’ electricity bills, it is very important to differentiate the various components and identify those that actually drive up prices. ENTSO-E is currently working out further data on the various TSO-components across Europe to advise the European Commission and Member States on actual network costs and their potential development in the near future.