

This vision is ENTSO-E's response to the Energy Union Communication

ENTSO-E's forthcoming '**Vision package**' includes four executive papers on an augmented market design, on regional co-operation to complete the Internal Energy Market, on better regulation for energy in the EU and on the interaction of security of supply and European markets. These papers, launched at the Annual Conference of ENTSO-E on 20 November 2015, formulate high-level recommendations accompanying the Energy Union implementation, 'from promise to practice'.

ENTSO-E VISION THE ENERGY UNION AHEAD!

RELIABLE, SUSTAINABLE, COMPETITIVE

➔ *"Our vision is of an Energy Union where Member States see that they depend on each other to deliver secure energy to their citizens, based on true solidarity and trust."*

(Energy Union Communication 25 February 2015)

The European Power System is in the midst of transformative change. Electricity is essential to our economy and way of life – it is one of the core infrastructures that keeps society functioning and our economies operating. The ability to develop and operate the transmission and distribution systems is a key factor for the success of electricity in modern societies. New stakeholders and market players get on board and develop a wide range of opportunities for customers, who have to be present in all markets.

The interaction and collaboration between TSOs and DSOs will be crucial and has to live up to the multiplication of data. All this puts network operators in a unique position and at the same time puts a high responsibility towards society on them because the energy transition requires their strong support. The members of ENTSO-E consider that strong European co-operation, with an important role for regions, is the basis for addressing the opportunities and challenges related to the energy transition.

With the energy transition the customer has moved centre stage. Transparency, empowerment, participation and trust are key factors. The security of supply in Europe can only be assured through solidarity and co-operation among EU Member States.

Europe's energy transition is built upon innovation. The power system of tomorrow is one of flexibility, of the co-existence of centralised and decentralised, of smart solutions, of hardware and software, of emerging regions. All of these trends will be accentuated further on, in particular with a **projected share by 2030 of close to 50 % energy from renewables** in the power system.

The EU has developed ambitious policies on liberalisation, integration, and sustainability, wrapping these ambitions into three consecutive legislation packages. The latest package is particularly ambitious and

forward looking. However, there is a need for a **swift third package implementation**, as a response to major regulatory challenges. This must include fast adoption and implementation of all network codes, conceived and drafted to provide necessary cross-border details to the Internal Energy Market.

Today, the Energy Union sees the roles of ACER and the ENTSOs as even more decisive. ENTSO-E welcomes the Energy Union project and will contribute, not least with the recommendations from the Vision Package, to get it from promise to practice. Already today, not only the Ten Year Network Development Plan (TYNDP) but also the regional security co-ordination initiatives (RSCIs) and market coupling for day-ahead trading, demonstrate the progress achieved by European TSOs. ENTSO-E will play a key role in the Energy Union project and is ready for the journey.

CITIZENS AT THE CORE OF THE ENERGY UNION



"Most importantly, our vision is of an Energy Union with citizens at its core."

(Energy Union Communication)

Citizens rightly expect high quality of service and continuous supply. They wish to see also that sustainability standards are met. A modern, competitive energy sector is the basis for economic performance and thus the welfare of Europe's citizens. Security of supply, cost efficiency and competitiveness, as well as sustainability and the implementation of EU energy policy objectives is the basis for ENTSO-E's agenda. Europe's citizens need to **participate actively in the power system of tomorrow and contribute to shaping it. Demand-side participation** and retail market reform provide the basis for this empowerment.

European citizens also have to make choices, and **public acceptance** is a major issue. Updating existing and developing new infrastructure is essential for the success of the energy transition. TSOs need to work on improving the involvement of citizens in the infrastructure development, and political decision makers can help support the needed infrastructure by clarifying the choices the energy transition brings.

Article 194 of the Lisbon Treaty refers to the need for **solidarity**. Here, for the first time ever, energy has become part of a European Treaty. Solidarity means in the end a seamless interaction between EU Member

States for ensuring security of supply for all as well as cost efficiency through a better use of resources. **Strong interconnections**, as addressed also in the 10% and 15% interconnection targets, are key prerequisites for this.

ENTSO-E has to perform its work as a strong, neutral and objective body of the TSOs on the highest possible standards, and in particular to deliver on **transparency**.

Being entrusted with legal mandates, ENTSO-E is aware of its responsibility towards stakeholders. The association is committed to continue **involving stakeholders** in an open and timely manner in order to implement solutions that best serve society at large.

ENTSO-E's vision and scenarios for the European power system are reflected in its work products, such as the **Ten Year Network Development Plan (TYNDP)**, which sets the basis for Projects of Common Interest for the citizens of Europe.



THE INTERNAL ENERGY MARKET **PUSH**

“Our vision is of an integrated continent-wide energy system where energy flows freely across borders, based on competition and the best possible use of resources, and with effective regulation of energy markets at EU level where necessary”
(Energy Union Communication)

The single energy market is to deliver an efficient, competitive electricity market that ensures security of supply and system reliability but also cost effi-

ciency and sustainability for Europe's customers. This requires hardware and software. Hardware refers to strong infrastructure, and software to system opera-

tion, rules, market design and innovation. TSOs are in the central position of the system and thus have a unique perspective needed to bridge the gap between those two elements.



UPGRADING THE SOFTWARE FOR THE INTERNAL ENERGY MARKET

The building blocks of the Internal Energy Market are the **electricity network codes**, whose elaboration deeply engaged ENTSO-E. **The network codes support a fit-for-purpose regulatory framework as the essential basis of a network, able to cope with the evolution of Europe's climate and energy policies.** They implement the most advanced co-operation schemes in the world between system operators, for the best possible security of operations in normal and emergency situations. They provide fair, transparent and efficient market rules for long-, mid- and short-term system and market operations.

Along with completion of the target model, there is a need to augment significantly the **market design** in order to further integrate renewables into the market, to empower the prosumers – those who are producing and consuming power – to enable demand response and new services to the customers. The convergence of wholesale and retail markets has to be taken into account, with an imperative to speed up effective retail market liberalisation and harmonization. The development of liquid wholesale markets in Europe will boost the financial power markets, and new products needed for hedging energy and capacity risks can develop. All in all, the augmented market design has to provide the right signals to all market participants, to contribute actively to balancing the system and to ensure system adequacy and security of supply.

The completion of the IEM and Europe's renewables, energy efficiency and climate objectives for 2020 and 2030 requires increasingly co-ordinated national energy policies. Energy mix decisions at national level, decisions on capacity remuneration mechanisms, generation reserves or back-up capacity, all have important cross-border impacts. They could

result in market fragmentation and thus less reliable systems and higher power prices. It is important to ensure that national decisions remain consistent with the integrated market and are co-ordinated at least at a regional level, in line with subsidiarity and with the EU framework.

To facilitate such co-ordination, **pan-European and regional assessments of system adequacy and flexibility** are needed and **ENTSO-E should be given a formal role** to provide these to the regions based on its evolving European methodology. Its knowledge and technical expertise gained in its already mandated tasks could thus be applied as a foundation to regional energy policy co-ordination. The goal would be to contribute to ensuring security of supply in a regionally co-ordinated way based on the principle of solidarity.

HARDWARE, BUT ALSO SOFTWARE: BET ON INFRASTRUCTURE AND EVER SMARTER GRIDS



There is an urgent need to **renew existing grids and to ensure a timely expansion of infrastructure.** Here, ENTSO-E's guiding principle is that infrastructure investments should be made where the socio-economic gains are the largest. These projects are detailed in the TYNDP. Closer regional co-operation will help TSOs to share information, collaborate closer on planning new infrastructure with producers and investors and ensure regional benefits are taken into account in the planning. It should not be forgotten in this context that TSOs are major investors, thus creating welfare, jobs and growth.

Hardware solutions are not enough. **Smart transmission and distribution grids, properly co-ordinated, are the backbone of the integrated energy market and a foundation for future generations' sustainable environment, climate, innovation and wealth.** Only with a strong and smart power network can the growing share of variable renewables be integrated, flexibilities used, new services developed and security of supply be ensured at lowest cost.

As the grids become smarter and available grid data and decision-needs multiply, and with the expected deployment of decentralized generation and demand-side response technologies, **DSOs' role** in the market facilitation will change. This calls for further co-ordination in operational and planning activities between TSOs and DSOs, both at national level and at

European level, where ENTSO-E and the associations of DSOs have started to engage in intensive joint work on the TSO-DSO interface. The joint work also addresses smart grid data hubs which must be designed for fast reaction times for ancillary services and with appropriate governance.

THE NEED FOR A SEAMLESS EUROPEAN REGULATION

The co-ordination of National Regulatory Authorities should be reinforced through ACER. Society at large would benefit from a reduced regulatory complexity for cross-border projects and from lighter processes among national regulators. Through so far rare cases brought to it, ACER is gaining experience in arbitrating among national regulators who are unable to agree. **ACER should be able to co-ordinate and arbitrate among national regulators more proactively.** There is a need for a more seamless regulatory framework, reconciling the roles of National Regulatory Authorities and ACER in a better way. Today, the ambitious Internal Energy Market project including necessary Network Code implementation decisions remains challenged **by regulatory gaps and differences in national regulations, which cannot be justified by the otherwise important premise of subsidiarity.**

ENTSO-E welcomes the call for a strengthened role for ACER in the sense of more proactive arbitrage between national regulators and co-ordinating cross-border regulatory issues. ACER should work for stronger convergence of national regulatory frameworks and for reducing the patchwork of conflicting national regulations to facilitate

further European integration. ACER should also be involved in regulation and overview of both wholesale and retail markets because the convergence of these two markets is a marker of the coming decade.

Each ENTSO-E legal mandate came with carefully designed oversight. We see thus in the current situation sufficient regulatory oversight by ACER of ENTSO-E. If the Energy Union would entrust **ENTSO-E** with new competencies and tasks, possibly some oversight for these may need to be designed. In all cases, there is a need for proportionality and the right match between competencies on the one hand and regulatory oversight on the other.

As far as the **regional security co-ordination initiatives** (RSCIs) are concerned, ENTSO-E believes that the third package already includes sufficient regulation, with its strong mandate for TSOs to co-operate within ENTSO-E and its strong regulation of TSOs on a national level. RSCIs are one among several examples of strong TSO co-operation involving also ENTSO-E, where TSOs outsource several tasks to RSCIs while TSOs keep the full responsibility and ENTSO-E ensures consistency of implementation among RSCIs.

ENTSO-E: YES TO REGIONAL CO-OPERATION

Europe's TSOs co-operate both on a regional and on a pan-European level. They have proactively set up a variety of regional co-operation initiatives such as the central auction offices; for example, CAO/CASC on the market side and several RSCIs such as TSC and CORESO on the operational security side. These initiatives are already one of the **TSOs' contributions to the Energy Union** and a visible sign of well-functioning regional co-operation. Today, these regional initiatives already cover 74% of the EU population.

While operational co-ordination in line with the premise of subsidiarity falls upon the TSOs, ENTSO-E is in charge of the increasingly important tasks of overall harmonization, consistency of implementation and interoperability. **ENTSO-E is uniquely placed** to ensure the standardization of processes and services offered by RSCIs necessary for interoperability across TSOs. ENTSO-E participates actively in their further development and scope of work. **RSCIs, as valuable**

cross-border service providers to TSOs, are the appropriate answer to the Energy Union recommendation for a further strengthened regional TSO co-operation.

RSCIs are already providing valuable contributions to ensure system security, and to ensure collaboration on security of supply, operations and planning on a regional level, RSCIs will be further developed as already outlined by ENTSO-E. Each interconnected member of ENTSO-E will participate in at least one RSCI. As agreed in ENTSO-E, the RSCIs will perform functions such as co-ordinated security analysis, short- and medium-term adequacy forecasts, co-ordinated capacity calculation, outage planning co-ordination, as well as common grid model delivery. They could also be tasked with performing the stress tests as proposed in the Energy Union Communication. All of these services are valuable contributions to the system operation under the direct responsibility of TSOs.

Last, but not least, power does not stop at national or European borders. Co-operation with the **European neighbours**, and here in particular with the **Energy Community** but also the Mediterranean TSOs (MEDTSO) is on ENTSO-E's agenda.

 THE ENERGY UNION HAS TO TRANSLATE INTO A SUSTAINABLE, LOW-CARBON AND CLIMATE-FRIENDLY ECONOMY THAT IS DESIGNED TO LAST: CONCRETE BUILDING BLOCKS ARE PROPOSED IN THE ENTSO-E VISION.

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