



Cyber security



- ➤ EC issued a "Recommendation on cybersecurity in the energy sector", which sets out the main issues related to cybersecurity, and identifies the main actions for implementing relevant cybersecurity preparedness measures in the energy sector.
- ➤ In applying this Recommendation, Member States should encourage the relevant stakeholders to build up knowledge and skills related to cybersecurity in the energy sector. Where appropriate, Member States should also include these considerations into their national cybersecurity framework, notably through strategies, laws, regulations and other administrative provisions.
- ➤ Energy Community recognizing the importance of all of the above established Cyber Coordination Group aiming to improve and enhance cybersecurity in energy in line with the European model.
- ➤ The Cyber CG shall support implementation of cybersecurity legal provisions, monitoring and regulation mechanisms, so that the CP participate in cybersecurity on the EU level.
- ➤ Also the Cyber CG will aim at establishing a platform for cooperation on cybersecurity with ENISA. to address the scope of questions of common interest, format of communication and the domain of stakeholders included, protocols, restrictions and targets.

TSO-DSO interface



☐ TSO-DSO DATA MANAGEMENT REPORT (2016)

➤ Focus on defining shared key principles on data management in general, data management models, rules for access and collection, and principles related to format, protocol and channels related to security and confidentiality on the following five use cases for data exchange:

Congestion management, Balancing, Use of flexibility, Real-time control and supervision; and Network planning.

- > Recommendations were made to the European Commission, stating that high level principles regarding data exchange and a common definition of roles and responsibilities have to be ensured at a European level.
- ☐ TSO_DSO AN INTEGRATED APPROACH TO ACTIVE SYSTEM MANAGEMENT WITH THE FOCUS ON TSO DSO COORDINATION IN CONGESTION MANAGEMENT AND BALANCING (2019)
- > DSOs and TSOs need to co-ordinate closely for the use of flexibility to fulfil their missions as defined in regulation, while creating conditions for the uptake of new services without endangering the reliable provision of electricity.
- Recommendations for all the flowing topics are presented in the report under the premise that TSOs and DSOs should pursue an integrated system approach when developing new solutions and should avoid any isolated solution.
- > TSOs and DSOs shall use those flexibility tools that are effective, cost-efficient and that suit their needs.
- ➤ The Energy Community recognizing the importance of all of the above and being proactive has established the Task Force DSO2TSO, to deal with all these issues. The Contacted Parties have realized the complexity and difficulty of the issues and are willing to compose a position paper.

Quality of Service



- According to CEER's, definition Quality of Service refers to:
 - Continuity of Electricity Supply (number of interruptions, unavailability, energy not supplied)
 - √ Voltage quality (deviations in voltage magnitude from optimum values)
 - ✓ Commercial quality (timeliness of services requested by customers, such as new connections, disconnections, repairs, complains etc.)
- ➤ The quality of service is imposed to DSOs, by the national regulation concerning the protection and rights of costumers
- > It is necessary NRAs to give the appropriate incentives to DSO to make the necessary investments in:

New infrastructure

IT systems

Personnel

- In the provisions of the regulatory framework (Quality of Service and income for DSOs), there must obligatorily exist a balance between the requirements of the customers, the potential increase in the network tariffs and the capabilities of the DSO.
- In any other case, the DSO will be harmed.

DSO2suppplier



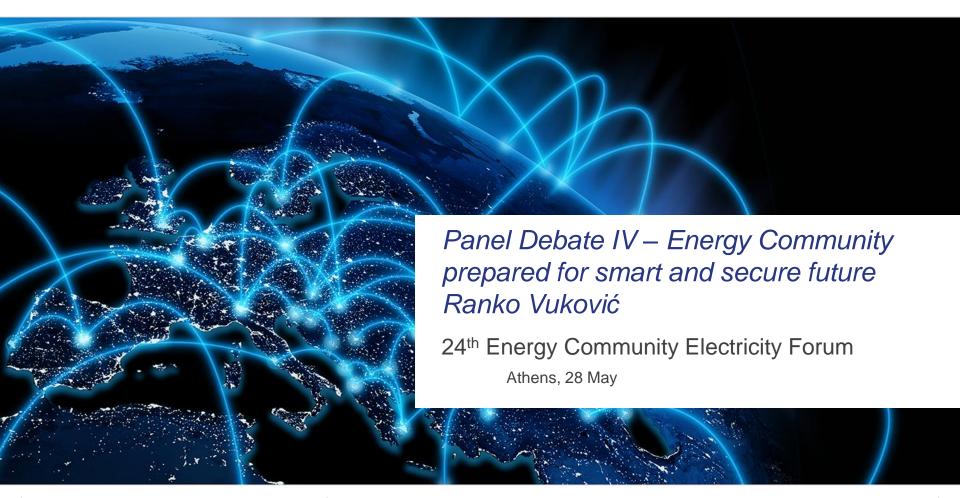
New DSO role in the market: Neutral market facilitator, From Pipes to Platforms, the center of the new energy market, new services and responsibilities

- > DSO roles and responsibilities in relation to the suppliers are very crucial
 - ✓ Switching process, Data provider for the billing, Disconnecting a costumer due to debt.
 - ✓ Connecting in case they pay off the debt, In many cases the access to the grid is carried out through the supplier
 - ✓ Data provider for the supplier's participation in the wholesale market (if this is the country's case)
 - ✓ etc.
- ➤ DSO-supplier relations must be carried out with **transparency**, **equal treatment**, **no discrimination** between suppliers especially those in the same group with the DSO.
- > Adequate tools help the appropriate market operation.
 - Processes recorded and agreed upon, for every relation between DSO & Supplier.

 Methodology for guarantees by the suppliers concerning the network charges they receive from clients.

 Implementation of a compliance program





QoS – Harmonization and Regulation



- Establishing harmonized definition of the quality of supply standards, monitoring and reporting
- Better performance of the quality of supply by the DSO is mainly dependent on the financial, human and technical resources along with the incentives from the regulation side
- The rules and requirements of the quality of supply shall be carefully examined, so that they correspond to the possibilities of the DSOs to comply with the rules and at the same time motivate the DSOs to show better performance in QoS indicators
- DSOs need transitional period to implement some standards
- Regulators should acknowledge the costs/investments required to improve the quality of supply

QoS – Responsibility, Monitoring and Reporting



- The responsibilities of all the players have to be clearly distinguished
- A clear procedure for sharing the responsibility among the involved stakeholders (TSOs, DSOs, equipment manufacturers and users) is crucial
- Rolling out smart meters opens up the possibility of collecting crude indicators
- The smart meter monitoring must be complemented by dedicated and sophisticated voltage monitoring devices
- DSOs believe that the EN50160 standard represents a solid basis for guaranteeing a reasonable level of voltage quality under normal network conditions
- DSOs should establish database with as much as possible QoS data
- Regulators should introduce definitions and guidance for monitoring and reporting





The new role of DSO as 'active' market facilitator



Distribution system should be seen as "a platform"!

"We rely on smartphones and have trust in them, for example for payments, but we also have the ability to add new apps. Thus, they play the dual role of reliable service provider and market facilitator."

"When we see the distribution activity as a platform, it will become easier for everyone to appreciate the challenges we face, the investments we need to make and the roles we need to play."

The new role of DSO as 'active' market facilitator



- Facilitating entry of the new suppliers into the local market by enlarging it and removing barriers to entry
- In order to facilitate the market DSOs are working as an information hub
- Phases of gathering and exchanging information
- Future development of metering requires immense data handling capacities of DSOs
- Equal access to market and customer information through DSOs
- Reliable and swift change of supplier is core B2B process between DSO and suppliers



