

Work Package 5.6 Policy recommendations - Electricity

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Electricity SoS

- ❑ Electricity security of supply has implications along the whole chain:

⇒ **Generation**



⇒ **Transmission**



⇒ **Distribution**

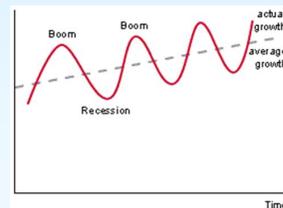


⇒ **Demand**



Generation *adequacy*

- ❑ Necessity to ensure **adequacy** of the generation system, i.e. its capability to **keep the supply/demand balance** (taking into account network constraints)
- ❑ Need for a sufficient **reserve margin** and for a generation set well **adapted to the load and to intermittent sources**
- ❑ Electricity market **price signals are not sufficient to ensure adequacy**, neither in time nor in space
- ❑ Risk of **boom-and-bust cycles**, with security of supply at risk during capacity bust periods

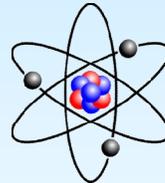


Generation – policy recommendations

- ❑ **Implement regulatory instruments** (*tendering procedures, capacity payments, capacity markets/obligations, call options, etc.*) to push investors to pursue the **“optimal”** development of the generation set
- ❑ Rely only on **“market based”** mechanisms able to get the most efficient solution through **competitive** procedures
- ❑ **TSOs** should support the implementation of the adequacy instruments providing a technical evaluation of **how much** new generation capacity of the different **types** is needed, **when** and **where** (the location in the network is very important)
- ❑ It is desirable that this process be **coordinated and harmonized at the EU level** to increase its effectiveness and to avoid market distortions

Primary sources security of supply

- ❑ An **adequate** generation set **is not secure** if **primary sources supply** is not secure
- ❑ Therefore a sufficient **diversification of primary sources** in the generation set must be pursued, according to **targets set by the political levels responsible for energy planning**
- ❑ Apart from RES, supported by specific incentive schemes, this objective can be reached using the same above mentioned **regulatory instruments concerning capacity adequacy**
- ❑ In this case **TSOs** can only play the role of consultants for technical aspects concerning the **implementation of the objective** and its **impact on system adequacy**



Transmission – policy recommendations

- ❑ Necessary to **reduce uncertainties for investors** (TSOs / merchant) due to:
 - ❖ **complex and long permitting procedures** involving different authorities, with different administrative levels (European, national, local) that may differ from one country to another
 - ❖ **lack of social acceptance**
 - ❖ **difficulties in predicting the long-term location, amount and type of generation and load**



Transmission – permitting procedures

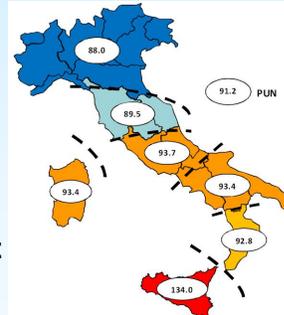
- ❑ **Rationalize** the procedures
 - ❖ **reduce** the number of entities involved, the number of phases, ...
 - ❖ **centralize** at one (national) level the procedures for strategic infrastructure projects (e.g. cross-border lines)
 - ❖ use **simplified** and **shorter** procedures for upgrading of existing transmission lines
 - ❖ set reasonable **maximum time limits** for the completion
- ❑ **Harmonize** the procedures and criteria for authorization at the EU level, through **binding guidelines**
- ❑ Designate an **“arbiter” / “facilitator”** promoting compromises, dealing with controversies and speeding up the realization of strategic projects in trans-national cases

Transmission – social acceptance

- ❑ Provide a clear and objective vision of **benefits and costs**, as well as of the **costs for the society** deriving from **inaction**
- ❑ Clarify the relationship between **RES integration, security of supply** and **grid development**
- ❑ Clarify the **costs of different technical solutions** (e.g. overhead lines vs. underground cables)
- ❑ Open a discussion on a clear and sound scientific basis with the help of independent and competent bodies, in order to allow for an **informed comparison between the (perceived) “cons” and the “pros”** of the projects
- ❑ Promote a thorough **evaluation of property value**, so as to bring about a **fair compensation** (including “immaterial” aspects) that can be agreed by all the parties

Transmission – social acceptance

- ❑ Combat the *nimby* effect by letting people know that the realization of network projects **will reduce their electricity bills** (by imports of cheaper energy, direct compensations, congestion reduction ...)
- ❑ Provide **“locational signals”**, i.e. the spatial (zonal/nodal) differentiation of electricity prices and of transmission charges, **to optimize short-term operation and long-term siting**, thus harmonizing generation and transmission development

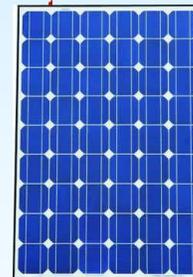


Transmission – long term scenarios

- ❑ Difficulties in predicting the **long-term location, amount and type of generation and load** can be effectively tackled by carrying out adequate **scenario analyses** (as called for by ENTSO-E)
- ❑ Generation companies should be **discouraged** (with economic penalties) from initiating permitting procedures if they are not strongly committed to realize the investments
- ❑ Scenario analyses should also be the basis upon which to define the **optimal set of network developments at the EU level**, and no longer only at the national level (as called for by ENTSO-E)

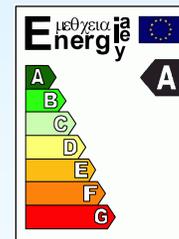
Distribution – towards *active and smarter networks*

- ❑ Encourage cooperation among standardization bodies, regulatory authorities, grid operators and manufacturers to set **open standards to ensure interoperability** of smart grid devices and systems so as to avoid any technical barrier to their deployment
- ❑ Support DSOs' investments in “smartness” through incentive / minimum requirements regulation based on the **quantification** of their **effects and benefits**, through appropriate **indicators**



Demand – policy recommendations

- ❑ Encourage **demand response**
 - ❖ support rapid and extensive deployment of **enabling technologies**, such as **smart metering**, following best practices (e.g. Italy)
 - ❖ design Demand Response programs so as to provide **strong** (i.e. able to ensure a substantial economic convenience in case of response) signals, as well as **simple and easily understandable** by consumers
- ❑ Promote higher **end-use energy efficiency**, with fiscal incentives together with obligation schemes, such as White Certificates, and minimum standard requirements, in order to overcome possible financial and cultural barriers





Thank you for your attention