

# An integrated electricity grid for enabling the Energy Transition in the Mediterranean

A stronger integration of electricity grids of both shores of the Mediterranean: opportunities, challenges and concrete ways to progress

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Med-TSO web-conference 28th October, 2020

# Back to some basics about networks

What is the **essence of a network** ? [in general terms]

Interconnecting while **respecting diversity** (geographical, technological, legal etc.)

Developped on the basis of **win-win extensions**

With the '**minimum**'/adequate level of **standardisation** for harvesting the maximum added value

Naturally **resilience oriented** thanks to size and diversity

What is it **not** ?

A 'centralisation' tool

A 'one-size-fits-all' obligation

# Key drivers and major trends in the power system towards 2030-2050

- **High speed transformation of the energy mix : towards ambitious political objectives**
- Wind generation and interconnections in the seas, **offshore meshed and hybrid Grids**
- **Growing need for distributed flexibilities** with closer TSO & DSO cooperation
- **Several Energy Systems interfaced**, the power grid as a backbone of 'sector coupling' ?
- **Power Electronics** hybrid AC/DC systems = new paradigm for stability without inertia
- **Markets and physics** seamlessly interconnected
- **new operational challenges** - resilience, forecast, and **technical answers** = cyber layer, automation, artificial intelligence

**With an extension of the interconnection to face these challenges : thanks to technological breakthroughs, power links across Mediterranean shores belong to the same type of response we can witness all over the world**

## Concluding remarks

All major trends and drivers show the need for a **'system of interconnected systems'** as the new paradigm of the worldwide energy transformation within the 2030 to 2050 horizon of climate neutrality objectives.

**How to achieve that? We need a multi-layer, multi-player, cross-sector and cross-continent coordination, cooperation and interconnection.**

All **System Operators will have a key facilitation role** to enable this energy transition by designing the adequate interconnections.

Med-TSO : the **'missing link'** to go from Brussels (Green Deal) to Paris (Agreement) through inter-continental interconnections

**entso-e and Med-TSO already closely connected : intensive bilateral data exchange and knowledge sharing**