

# Power Transmission and Distribution Systems

### Annex 6

ISGAN (International Smart Grid Action Network) is an initiative of the Clean Energy Ministerial and an IEA Technology Collaboration Program.

The vision of ISGAN is to accelerate progress on key aspects of smart grid policy, technology, and related standards through voluntary participation by governments

## **Improve understanding of Smart Grids**

Annex 6 on Power Transmission & Distribution Systems has as main objective to establish a long term vision for development of the future sustainable power systems. The focus is on system-related challenges, and on the technologies, market solutions, and policies that contribute to the development of system solutions.

The work of Annex 6 promotes solutions that enable power grids to maintain and improve the security, reliability and quality of electric power supply while facing challenges related to significant trends in the industry, such as: expanding electrification to unserved areas, renewable energy sources and distributed generation, customer participation, aging infrastructure and emerging real-time information technology systems.

#### Focus areas

- Market models: architectures and clearing mechanisms
- Coupling of day ahead markets and real time platforms
- Planning of T&D Networks
- Pricing and tariffs

**Expansion Planning and Market analysis** 

- HVDC & HVAC lines, cables and substations
- Measurements and digitalization
- End user tools
- Scenarios

Policy &

Technology Trends and Deployment

Transmission and Distribution System Interaction

# **System Operation and Security**

- WAMS
- Operational monitoring and control, balancing control and security analysis
- Real time markets for balancing control and demand side participation
- TSO DSO interaction challenges
- Role of new markets in TSO-DSO interaction
- ICT and data exchange requirements
- Regulatory requirements







### Main goals

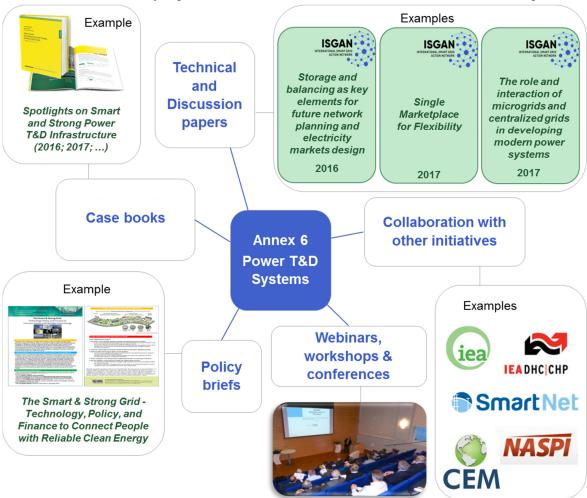


Annex 6 consist of efforts to improve understanding of Smart Grid solutions applicable to or influencing the power system performance, transmission capacities and operation practices.

Annex 6 intends to support an accelerated development and deployment of Smart Grid technologies and market solutions, and promote adoption of enabling regulatory and governmental policies.

### Global network of experts

The work is carried out by a global network with results disseminated at different strategic levels.



### **Contact details**

ISGAN Annex 6 is supported by national experts from 15 countries all over the world. For further information, see <a href="https://www.iea-isgan.org">www.iea-isgan.org</a> or contact us directly:



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