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## ISGAN International Smart Grid Action Network

Users TCP Day, 6. April 2022 Anna Wang, ISGAN WG 7



#### **ISGAN** in a Nutshell

ISGAN is the short name for the *International Energy Agency* (IEA) *Technology Collaboration Programme* (TCP) for a Co-operative Programme on Smart Grids (ISGAN – *International Smart Grids Action Network*).

It is also an initiative of the *Clean Energy Ministerial* (CEM) and was formally established at CEM2 in Abu Dhabi, in 2011 as an Implementing Agreement under a framework of the *International Energy Agency* (IEA).

The International Smart Grid Action Network (ISGAN) creates a strategic platform to support highlevel government attention and action for the accelerated development and deployment of smarter, cleaner electricity grids around the world.





#### **ISGAN** in a Nutshell

ISGAN currently consists of 27 Contracting Parties.

Their nominated representatives form the Executive Committee headed by the Presidium,

assisted by two co-Secretariats and the Operating Agent of ISGAN.

The work of ISGAN is divided into 6 active Working Groups (WG)





#### **ISGAN Membership**

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## **ISGAN Vision and Mission**

#### Vision

 The attainment of national, regional and global clean energy and climate goals supported by the integration of a variety of smart grid technologies, applications and policies.

#### Mission

• To provide a platform for the development and exchange of expertise and competence on smarter, cleaner electric power systems and to serve as an important channel for communication of related knowledge.



#### **Objectives**

**ISGAN**'s objective is to accelerate progress on key aspects of smart grid policy, technology, and investment through voluntary participation by governments and their designees in specific projects and programs. Its activities center foremost on those aspects of the smart grid where governments have regulatory authority, expertise, convening power, or other leverage, focusing on five principal areas:

- Policy standards and regulation
- Finance and business models
- Technology system development
- Workforce skills and knowledge
- Users and consumers engagement

**ISGAN** facilitates dynamic knowledge sharing, technical assistance, peer review and, where appropriate, project coordination among its Contracting Parties.



#### **4 strategic themes**

The following key-themes for ISGAN were defined, all our work focuses on these four topics:



#### **Partnerships**





- ISGAN's current partners include:
  - International Energy Agency
  - Clean Energy Ministerial
  - Global Smart Grid Federation
  - 21st Century Power Partnership
  - Clean Energy Solutions Center
  - Mission Innovation Power Mission

International Energy Agency







#### ISGAN TERNATIONAL SMART GRID ACTION NETWORK

## Working Group 7 – Smart Grid Transitions – On institutional Change

- Smart Grids as core electricity network infrastructure of most future energy systems with links to other distributed energy vectors and infrastructures
- Integration of renewable energy sources, storage, sector coupling as key challenges for the development of smart electricity grids
- Need for restructuring the actor networks, including incumbent actors and other new actor groups in the center of smart grids as well as at the interfaces with other parts of the energy system.
- Analysis and policy advice on institutional, governance and socio-technical issues associated with Smart Grids Transitions and deployment as a long-term endeavor
- Support the development of transition pathways and processes



### **Regulatory Experimenting**

- Need for novel innovation policy approaches in response to challenges of climate and energy policy regulation that facilitates innovation
- Regulatory experiments: A means to deliberately deviate from the current regulatory framework to try out new or different rules in a real-world setting. Experimental environment to stimulate and foster innovation, replication and business model development.
- Additional tool for testing innovative Smart Grid solutions under future regulatory framework conditions.
- Enabler of **policy learning and innovation** with an eye on social and economic benefits of Smart Grids for individuals, communities and for all stakeholders in society.
- Regulatory experimenting can often be user-centered:
  - AT Energy.Free.Room programme: exemptions from network tariffs for R&I projects
  - NL experimenting law: local energy initiatives (homeowners' associations, energy cooperatives, etc.): e.g., peerto-peer supply, determine own tariffs for energy transport in order to localize, democratize, and decentralize energy provision
- ISGAN Casebooks on <u>Regulatory Experimenting 2019</u>, <u>Updated Casebook 2021</u>
- Policy Brief for CEM12
- Veseli, Argjenta, Simon Moser, Klaus Kubeczko, Verena Madner, Anna Wang, and Klaus Wolfsgruber. 'Practical Necessity and Legal Options for Introducing Energy Regulatory Sandboxes in Austria'. *Utilities Policy* 73 (Dezember 2021): 101296. <u>https://doi.org/10.1016/j.jup.2021.101296</u>.

# Self-servicing and system-servicing by local grid participants



 "Decentralised energy futures. Emerging new logics of energy system organisation" WG7 National Experts Paper submitted

Value orientation Service orientation	Individual values	Collective values
Outward Services System services, system oriented Full support to the system	Individual-Outward: System oriented prosumers and consumers	Collective-Outward: System oriented energy communities
Inward Services Self-services oriented Selective support to the system	Individual-Inward: Self-service oriented prosumers and consumers	Collective-Inward: Self-service oriented energy communities

## **Transition Readiness Modules –** work in progress





- **Technology push is losing grip** in times of Transition Missions
  - Transformative Innovation Policy will have to find new grip, if aiming and contribute to the acceleration of Green Transition
- Technology Readiness for Green Transitions is just one module out of many dimensions



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# Thank you

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