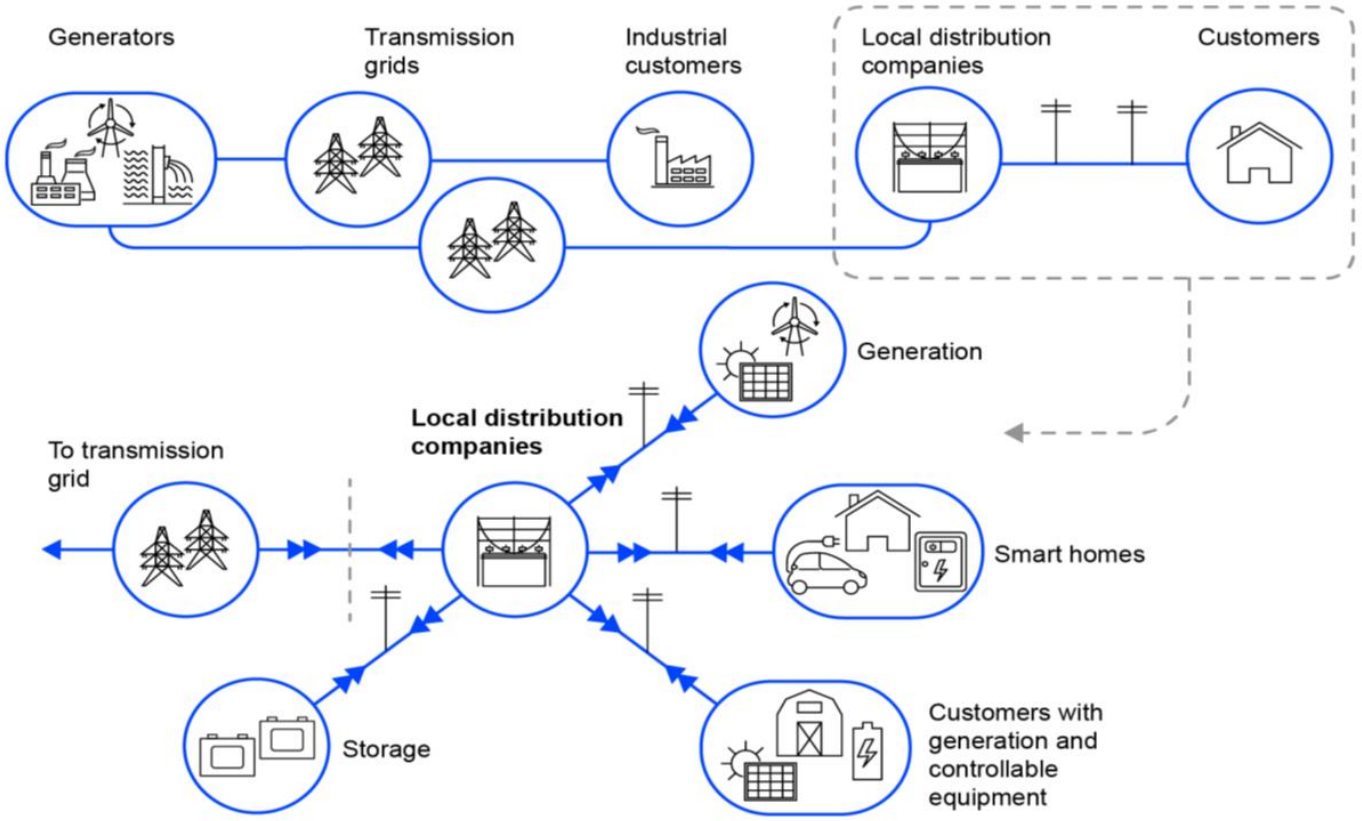
EVOLVING ARCHITECTURE OF THE NET ZERO POWER SYSTEM

Speaker : ***Vida ROZITE,*** *International Energy Agency*

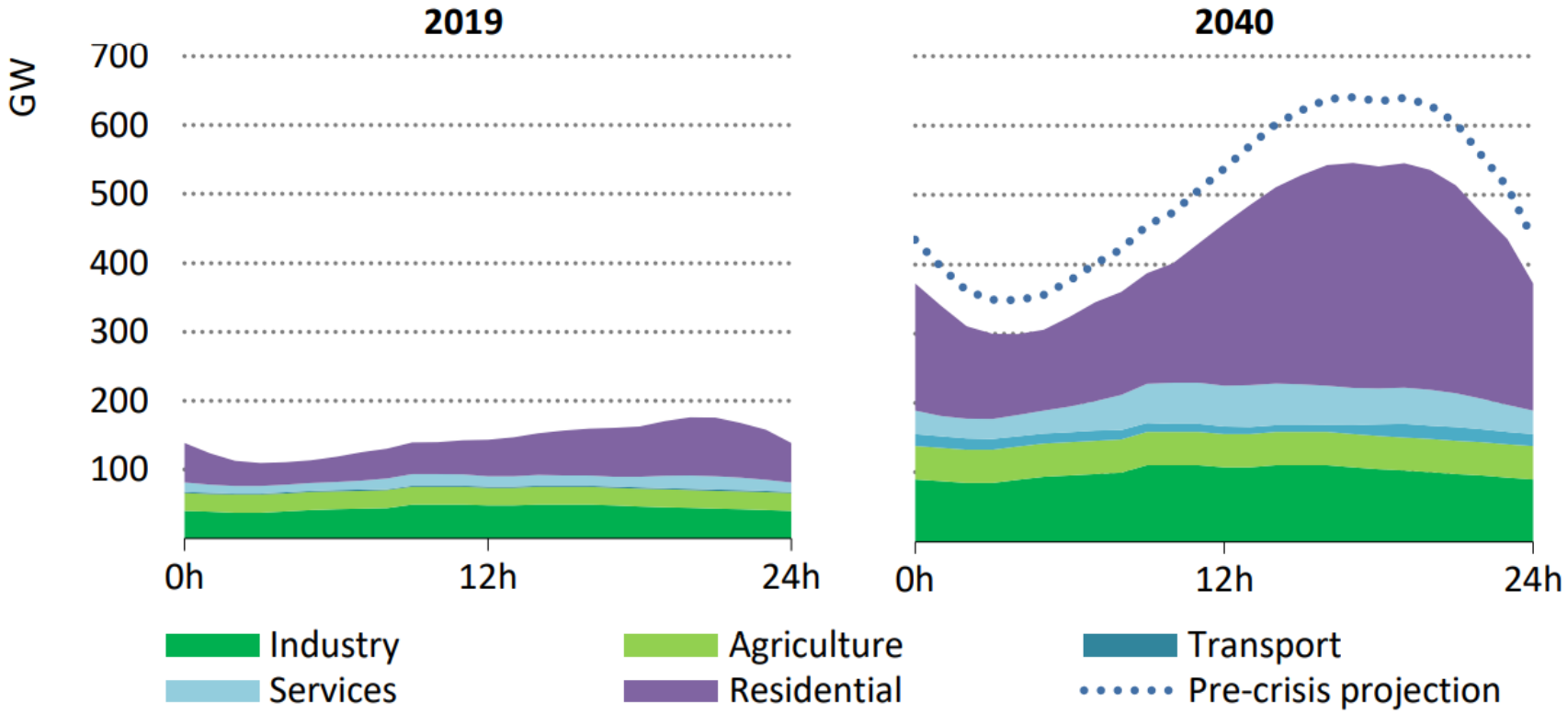
Increasing complexity & fast change

Power systems are **changing**

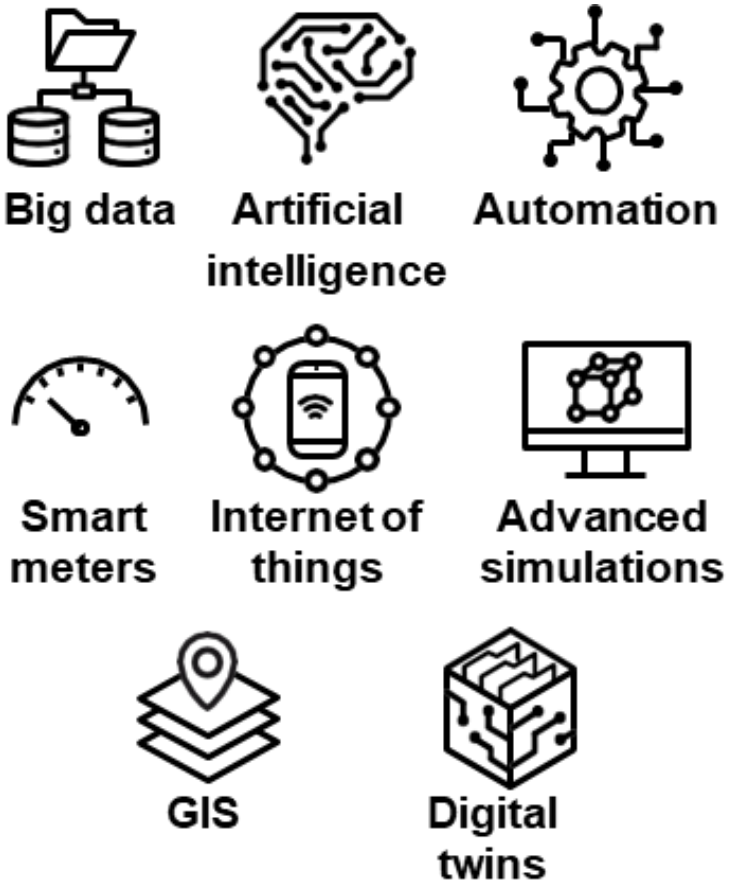


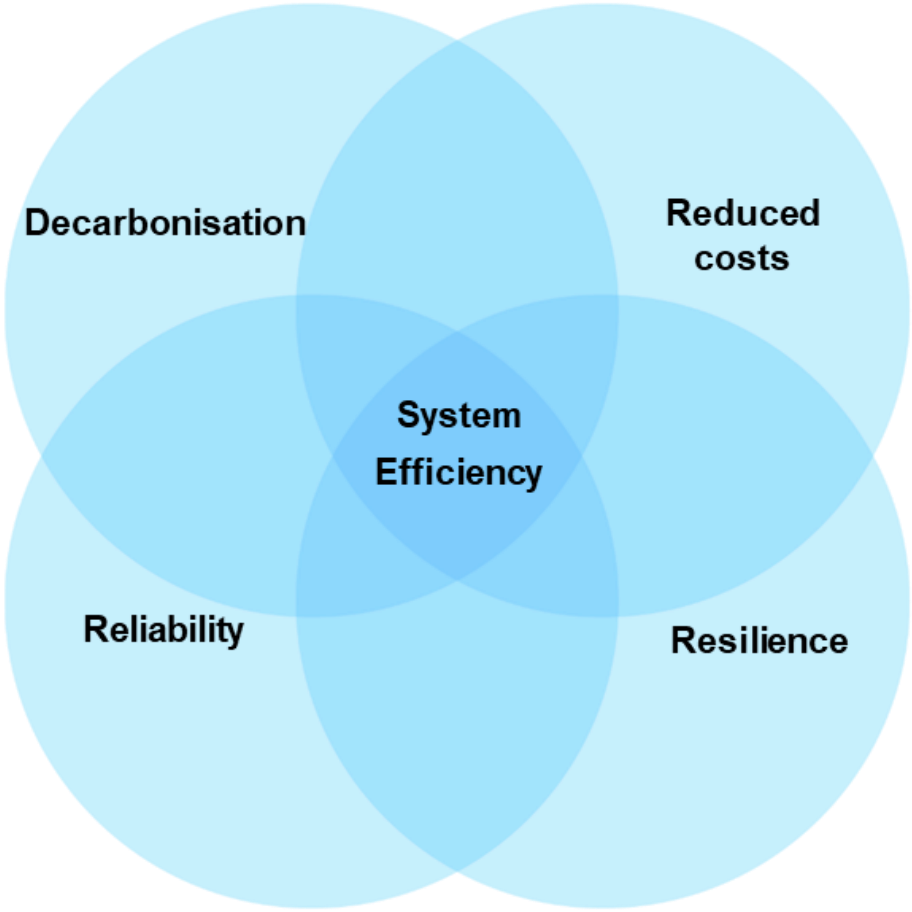
Keeping ahead of the curve

- Daily electricity demand in India in 2019 and 2040 in the STEPS



Digitalisation

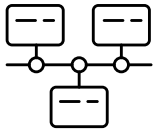




Towards system orchestration

Coordination

- Enabling decentralised elements cooperate to solve common problems
- Changing roles and responsibilities & integration
- Mapping information/data sharing requirements and data infrastructure needs

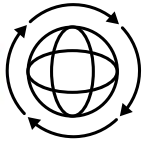


Scalability

- Accommodating expanding number of endpoints without needing grid re-design
- Effective management of local and system optimisation requirements

Layering

- Using system capabilities to serve a variety of applications through interfaces



Continuous management of change

- Challenges, needs and opportunities will continue to evolve – mechanisms to monitor, anticipate, identify and act swiftly and strategically

IEA work on smart grids

Aim of the Project

- providing **actionable guidance** to policy makers on the policy, regulatory, technology and investment context needed to accelerate progress on **power system decarbonisation and modernisation** and **effective utilisation of demand side resources**

Global scope, geographic focus

including but not limited to **Brazil, Colombia, India, Indonesia, Morocco, South Africa, Tunisia**, and **Latin America, Africa, Southeast Asia** regions. Ongoing engagement with a **Consultative Group of Experts** (37 members from 14 countries)

Upcoming policy guidance documents

- Smart grids in emerging markets and developing economies
  - How investments in physical and digital infrastructure can bring multiple benefits such as grid resilience, and improved financial standing.
- Grids of the future
  - How digital tools & data can support clean energy transition

Project timeline

Digital Demand Driven Electricity Networks (3DEN) initiative

Thank You

For discussions/suggestions/queries email: ***isuw@isuw.in***

www.isuw.in

https://www.iea.org/programmes/digital-demand-driven-electricity-networks-initiative

https://www.iea.org/reports/renewables-2022

https://www.iea.org/reports/india-energy-outlook-2021

https://www.iea.org/reports/net-zero-by-2050