

## **The Transition of Renewable Energy** and Disruptive Technology



"Design System-Friendly for RE & Rapid Change of Technology"



Phase 4. RE makes up almost all generation



**Phase 3.** RE generation determines the operation pattern

Phase 2. RE has a minor to moderate impact



Phase 1. RE has no noticeable impact



Higher RE penetration has effects on the power system

> To have environmental-friendly energy policies and attractive incentives to all stakeholders.

> > **Electricity Industry Transformation**

CO2 tax credit, Carbon price, RE

Third Party

More flexible short term trading

Improved system services procurement

Integrated planning, flexible resources and cross sectoral electrification

Develop/Upgrade grid code

System-friendly VRE location (Zoning) and technology mix

> Policy / Institution / **Architecture**

The energy policies to support RE and Disruptive Technologies Power to gas

Electrification

Storage, Demand side management

Power plant flexibility, improve grid infrastructure

> REFC Establishment VRE forecast/control New grid code

Conduct the regional transmission potential

> Study the impacts of RE Integration on the power system

Mobilize existing flexibility

Infrastructure / **Hardware** 

- Wang Noi Power Plant
  - DRCC Establishment

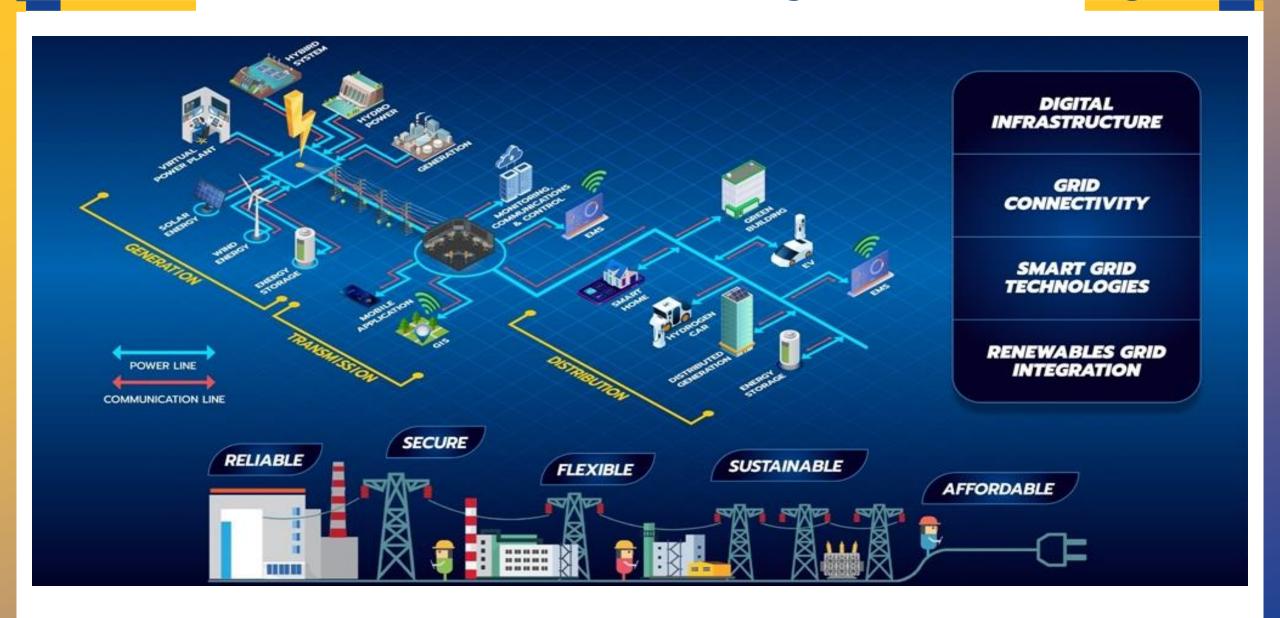
**BESS Projects** 

Cross-border Interconnection

Develop the infrastructure and management system to support the policies

Ref: International Energy Agency (IEA), International Renewable Energy Agency (IRENA)

## **EGAT Thailand Power Industry Now and Beyond**

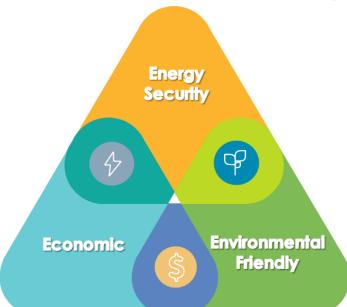




**Power System Development** support Clean Energy

Power Development Plan 2018 rev1

- Regional Security
- Fuel Diversification
- Reduce dependence on natural gas
- Increase the flexibility of the electrical system



- Maintain appropriate cost of power generation for long-term economic competitiveness
- Energy for ALL

- Increase the proportion of general electricity from renewable energy
- Promote the efficiency in electrical system and demand response
- · Develop the Smart Grid



