BURSA INSTI SECTORIAL

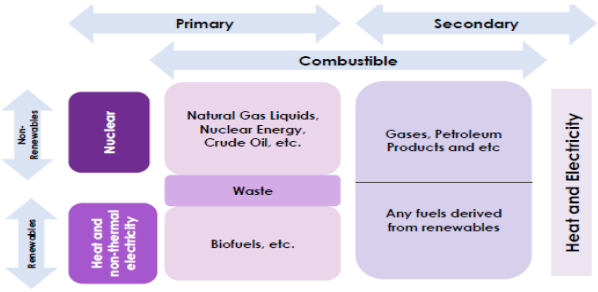
The Future of Renewable Energy

Bursa Malaysia together with AmInvestment Bank Berhad has invited KPower Berhad to talk about the future of renewable energy. Key takeaways as below.

#bursainsti #bursamalaysia #renewableenergy

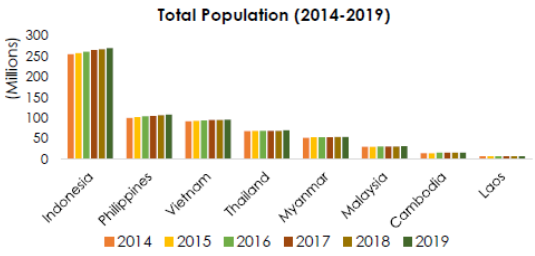
- Energy is the capability to produce motion, force, works, change in shape, form and etc. It is divided into two: 1) Renewable Energy and 2) Non Renewable Energy.

	Renewable	Non- Renewable Energy
Nature	Sustainable	Exhaustible
Presence	Unlimited quantity	Limited quantity
Pollution problems	Less	More
Cost	Low	Comparative high
Rate of renewal	Rate of renewal is greater than the rate of consumption.	Rate of renewal is lower than the rate of consumption.



- Primary energy consists of unconverted or original fuels while secondary energy includes resources that have been converted or stored.
- 5 modes of Renewable Energy (RE):
  - **Wind**: Produces electricity using kinetic energy created by air in motion using wind turbines. It is the fastest-growing RE because costs are falling. Global installed capacity has increased by a factor of almost 75 in the past 2 decades, jumping from 7.5GW in 1997 to 564GW in 2018. World leaders in wind energy are Germany, USA, Spain and India.
  - **Biomass/Bioenergy**: It falls into 2 categories namely traditional use (combustion of biomass in wood, animal waste and charcoal forms) and modern bioenergy technologies (liquid biofuels produced from bagasse, bio-refineries, biogas and wood pellet). About ¾ of world's RE involve bioenergy. It has significant potential to boost energy supplies in populous nations with rising demand. Liquid biofuels is a convenient RE for gasoline and mostly used in transport.
  - **Thermal**: Geothermal is heat derived within sub-surface of the earth. It can be used for heating and cooling purposes or harnessed to generate clean electricity. Mainly used for heating in Iceland, New Zealand, Kenya and Philippines.
  - **Solar**: Energy from the sun. It is generated into 2 ways: 1) Photovoltaic solar technology (converting sunlight into electricity using panels made of semiconductor cells) and 2) solar thermal technology (uses mirrors to concentrate solar rays, which heat fluid to create steam to drive a turbine and generate electricity).
  - **Hydro**: converting kinetic energy from water into electricity. It requires massive infrastructure to extract maximum power. 3 sizes of hydroelectric power plants: large (capacity >30MW), small (capacity between 30MW to 100KW) and micro (capacity of <100KW).

- **Energy outlook:** World energy consumption is expected to grow by 50% in 2050 with ¼ coming from RE.
- ASEAN Energy targets 35% of the installed power capacity to be sourced from RE.
- Electricity generation in the region has tripled between 1995 and 2015 reaching over 872 terawatt hours (TWh). During this period, electricity generation grew at an average rate of 7% p.a., led by increases in Indonesia, Malaysia, the Philippines, Singapore, Thailand and Vietnam.
- Rapid economic and demographic growth in the region has driven higher consumption of electricity.



KPower Berhad

- KPower has successfully repositioned itself into a RE player. 73.6% of the total tender activities of RM3.9b in the region is from energy.
- It has secured various hydropower plant projects in Malaysia, Laos, Indonesia and Nepal.
- It has achieved RM1.2b orderbook in FY2020 which provides earnings visibility for the next 3-4 years and out of RM2b orderbook target in FY2021, RM568m is secured.
- KPower improved financially from losses in FY16-18 and turned around in FY19. FY20 recorded a net margin of 13.3% and 14.27% in 1QFY21.

BURSA MALAYSIA
Creating Opportunities, Growing Value