ENERGY TRANSITION DIALOGUE 2022

ASEAN OUTLOOK FOR ZERO CARBON ENERGY

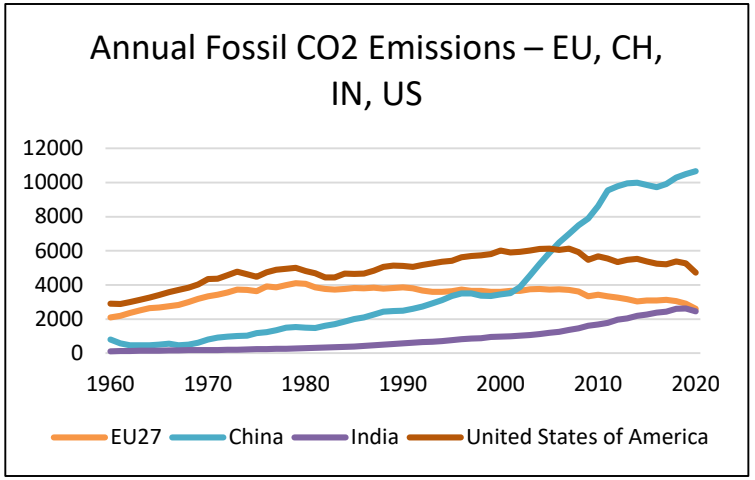
Frank Jotzo
Institute for Climate, Energy & Disaster Solutions
ANU

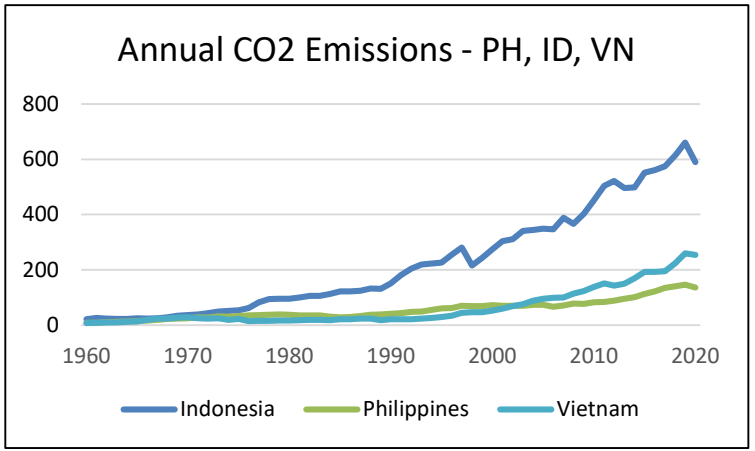
February 2022

Australian
National
University

Trends in energy CO2 emissions:

Increases across the developing and industrializing world, gradual decline in most high income countries



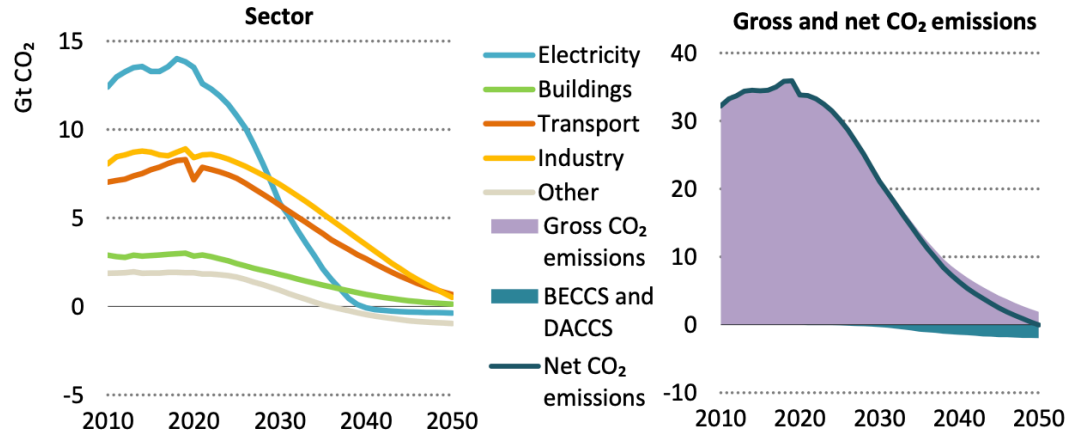


Source: Global Carbon Project

What is needed to meet the global climate change challenge:

Net zero global emissions, near zero emissions in energy systems

Figure 2.3 ▷ **Global net-CO_2 emissions by sector, and gross and net CO_2 emissions in the NZE**

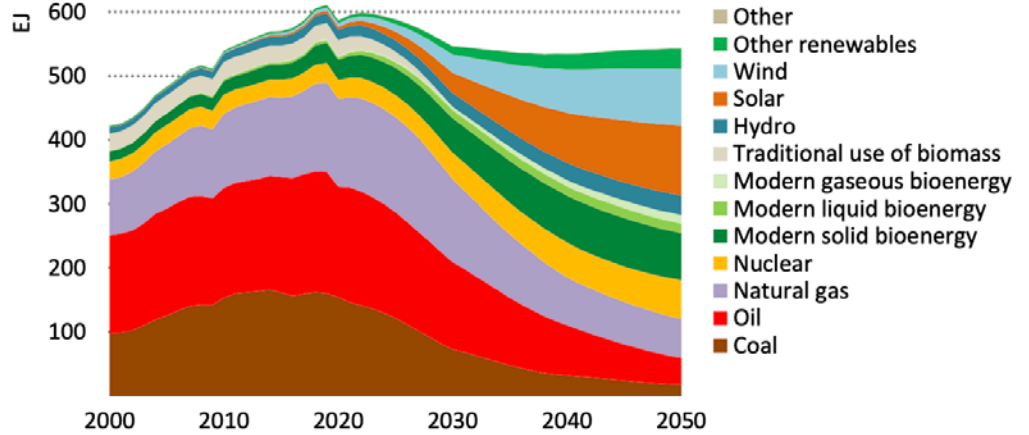


Source: IEA 2021, Net Zero report

How decarbonisation will be done:

Zero emissions power supply, and ‘electrify everything’

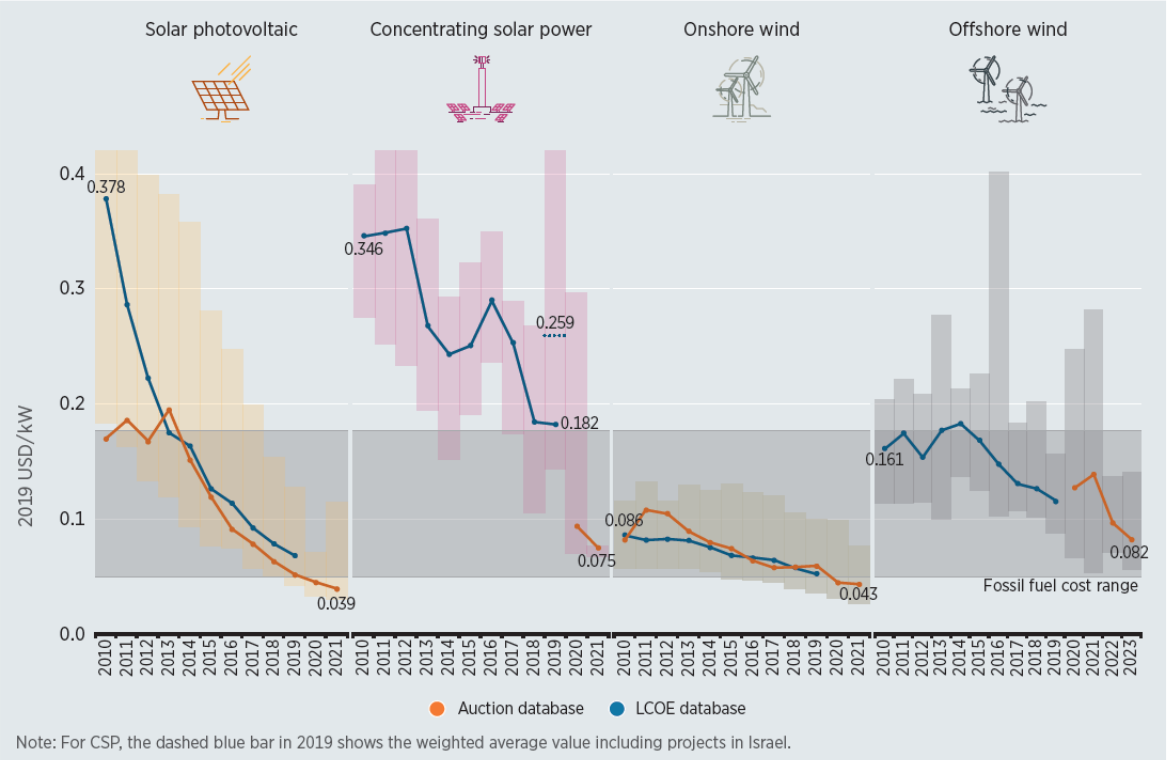
Figure 2.5 ▷ **Total energy supply in the NZE**



Source: IEA 2021, Net Zero report

The crucial enabler:

Clean energy technologies have become far cheaper



Note: The thick lines are the global weighted average LCOE, or auction values, by year. The grey bands that vary by year are cost/price range for the 5th and 95th percentiles of projects.. For the LCOE data, the real WACC is 7.5% for OECD countries and China, and 10% for the rest of the world. The band that crosses the entire chart represents the fossil fuel-fired power generation cost range.

Source: IRENA/Mission Innovation

Challenges and opportunities:

Mobilize very large energy sector investments

Ensure the transition is technically successful

Maximize economic opportunities, minimize social disruption

ETP Roundtable Topics

1. Energy transition: Australian experience in the global context
2. Renewable energy generation
3. Energy storage
4. Operation of electricity grids
5. International renewable energy systems
6. Energy efficiency
7. Carbon pricing
8. The social transition
9. Trade, investment and green industrial policy
10. Industry workforce planning and transitions
11. Energy transition financing*