

Get Carbon Neutral and Economic Benefit in 2060

Eniya Listiani Dewi

Kluster Energi Bld. 625, Kawasan Puspiptek Tangerang Selatan, 15314, National Research and Innovation Agency (BRIN), Indonesia

eniya.listiani.dewi@brin.go.id

With the green concepts of energy policy, Indonesia should lower emissions produced by fossil fuel and develop cleaner sources. Accelerate the NRE development, acceleration of solar and wind power plants, gradually retirement of coal power plants, more efficient use of energy, encouraging the use of EV and electric stove, application of smart-grid and energy storage to overcome the intermittent of Variable Renewable Energy (VRE), are addressed to be the transition strategies policy. In short term, Indonesia has a NDCs target for more than 1185 million ton CO₂e emission reduction by 2030, in the way to get neutral on 2060. According to many studies, economic growth is closely correlated with energy consumption. Specifically, electricity is required in the regional development to support all residential, government, or private agencies and industrial sectors in Indonesia. Unfortunately, because of unexpected low demand due to a complex economic system, the increase in power generation is predicted to result in an oversupply. *Power-to-Gas* is a vital part of a future renewable energy system to convert water into hydrogen, either with geothermal and other RE resources, makes the green hydrogen. Although, in the energy-mix scenario of 2060, renewable energy (RE) is for the most part assisted by photovoltaic (PV) support (361 GW, which is 10 times than wind, bioenergy, nuclear), that also produces intermittent energy, which we must concerns about the energy storage technology in gaseous form (such as hydrogen) to solve those intermittent. Whereas gas can be used for chemical industry and thus further promoting the economy's growth.