

The National Energy Master Plan 2021-2030 With A Vision to 2050 Being Approved

On 15 May 2023, the Deputy Prime Minister Tran Hong Ha initialed on the Decision No. 500/QD-TTg (the “**PDP-8**”). PDP-8 lays down the path for Vietnam’s national electricity development for the period from 2021 – 2030 essentially, with a vision to 2050.

In furtherance to PDP-8 the Ministry of Industry and Trade (MoIT) submitted Report No. 4225/TTr-BCT dated 3rd July 2023 on the National Energy Master Plan, post which the government called for opinions from different ministries and other stakeholders. Following the internal procedures, the Deputy Prime Minister Tran Hong Ha initialed on the Decision No. 893/QA-TTg dated 26th July 2023, laying down the National Energy Master Plan for the period 2021-2030, with a vision to 2050 (the “**NEMP**”).

Scope

Oil and gas, coal, electricity, new and renewable energy with tasks ranging from basic research, exploitation, exploration, production, storage, distribution etc.

Key Objectives

- Ensure energy security with socio-economic advancement and promote sustainable development to build a self-reliant economy.
- Exploiting domestic energy sources combined with reasonable import-export.

Goals

- Meet net zero target by 2050.
- Developing energy ecosystem with reliance on renewable energy, new energy to become clean energy hub and energy exporter in the region, engage in equipment manufacturing, oil and gas processing, construction, installation services nationwide.
- Targeted average annual GDP growth is at 7% in 2021-2030 and 6.5% - 7.5% in 2031-2050.
- Total energy demand is 107 million tons of oil equivalent by 2030 and 165 – 184 million tons of oil equivalent by 2050.

- Total primary energy is 155 million tons of oil equivalent by 2030 and 294 – 311 million tons of oil equivalent by 2050.
- Raise the total national petroleum reserve (including crude oil) to 75 – 80 days of net import by 2030. Consider a gradual increase to 90 days by 2050.
- Renewable energy mix to be 15 - 20% by 2030 and around 80 - 85% in 2050.
- Energy saving to be approx. 8 - 10% by 2030 and 15 - 20% by 2050
- GHG emission is approx. 399 - 449 million tons in 2030 and around 101 million tons in 2050. Aim to reduce GHG emissions by 17 - 26% by 2030 and around 90% by 2050, provided commitments under Just Energy Transition Partnership (JETP) are honored and implemented by international partners.
- Effectively exploiting and utilizing water resources.
- Crude oil production to reach 6 - 9.5 million tons/year by 2030 and aim for 7 - 9 million tons/year by 2050.
- Natural gas production to reach 5.5 – 15 billion m³/year by 2030 and aim for 10-15 billion m³/year by 2050.
- Coal mining is around 41 - 47 million tons for commercial coal per year. To reach around 39 million tons by 2045, around 33 million tons by 2050. Pilot exploitation in Red River Basin and proceed to industrial-scale before 2050 if the pilot is successful.
- Develop new energy production for domestic and export use. Capacity of green hydrogen production to be around 100,000 - 200,000 tons annually by 2030, aim for 10 - 20 million tons annually by 2050.
- Develop transportation system to support the achievement of the goals, promote EV.

Renewable and New Energy Specific

Generation

- Promote development of renewable energy sources (“RE”) (including, hydro, onshore and offshore wind, solar, biomass...), new energy, clean energy (such as hydrogen, green ammonia...) with power system safety and to provide reasonable electricity pricing. Especial boost is given to off-grid rooftop solar power sources.
- RE generation aim at 30.9 - 39.2% by 2030, could be 47% with strong support from international financing, technology and assistance in accordance with JETP. Vision for 2050 stands at 67.5 - 71.5% by 2050.

- Form two (02) inter-regional RE industrial and service hubs including RE production, transmission and consumption; RE manufacturing, construction, installation and ancillary services nationwide as per the stated goals above.
- RE and new energy export aim at 5,000 – 10,000 MW.

RE for heat production

- Promote RE technology using biomass, biogas and solar energy for heat production (“HP”) in industrial, commercial and residential areas.
- RE sources for HP and co-generation of thermal power to be around 8 - 9 million tons of oil equivalent by 2030 and aim for 17 - 19 million tons by 2050.
- Increasing the area of solar hot water rigs in commercial service, civil and industrial production to provide around 3.1 million tons of oil equivalent by 2030 and fixed at around 6 million tons by 2050.
- Biofuels for use to be around 0.28 million tons of oil equivalent by 2030 and aim for 13 million tons by 2050.
- Biogas for construction volume to be around 60 million m³ by 2030 and aim for 100 million m³ by 2050.

RE for other industries

- Escalate scale of hydrogen produced through electrolysis and other processes that capture carbon as stated in the Goals above i.e. around 100,000-200,000 tons annually by 2030, aim for 10-20 million tons annually by 2050.
- Boost production of synthetic fuels with an aim to reach around 2-3 million tons by 2050.
- Promote the application of solutions to capture, use and store carbon in industrial production facilities and power plants reach the ability to seize around 1 million tons by 2040 and aim for 3-6 million tons by 2050.

Gas Industry and LNG Specific

- Develop an entire gas industry with synchronization among exploitation, collection, transportation, processing, storage, distribution and import-export of gas products.
- Gas consumption market to be put into place with advanced measures and regional, international integration.
- Invest in gas treatment plant, pipeline for gas transportation from the said plant to thermal power centers, gas processing plants and industrial consumers.

- Encourage investment in offshore gas collection and connect with existing pipeline networks.
- Construct LNG terminals to support facilitate import of natural gas (LNG, CNG), seek import from Malaysia, Indonesia, Brunei,... through existing infrastructure.

Investment figures

Total demand for 2021 – 2050 – VND 15,304 – VND 19,398 trillion (approx.) (approx. USD 645 billion – USD 822 billion)

Break up: 2021 – 2030: VND 4,133 – 4,808 trillion (approx.) (USD 175 billion – USD 203 billion, approx.)

2031 – 2050: VND 11,170 – 14,590 trillion (approx.) (USD 473 billion – USD 618 billion approx.), to be reviewed in the next mast planning phase.

Estimated Land and Sea Surface Demand

Land area for 2021 – 2030: 93,54 – 97,24 thousands ha;

and, for 2031 – 2050: 171,41 – 196,76 thousands ha

Offshore sea surface area by 2030: 334,800 ha;

and, by 2050: 1,302,000 – 1,701,900 ha.

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