

MYOPIC VISIONS

The new power development plan focuses on solar and imported LNG to the exclusion of biomass, biogas and nuclear, some analysts say. By **Yuthana Praiwan**

Determining the fuel mix for the country's power generation is crucial for the industry, but the new version of the national power development plan (PDP) has received harsh criticism from many business operators because of less public participation in drafting the blueprint.

Although policymakers had five public hearings in each region during the drafting, several energy analysts commented that the policymakers listened to their recommendations but did not adopt them.

The PDP is the master plan for Thailand's power industry development. The latest version was finalised by the cabinet in April.

The plan covers the years 2018-37. Energy policymakers expect to increase the country's power capacity by 56,431 megawatts as of 2037.

The objective of the PDP is to ensure that the country has adequate power supply to mobilise economic expansion and accommodate an increase in population.

Furthermore, the industry's landscape has changed because renewable power plays a greater role in the power sector. Power supply and peak demand concerns now extend into nighttime.

Under the plan, policymakers target power capacity of 77,211MW by 2037 and plan to

retire power plants totalling 25,310MW during the period.

Of the expected increase of 56,431MW, some 20,766MW is projected to come from renewable power projects, representing 20% of overall power capacity, an uptick from the target of 14.9% in the previous PDP of 2015.

Solar power is expected to make up the bulk of that renewable target, while the heavy dependency on natural gas is shifting to imported liquefied natural gas (LNG) over the next two decades.

Some 12,725MW is projected in the PDP from household solar rooftops, as well as the floating solar farms of the state-run Electricity Generating Authority of Thailand (Egat). Solar panels now contribute 2,812MW to the state grid.

By 2037, the country's power mix by fuel type is forecast to be 53% natural gas, 20% renewable energy and 12% coal and lignite.

Thitisak Boonpramote, head of the mining and petroleum engineering department at Chulalongkorn University, said the plan could have used more public participation during drafting because several crucial issues were ignored.

"Policymakers are emphasising imported LNG and encouraging new solar rooftops too much, but they have phased out nuclear power

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POLICYMAKERS
TARGET POWER
CAPACITY OF
77,211 MEGAWATTS
BY 2037.

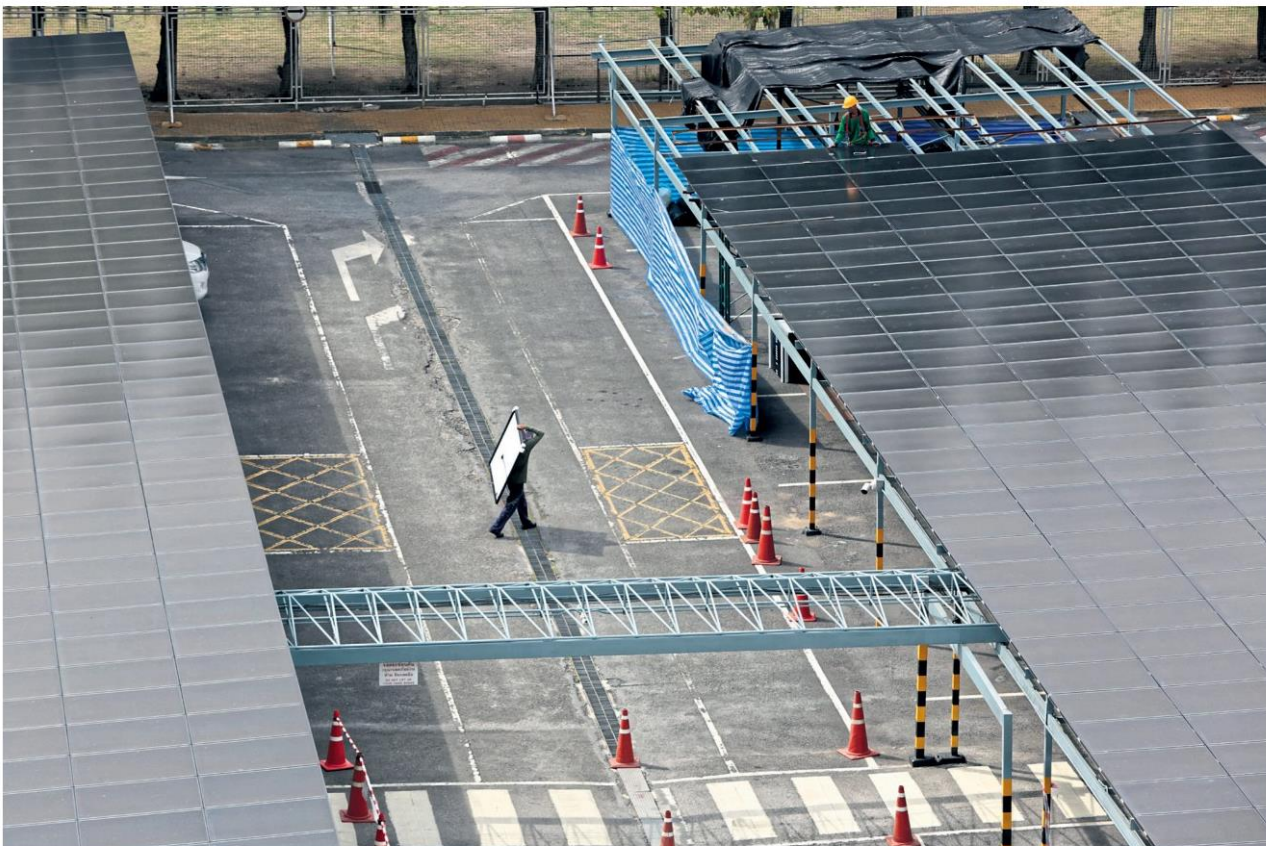
RIGHT

Engineers walk through a waste-to-energy power plant. Investors are calling for new measures for this renewable type. Photo by Pattarapong Chatpattarasill



BELOW

Workers install solar panels on the roof of a parking lot at a private company. Many firms plan to invest in solar panels to generate electricity themselves. Photo by Chanat Katanyu



plants from the plan without giving the public answers why," Asst Prof Thitisak said.

POLICY FOCUS ON SOLAR

Suwat Kamolpanus, president of the renewable energy industry club under the Federation of Thai Industries (FTI), said the solar target capacity of 10,000MW from households seems impractical because at least 1 million houses would have to install solar panels with at least a 10-kilowatt peak per electric meter in each house.

The installation cost is roughly 600,000 baht for 10kW of capacity, Mr Suwat said.

"There are probably not that many households that can invest in solar panels and installation at their residences," he said.

Thailand has roughly 20.5 million households, according to the National Statistical Office.

Mr Suwat said policymakers should allow large buildings to participate in the solar programme because they can better afford to install solar panels and they are capable of selling the electricity to the state grid.

Under the PDP, other renewable types such as biomass and biogas will have limited room to expand their capacity because policymakers are not promoting that sector.

Both biomass and biogas use solid and liquid agricultural waste as fuel for power generation.

Mr Suwat said other renewable sectors will likely become saturated in the coming years, so many power firms are giving up on their power business.

He said Thailand should adjust the proportion of its fuel mix for power generation, following the lead of Japan.

"Japan sets an equal proportion for coal, LNG, nuclear and renewable resources," he said. "Once a country relies too much on a single power resource, it will suffer from unstable supply if the main resource is interrupted."

Pajon Sriboonruang, president of the Thai Biogas Trade Association (TBTA), said there is no room for biomass and biogas power to increase capacity until 2023.

After 2023, an allotment for 546MW of biogas will be added to the grid for the next 20 years, up from 300.15MW now. The quota for biomass power adds 5,000MW after 2023 from 3,290MW as of 2018.

The Energy Regulatory Commission has suspended power purchases from biogas operators since 2014. It plans to resume again in 2023, buying less than 20MW.

The TBTA proposed that policymakers allow biomass and biogas operators to sell electricity directly to industrial operators or through private power purchase agreements. But their suggestion was rejected because the country's power sales rely on an enhanced single buyer model, with purchasing via the state-run grid.

"This PDP version was put together without

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policymakers considering our suggestion that they should not let a few renewable resources dominate the country's power market," Mr Pajon said.

AGGRESSIVE COMPETITION

Nalinrat Kittikumpeera, a stock analyst at Asia Plus Securities, said the competition among power companies will become fiercer under the new PDP because of new capacity from renewable resources.

After their business expansion peaks, margins will gradually decline.

"Return on investment in this sector is likely below 10% per year on some projects, compared with above 13% in the past," Ms Nalinrat said.

Large power plants or independent power producers must take part in the fourth auction round for development and sell the electricity to Egat in the next 8-10 years, while Egat has no priority quota to develop its own power plants, she said.

This means Egat can join the auction as a competitor, together with other IPPs.

"New development of power plants will occur in 2019-20, and the first two power generators will be in the western region with a capacity of 700MW each," Ms Nalinrat said. "Egat was told by policymakers to develop two power

generators in Surat Thani province with a combined capacity of 1,400MW."

Four power generators are expected to commence operations during 2023-24.

Solar power operators are expected to enter the power market around the second half of 2019, joining the government's 100MW household solar scheme.

Ms Nalinrat said the scheme will attract many SET-listed companies to

COMPARISON IN PROPORTION OF POWER RESOURCES



Type	PDP 2015 (by 2036)	PDP 2018 (by 2037)	Now
Natural gas	37%	53%	60%
Coal/lignite	23%	12%	18%
Overseas power	15%	9%	12%
Renewable	20%	20%	10%
Nuclear	5%	-	-
Energy conservation	-	6%	-

PROPORTION OF THAI POWER GENERATION FROM RENEWABLE ENERGY

Type	PDP 2015	PDP 2018
Biomass	5,570MW	3,376MW
Solar	6,000MW	10,000MW
Wind	3,002MW	1,485MW
Biogas	600MW	546MW
Waste	500MW	94MW
Solar floating & hydro	-	2,725MW

take part, such as B.Grimm Power Plc, Banpu Power Plc, Gunkul Engineering Plc, Siam Cement Plc and BCPG Plc.

“Those companies will lead in distributed or on-site power generation,” she said.

The Energy Policy and Planning Office reported that the named companies have tested trial projects on their property since last year. On-site power generation would be a form of peer-to-peer power trading that allows for some surplus electricity to be sold directly within communities, rather than through the state grid.

Without centralised intermediaries, the blockchain-based power trading platform can minimise transfer costs in small neighbourhoods and provide real-time power supply.

Each household can participate in energy transactions.

Source: Energy Ministry

BANGKOK POST GRAPHICS



Customers look at solar panels at a trade show. Policymakers are targeting new power capacity of 10,000MW for households to join the solar scheme.

Photo by Somchai Poomlard