



## Keeping up with the Indonesians: Will the 35GW ambition be met fast enough?

Indonesia's most recent FiT for solar and wind was announced in 2016, but only lasted for a few months. Current requirement for RE projects are to beat PLN's average cost of electricity, and it's not even enough to beat marginal cost.

Indonesia pledged to reduce emission by 26% in 2020 in its Intended Nationally Determined Contribution (INDC), where the government shifted its policy from coal to more environment-friendly gas generation. If implemented, demand for gas would increase to support the shift in the generation mix. What impact would this have on other energy players and what regulatory changes must be done? Will this affect Indonesia's energy targets?

According to **Stefan Robertsson**, principal at The Lantau Group, the lack of policy or regulatory framework

**The lack of policy or regulatory framework supporting Indonesia's targets should not be deemed as the only problem in the industry.**



supporting Indonesia's targets should not be deemed as the only problem in the industry. Sometimes, he says, official forecasts are part of it too.

Official projections and targets can often look 'aspirational,' and/or are long term with no definite framework how these can be achieved. Secondly, retail pricing policies can impact fuel mix. Few Asian countries have robust "cost pass through" regimes. "Regulated retail tariffs with less clear cost pass-through and/or result in low/subsidised tariffs tend to create disincentives for offtake of higher cost generation. Third is that wholesale pricing regulations can be a problem. Not every MWh of electricity is created equal. There is often only a single 24/7 base load tariff, and if the benchmark for wholesale pricing is base load power, than the outcome will favour base load power," he says.

Another point is that there is not enough government support for upstream, which will make downstream electricity targets hard to meet. Lastly, there is not much regulatory support for renewable energy (RE) to begin with. In

Q2 2017 there is almost no regulatory and policy support for RE anywhere in SE Asia.

### Lacking in regulation

Policies and regulatory framework for RE in SE Asia are lacking. In Malaysia, 450MW of solar projects awarded through bidding in 2016, and a second round of solar bidding is planned in 2017 with 460MW quota. In Minor Mekong, there is no feed-in tariff or developed RE schemes. In Vietnam, existing wind feed-in tariff (FiT) i.e. US\$ 7.8/MWh is too low to generate interest. No solar FiT exists, despite the country having plenty of prospective projects. New solar FiT and revised wind FiT have been imminent for a long time.

In Indonesia, most recent FiT was announced in 2016, but only lasted for a few months. Current requirement for RE projects are to beat PLN's average cost of electricity, and not even enough to beat marginal cost. Restrictions on hiring foreign workers are also in place. The Decree No.31/2013 issued by MoEMR is leading to a tighter scrutiny of foreign

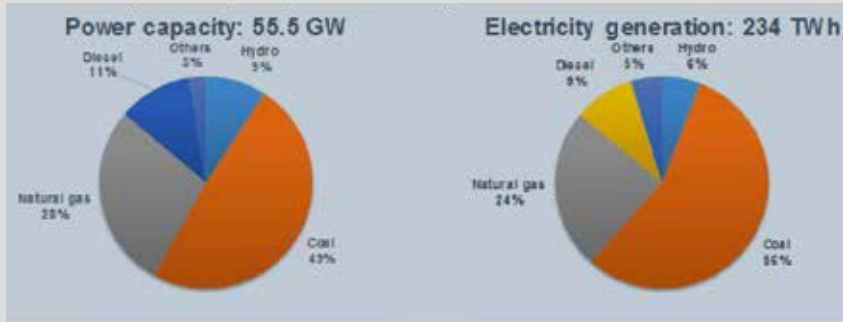
Energy mix in 2015 (actual and 2025)



Excludes traditional biomass

Source: MEMR

## Installed power capacity and electricity generation in 2015



Source: MEMR

worker permits, as the government tries to encourage the hiring of more Indonesian workers. This could lead to businesses finding it harder to find the relevant skill/expertise that require specialized knowledge, like the oil & gas industry. Creditworthiness of off-takers are also on the line. Gas off-takers may include companies which rely on government subsidies due to government imposed regulated prices below market prices (such as PLN and PIHC). Like PLN projects, developers and suppliers may need to secure Letters of Guarantee from the Ministry of Finance.

There is also a public perception that gas is more dangerous than liquid fuels, hence there appears to be some hesitation for consumers to convert to gas. **Agung Wiryanan**, director at PwC, discussed that in 2015, Indonesia had approximately 55.5GW installed capacity of power plants which generated 228TWh of electricity. Demand for electricity in Indonesia is expected to grow by around 8.5% p.a. in the next ten years. The Government projected that demand will reach 457TWh by 2025.

### Updates on renewables

The 35GW programme appears to be progressing, albeit slower than hoped, so a new regulation was enacted to accelerate the development. Presidential Regulation No. 4/2016 was issued to address various issues affecting power project development in Indonesia (especially 35GW programme). In November 2016, Rinaldy Dalimi, member of the National Energy Council, said that unless PLN could expedite the financial closure, it was unlikely that any more than 20GW would be achieved as it took around 36 months to build a power plant after the financial issues were settled. As of December 2016, only 0.5GW of the 35GW has reached the Commercial Operations Date. Under the Government's future plan, fossil fuels are expected to continue to play a dominant role, but an increased focus on

renewables.

"Despite the risks in the new regulations, there are also opportunities to deploying renewables. In the past fuel subsidies, low electricity tariffs, complex regulations, legal uncertainties, logistical challenges and extensive cheap coal resources deterred potential renewables investors. Following years of under-investment, Indonesia's production of renewable energy remains modest. Solar insolation in Indonesia is higher than most other countries. However, the current installed capacity is only around 85MW. The MEMR plans to add 5,000MW of solar power capacity by 2019," Wiryanan says.

To support the 5,000MW target, several programs and regulatory frameworks have been introduced: Develop Renewable Energy for Villages Program (Program Energi Terbarukan Listrik Desa) with a target of electrifying 10,300 villages by 2019; a capacity quota of 500 MW of solar power to be offered in 2016; developing regulations for hybrid PV, on-grid PV and rooftop PV; and developing a quality standard for solar panels and expert resources.

### Logistical problem

"The estimated potential of wind energy in Indonesia has historically been regarded as relatively small, primarily due to the relatively low wind velocity. The exception is in the eastern islands, where wind velocity can reach a sufficient level to power small-to-medium scale wind turbines. As of mid-2016, a total of 215MW geothermal capacity was added. Despite this achievement, the Government has not reached its target of installing an additional 270MW capacity," he adds. Since Indonesia is so well endowed with energy resources, energy security is often perceived as a logistical problem rather than one involving trade-offs and political choices. According to **Xander van Tilburg**, senior expert at the Energy Research Centre



Stefan Robertsson



Agung Wiryanan



Xander van Tilburg

of the Netherlands, many Indonesians consider the availability of cheap energy a constitutional right.

### Energy security

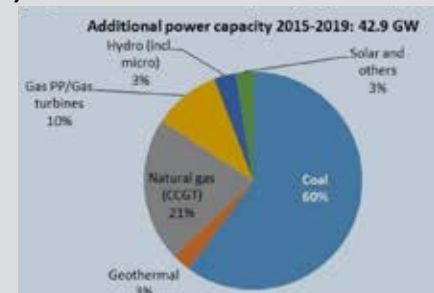
"Arguably, it has brought positive developments such as economic growth, social mobility and access to energy, mainly through subsidising energy consumption: the country has a long history of setting retail prices below market rates or even below cost recovery levels. However, in recent years, fuel and electricity subsidies have become such a burden on the national budget that they are affecting funds available for infrastructure, education and social welfare," he says.

The current phasing out of energy subsidies exposes customers to higher and likely more volatile prices for fuel and electricity, whereas this was previously 'buffered' by the state budget. **Gustya Indriani**, assistant consultant at the Oxford Policy Management, added that so far, the population has accepted this move, but this is likely to have been due to the low oil price in recent years rather than support for climate action. "There are concerns that the population will turn to violent protest and demand reintroduction of subsidies when oil (market) prices increase," he explains.

Existing efforts to keep up with energy demand emphasise expansion of coal-based power supply and are likely to lead to a surge in energy-related emissions. International consultant **Santiago Villaveces-Izquierdo** notes that currently 'only' 26% of national emissions come from the energy sector, but it is expected that energy will overtake the land-based sector as the largest source of emissions to account for 50% of total emissions by 2030.

"As part of its pledge to the Paris Agreement on Climate Change, Indonesia has the ambition to reduce its GHG emissions by 29% by 2030 (and up to 41% with international support). One-third of the emission reduction is supposed to come from the energy sector, which many consider highly ambitious," he says.

## Fast track programmes: Additional capacity by plant type (2015-2019)



Source: MEMR