



Indonesia renewable energy target is in jeopardy due to lacking of investment

by Fabby Tumiwa

Government of Indonesia has set an ambitious target to expedite renewable energy capacity by 2025. However, the level of investment both public and private is far short of amount of investment requires to meet the target. Recent change in feed in tariff policy might worsen the condition enabled to attract private investment. If government fail to take necessary measure to

Indonesia energy consumption has increased rapidly since the early 2000s. Drove by a growing economy, increasing middle income population, rising middle class, and spread of urbanization, energy consumption grows in average 4.2% per year over the last 15 years. Final energy consumption for each population increases from 2.47 barrel oil equivalent (BOE) per capita in 2000 to 3.52 BOE per capita in 2015.

Electrification is also rapidly increase since the early 2000s. Electrification ratio, that measures the percentage of households that are connected to the power grid, increase from 57% in 2000 to 91 percent in 2016. Despite this progressive trend, it is estimated that 25 to 27 million of Indonesians still do not have access to electricity. Furthermore, Indonesia is far behind its peers in South East Asia region in terms of electricity ratio and level of electricity consumption.

As the Indonesian government works to develop remote areas and stimulate economic development in outside Java and Bali, increase access to electricity is part of plan. Recently government has given PLN a task to accelerate its effort to electrify 2519 “villages in the dark” (villages with no electricity at all) by 2019. PLN plans to provide new access and adding power supply to 11.283 villages and hamlets from 2016 to 2019.

Medium-Term Development Plan 2015-2019 set a target of 97 percent electrification ratio and electricity consumption 1200 kWh/capita by 2019. The availability of power is one of crucial factor to achieve these targets, as well to encourage investment to support economic growth. Without sufficient power supply, investor will reconsider their investment in the country. Furthermore, productive use of electricity of households and community will be limited thus limit the activity of small and micro-enterprises that is backbone of country’s economy.

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As we live under threat of climate change, the question is what kind of power that supply the country? It is a fact that Indonesia currently lacks adequate clean energy supplies to meet its growing needs. The country heavily relies on fossil fuels, oil, coal and gas, to supply its energy

Nationally, renewable energy sources make up less twenty six percent of Indonesia’s primary energy supply. However, this number is even less than five percent if traditional biomass, which is used for cooking and heating in rural areas, is excluded from the data. In power sector alone, renewable power

accounts only eleven percent, mostly aging hydro power and geothermal, while remaining supply come from fossil-fuel based power plants.

Under business-as-usual (BAU), greenhouse gas (GHG) emission from power sector will dramatically increase and will make up half of total GHG emission of the country by 2030, surpasses emission from land used and forestry, due to the excessive development of coal power plants and other fossil fuels plants. While international community is trying to fight climate change, as one of major emitter, Indonesia is also under pressure to make meaningful effort to mitigate its emission compatible to Paris Agreement Goals. It means that in sooner or later building of coal power plants has to stop, and existing coal plants have to retire gradually. With this vision, renewables power should gradually replace fossil fuel in the foreseeable future.

Renewables have been considered to have important role to supply energy for the country. GR No. 79/2014 on National Energy Policy has set an ambitious target that 23 percent of energy will be supplied by renewable in 2025, and 25 percent in 2030. For electricity sector, it means that additional 35 GW renewable power capacity need to be built to meet the target. PLN's Power Supply Development Plan (RUPTL) 2017-2026 plans to add up 21 GW renewable power plants by 2026, with 85% of the capacity will be built after 2020. RUPTL also indicates that renewable will contribute around 22 percent of total energy mix by 2026.

The meeting this ambitious target requires both public and private investment. Investors may consider Indonesia's growing demand for energy and the abundant of renewable resources as a significant reason to invest in the nation's renewable energy sector. IESR estimates that to build additional renewable capacity requires \$118 to 130 billion of investment until 2025 or roughly about 15 billion per annum. While government budget for building renewable is around \$ 100 to 150 million annually, big chunk of this investment should come from state owned enterprises such as PLN and Pertamina, and private investors.

Despite high investment required to increase renewable penetration, Ministry of Energy and Mineral Resources (MEMR) has set modest target in its renewable investment target. In 2016, investment target for renewable was only 1.37 bn, in which 80 percent went to geothermal project. MEMR. For 2017, MEMR only target 20 trillion-rupiah (1.5 bn) investment for renewable energy.

This target setting show that there is a big gap between the need for investment and the actual investment that can be channeled to renewable energy projects. At the same time, it also raises question about the seriousness of government to develop renewable energy and its ability to create enabling environment and attractive policy framework to draw investment.



We have seen that at the global level, renewable energy increase steadily and surpass investment in fossil fuel. According to UNEP, global renewable energy investment reached 286 billion in 2016 (UNEP, 2016). Those investments went to several emerging economies (China, India, Brazil, South Africa, Mexico). Despite its ambitious goals and plenty of resources, Indonesia fails to become

destination of renewable energy investment and found less attractive to investor despite the vast renewable resources the country has.

This lack of attractiveness is shown by the result of EY's Renewable Energy Country Attractiveness Index (RECAI) 2016. The Index measures factor driving market attractiveness for renewable energy. The ranking comprises of 15 key parameters clustered in five categories: macro vitals, energy imperative, policy enablement, project delivery, and technology potentials. RECAI surveyed 40 countries, with three countries in South East Asia: Indonesia, Philippines and Thailand. The result Indonesia sits on 38th position, just above Pakistan and Greece, below two other South East Asian neighbors.

Result of RECAI indicates that under 2016 condition, Indonesia is struggling to attract global investment for renewable projects. Research conducted by Climate Scope figured out that total clean energy investment in the period of 2011 to 2015 was \$4.45 bn. It ranks Indonesia in 34th of 57 countries surveyed in financing and investment. In this rank, Indonesia is in better position than Myanmar but below other Asian countries, such as Vietnam, Sri Lanka, Pakistan, India and China.

Low capacity to attract investment renewable energy projects should become a warning for policy makers in Indonesia. It requires a significant effort to improve enabling condition and policy framework that could lure public and private investment in renewable energy. Early this year, MEMR officially killed *feed in tariff* through Minister's Regulation No. 12/2017. Under this new regulation, some renewable power purchasing prices should be referring to audited regional electricity production price of PLN or based on business negotiation. Minister Jonan argues that renewable needs to be competitive, including with fossil fuels, and government do not want to subsidizing renewable.

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It is too early to tell that this drastic measure by MEMR will kill investor's appetite in renewable projects. However, some prominent players and investor in renewable energy business feels that this regulation will further erode attractiveness that has been low, especially to attract foreign direct investment. The lack of financial incentive such as feed in tariff makes renewable project become less appealing financially for investor and increase uncertainty for financial institution to finance renewable projects as the risk is just elevated.

But for sure, it seems that Indonesia is not fast enough to build renewables to meet its own national policy target. Unless government take a drastic measure to improve conditions that enable to draw more public and private investments in renewable energy project, it can kiss the target good-bye, and future country electricity supply will be in jeopardy. Unable to attract investment not only limit Indonesia ability to harness its abundant energy resources but also jeopardize its own climate pledge under Paris Agreement.

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