

## 2021 Indonesia New & Renewable Energy Development Program & Update – *Exclusive Interview*

Indonesia Maritime & Energy Society (IMES) had the opportunity to conduct an exclusive interview with **Mr. Chrisnawan Anditya, ST, MM, Director of Various New and Renewable Energy, Ministry of Energy and Natural Resources (ESDM)** on February 2021, at ESDM Building - Directorate of EBTKE, Jakarta.

This session is a part of IMES's program to promote and socialize the potential of New and Renewable Energy (NRE) and the opportunities of its development in Indonesia.

*The Directorate of Various New Energy and Renewable Energy carries out the task of carrying out the formulation and implementation of policies, formulating norms, procedures and criteria, providing technical guidance and supervision, evaluation and reporting, as well as control and supervision in the fields of program preparation, business services and supervision, development implementation, investment and cooperation, as well as engineering and the environment for various new and renewable energies.*

The Ministry of ESDM-EBTKE will support every effort to develop environmentally friendly generators. Research and Development must be able to play a major role, be able to adapt to needs, and must also be competitive. **Mr. Chrisnawan** emphasized that the key to the success of NRE development in Indonesia requires all relevant to be proactive in carrying out their roles according to their respective functions and collaborating in a positive way.

The following is the information that we managed to gather during the interview.

### **1. What is the government's plan in developing new and renewable energy (NRE), especially for Geothermal, Solar and Marine application?**

- *As it is known, the share of NRE in the national primary energy mix in 2020 has reached 11.3%. This figure has increased by 5.2% in 5 years (2016: 6.1%). As an effort to accelerate the achievement of the 23% target by 2025, the Ministry of Energy and Mineral Resources will focus on developing NRE that is faster to build, with competitive generation costs, including PLTS (Solar plant) or PLTB (Wind plant). Other NRE generators are still being developed according to the readiness of the NRE Generator itself.*

- **Geothermal**: *From 23.9 GW potential, until the end of 2020, the operational capacity of PLTP (Geothermal Plant) has reach 1,130.7 MW (8.9% of potential). With this capacity, Indonesia has reached the number 2 country in the world (after the United States) which develops PLTP. As an effort to improve the geothermal economy so that it becomes more competitive, this year the Ministry of Energy and Mineral Resources is implementing a Government Drilling program. In this case, the Ministry of Energy and Mineral Resources will conduct a survey and geothermal exploration before it is offered to business entities. This activity will improve the quality of geothermal geoscience data and information so that the risks of its development can be minimized.*

- **Solar**: *the development of PV mini-grid, both on a large scale and for the Roof PLTS, has shown a positive trend. From the potential that is owned by 207.8 GW, until the end of 2020, the capacity of PLTS which has been operating will reach 153.5 MW (0.07% of the potential).*

*The capacity of 153.5 MW has increased as compared to 2016 which was only 43.1 MW. The trend of developing PLTS in the future is the massive development of roofs system, Solar Farm, and Floating PLTS.*

- **Ocean energy**: *the potential for ocean energy in Indonesia is very large, namely 17.9 GW. However, until now nothing has been developed to a commercial scale. Currently the development of ocean energy is still in*

*the research stage. Several ocean wave technologies such as the Oscillating Water Column (OWC) have the opportunity to be placed in the southern waters of Enggano; and the Heaving Device are likely in the Mentawai region. For Ocean Thermal Energy technology: Ocean Thermal Energy Conversion (OTEC), in North Bali Waters. The Feasibility Study of Ocean Flow technology that has been carried out is in the Alas Strait (between Lombok Island and Sumbawa Island), Sape Strait (between Sumbawa and Komodo Island) and the Pantar Strait (between Pantar and Alor Island) by Research Centre OF Ministry of Energy & Natural Resources (Balitbang ESDM).*

## **2. In general, what are the obstacles in the development of NRE in Indonesia?**

*There are several challenges in developing new and renewable energy plants, those are:*

- The first challenge is the economy of NRE, which is considered to be more expensive than the price of fossil fuel power plants. The price of NRE is still relatively more expensive than conventional generators. The relatively high price of NRE also has to compete with the price of electricity from fossil fuel-fired power plants, which are still subsidized.*
- Second, from a technical point of view, the nature of intermittent generators, such as the Solar power plant (PLTS) and Wind power plant (PLTB), requires system readiness to maintain the continuity of electricity supply. On the other hand, NRE generators with competitive cost and good capacity factors, such as Hydropower plant (included Mini Hydro) and Geothermal Power Plant, are generally located in conservation areas far from the load center, so they require relatively long time in development, ranging from licensing, geographical constraints to force majeure.*
- In addition, there are several obstacles in developing NRE, including land acquisition, difficulty in accessing efficient technology, access to transmission and distribution network infrastructure, access to cheap funding, obligations of NRE developers which increase investment costs, and the last is Power Purchase Agreement (PPA) which is not bankable.*

## **3. How are the efforts that will be made to minimize these obstacles and what has been done?**

- The solution to overcome all obstacles, in the short term, are we will input into the Presidential Decree regarding the economic price of NRE, since this involves various parties, both through the relevant Ministries and other related Institutions. For the Medium and Long term, we really expect we can absorb it through established regulation to encourage the development of NRE in Indonesia.*
- In addition, we also have developed NRE new energy markets through:*
  - a. State company (BUMN) synergy, for example, synergy between Ministry of Public Affair-Water Resources Directorate and PLN, where the pioneer Floating Solar Power plan will be built in Cirata with capacity of 145 MW.*
  - b. Synergy with regional development plans, for example ecotourism geothermal based in Flores-Labuan Bajo.*
  - c. Developing the method of procuring NRE power plant at an affordable and competitive, access to technology and competitive funding; and*

d. Revising the regulations to support NRE development

**4. What is the NRE target for the next 5 years and also the realization that has been running for the last 5 years?**

- NRE achievements in the national energy mix in 2020 amounted to 11.3% in 2020. This NRE achievement has increased by 5.2% in the last 5 years (2016 amounted to 6.1%). Meanwhile, in 2021 it is targeted that the achievement of NRE in the national energy mix is 14.5%. While the 2025 target is 23%.
- When viewed from the generation side, the total capacity of renewable energy generators in 2020 reached 10.5 GW or an increase of 1.6 GW when compared to 2016 which amounted to 8.9 GW. The target in 2021 is 11.4 GW. Amid the pessimism of achieving the 23% RE target by 2025, the Government continues to make efforts to accelerate the development of NRE in order to realize the target of the NRE mix.

**5. What is the position of NRE in an effort to support and strengthen national energy security in the next 5 years?**

- As it is known that renewable energy is fully owned domestically. So that this energy development is prioritized not only to strengthen national energy security but also in order to reduce emissions and provide jobs.
- As an effort to support and strengthen NRE for national energy security, measures that have been and will be taken by the Ministry of Energy and Mineral Resources through the provision and strengthening of regulations that encourage the creation of a conducive business and investment climate so that the development of NRE can run well, providing facilitation of the obstacles experienced by NRE developer, to provide a budget in the APBN to provide access to electricity to the public with NRE.

**6. Will the NRE portion be increased in the future National Energy Mix and what are the efforts to increase the NRE portion?**

The current focus of the Ministry of Energy and Mineral Resources is on how to achieve the NRE target of 23% by 2025. As an effort to accelerate the achievement of the 23% target by 2025, the Ministry of Energy and Mineral Resources will do several things, including:

- **Substitution of Primary Energy** using existing technologies, such as: B30-B50, Co-firing, RDF Utilization.
- **Conversion of Fossil Primary Energy**, conversion of generation technology occurs. PLTD/PLTU (diesel/coal) is replaced by an NRE Power Plant, biogas and pellets.
- **The additional capacity of NRE Generator** to meet new demand will be focused on solar power plants.
- **Non-Electric / Non-Biofuel utilization** such as briquettes, drying agricultural products and biogas.

**7. What are government regulations and policies to support the development of new and renewable energy?**

- At the legal level, there is regulation No. 30/2007 concerning Energy and No. 21/2014 concerning Geothermal Energy. As an effort to further accelerate the development of NRE in Indonesia, currently a bill on EBT is being drafted which is an initiative of the DPR.

- *At the level of Government Regulation there is Government Regulation Number 79 of 2014 concerning National Energy Policy which mandates better utilization of NRE.*
- *At the level of the Ministry of Energy and Mineral Resources, many regulations have been issued regarding prices, procurement, and safety aspects. In addition, there are regulations from other Ministries such as the Ministry of Finance that provide incentives.*
- *Currently, the Ministry of Energy and Mineral Resources is also strengthening the formulation of the NRE Presidential Decree policy. Through this Presidential Decree, the price of NRE will set competitive while it still paying attention to fairness and affordability through the provision of incentives and compensation. In addition, the procurement of NRE generators is carried out in a more transparent and bankable manner, and provides the necessary support from the relevant Ministries / Agencies.*

**8. How big is the opportunity for investors (local and also foreign) to be able in participating in NRE investment as an effort to recover the economy growth during/after Covid-19 pandemic?**

- *One of the success factors in developing NRE is the active participation of all stakeholders. So that all parties, both local and foreign are given the same opportunity to invest in NRE with the applicable laws and regulations.*

**9. What are the regulations from the government for foreign investors, considering that the investment involved is long term? Are there any special incentives or conveniences given the current covid-19 outbreak?**

- *The involvement of foreign investors in a sector, including EBTKE has been regulated in Presidential Regulation Number 44/2016 concerning List of Open Business Fields with Requirements in the Investment Sector which regulates which fields can be entered by foreigners, and which ones are intended to protect micro, small and medium enterprises and cooperatives. For example, power plants under 1 MW, 100% domestic capital; Small scale power plants (1-10 MW) have a maximum investment of 49%; Power generation above 10 MW maximum investment of 95%; Geothermal power plants up to 10 MW foreign investment is a maximum of 67%. However, this Presidential Regulation is being revised to create a friendlier investment climate while still providing protection for micro, small and medium enterprises as well as cooperatives.*
- *The application of the local content (TPDN) is also an effort to encourage the growth and development of domestic industries*

**10. Does the government provide a guarantee scheme for the investment?**

*The government currently has not provided guarantees for investment in the NRE sector, but the government provides incentives for import taxes on goods, tax holidays for the construction of renewable energy power plants for public interest.*

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