Press release

Indonesia's net-zero future within reach: Monitoring renewables progress a priority to meet targets

JAKARTA, 4 February 2025 - As Indonesia begins to lay the groundwork to meet President Prabowo Subianto's vision of phasing out fossil fuel power and increasing renewable energy (RE) by 75 gigawatts (GW) by 2040, Indonesia's most recent National Electricity Plan 2024-2060 (*Rencana Umum Ketenagalistrikan Nasional, RUKN*), released in November 2024, has confirmed the commitment, pushing some ambitious targets forward to as early as 2030 in order to achieve Net Zero Emissions (NZE) by 2060 at the latest. Experts have begun to take a closer look at the numbers and weigh in on whether or not the goals are realistic and next steps.

Today, the Centre for Research on Energy and Clean Air (CREA) has released a briefing analysing Indonesia's latest national RUKN plan that aims for 75.6 GW of renewable energy (RE) capacity by 2035. Indonesia's prospective clean energy projects as tracked by the Global Energy Monitor (GEM) currently total nearly 45 GW – around 41 GW from RE, namely solar, wind, hydro, and geothermal, and 3.5 GW from nuclear power.

These prospective RE projects alone could put the country on track to achieve and even surpass the RUKN's 2030 RE capacity target of 38.4 GW; however, efforts must be ramped up to reach the capacity targets set beyond the end of this decade. While these projects have now entered the construction, pre-construction, and announcement stage, only 30.6 GW of them have designated start years. The other 13.6 GW, which includes 10.7 GW of solar energy, 1.8 GW of wind, and 1.1 GW of geothermal, need to have their start years assigned.

The realization of these projects will increase Indonesia's electricity generation capacity to 58.5 GW or 77% of the RUKN 2035 target of 75.6 GW. Beyond this, to achieve the RUKN 2035 target from the current capacity of 13.5 GW, Indonesia still needs an additional 18 GW, which needs to be prioritized for immediate inclusion in national planning.

Solar power is best placed to ensure that the RUKN 75 GW target for RE is achieved ahead of the 2035 deadline. Indonesia currently has at least 16.5 GW of prospective solar projects, which is more than five times higher than the JETP Comprehensive Investment and Policy

Plan (CIPP) (3.1 GW), and 30% higher than the 2030 RUKN solar target (12.8 GW). There is time to deploy more of the current projects before 2035 and even before 2030. Vietnam currently has 13 GW of utility-scale and 9.5 GW of rooftop solar, and China is the global leader in solar power (887 GW) with 277 GW alone deployed in 2024.

'*Launching, monitoring, and possibly accelerating the development of these projects will quadruple Indonesia's renewable energy capacity in the next decade, surpassing the targets set in the national RUKN plan and ensuring Indonesia's ability to reach the target in later years as renewable energy development gains continue to accelerate*,' said Katherine Hasan, CREA Analyst and co-author of the report.

Although solar could easily surpass all targets, wind energy is lagging in Indonesia, with only 2.5 GW of wind power recorded by Global Energy Monitor (GEM), which is lower than the RUKN wind target capacity of 4.8 GW by 2030. The gap between wind power potential and cost-optimal deployment is even larger and more pressing, indicating the need for more efforts in wind power development and developing a favourable investment climate to attract financing.

'*By mapping out which solar and wind projects Indonesia can realistically implement before the end of 2030, the country will surpass the targets currently outlined in the RUKN*,' confirmed Hasan.

CREA also finds that the RUKN 2024-2060 still gives significant importance to fossil energy. Although the RUKN plans for nuclear power and renewables to reach 74% and 78%, respectively, by 2060, the rest comes from abated fossil fuels, namely coal and biomass co-fired power plants equipped with carbon capture and storage (CCS), and gas-fired power plants with CCS.

This contrasts with the fossil-free, cost-effective scenario modeled in the Intergovernmental Panel on Climate Change's (IPCC) Sixth Assessment Report (AR6), which excludes all fossil-based power generation, as well as ammonia, hydrogen and ocean energy. The IPCC report assesses the impacts of climate change on nature and people around the world, considering the vulnerability and capacity of Earth's ecosystems to adapt to current and future climate change.

'*Compared to the cost-effective pathways modeled in the IPCC AR6 report for Indonesia's future fossil-free electricity system by 2060, the RUKN severely underinvests in variable renewable energy (VRE) such as solar and wind, and overinvests in solutions that are more expensive and slower to deploy. This is a missed opportunity for Indonesia to realise its fossil-free vision and secure clean energy investments in these crucial decades*,' emphasised Lauri Myllyvirta, CREA Lead Analyst and co-author of the report.

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Note to editors

CREA's publication related to this press release is available here.

About CREA

The Centre for Research on Energy and Clean Air (CREA) is an independent research organisation focused on revealing the trends, causes, and health impacts, as well as the solutions, to air pollution. CREA was founded in December 2019 in Helsinki and has staff in several Asian and European countries. The organisation's work is funded through philanthropic grants and revenue from commissioned research.

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