Indonesia develops a NAMA to stimulate investments in small and medium grid connected renewable electricity

Indonesia has one of the world’s largest potentials of renewable energy sources: hydropower, geothermal, solar, and biomass each have estimated potentials of over 10 GW. However, much of this potential is currently unexploited. The Energy research Centre of the Netherlands (ECN) and local partners are supporting the Indonesian government in developing a NAMA proposal to stimulate private sector investments in renewable energy.

National context and rationale

Indonesia, with a population of 240 mln spread out over 6000 inhabited islands, faces multiple challenges in its electricity system. Economic growth and increasing energy access is projected to increase power demand by more than 8% annually until 2020. Indonesia also needs new capacity to reduce its use of oil based (diesel) power generation, because of rising fuel and subsidy costs. Furthermore, Indonesia has communicated ambitions with regard to reducing greenhouse gas emissions and increasing the share of new and renewable energy technologies. The government of Indonesia seeks to scale up small and medium size renewable energy capacity by 3 GW in 2020 - almost of quarter of total growth1.

IPPs (Independent Power Producers) will be a vital part of Indonesia’s energy system in the future. They provide an effective way to grow the electricity infrastructure using private investment, not public budgets, and are a central component of Indonesia’s power planning. Against this background, ECN is working with the government of Indonesia to develop a NAMA that aims to support and expand on existing efforts, and to create an enabling environment for a significant up-scaling of private investment necessary to achieve the desired accelerated growth.

Stakeholders and their involvement

The development of the NAMA is supervised by the Ministry of Energy and Mineral Resources (ESDM) and the Ministry of Planning (Bappenas). A wide range of stakeholders have been involved early on in the development process through bilateral meetings, focus group discussions, interviews, and through sharing of preliminary findings and analytical results.

Due to the size and governance structure of Indonesia, two ‘pilot provinces’ were chosen for the NAMA: North Sumatera and West Nusa Tenggara (NTB). In both provinces a team of local experts is established and the local counterparts of the lead ministries are involved (i.e. Distamben and Bappeda).

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1 Defined as projects up to 10 MW; GoI (2006) Presidential regulation No. 5 on national energy policy.
Barrier analysis and NAMA design

Interviews were conducted with over 20 project developers and local banks, as well as development partners and government officials. This shows that the government’s feed-in tariff for small and medium scale renewables provides a strong ‘pull’ mechanism, but that IPPs still face a number of barriers that prevent or delay many projects. Multiple challenges range from technical and organisational skills, to availability of project finance. Analysis shows that existing policies need to be complemented to be effective, and that there is no single solution. Therefore, the components of the NAMA cover technical capacity, project revenues and financing (Figure 1).

Impacts: GHG and co-benefits

A national scale NAMA supporting 1.8 GW would reduce GHG emissions up to 6.5 Mton CO₂-eq. per year by 2020. A more modest pilot in one or two provinces could support 180 MW with a reduction of 0.65 Mton CO₂-eq. The development impacts are considerable: improved energy security, increased power for economic growth, reduced costs of fossil fuel subsidies, targeted skilled labour, and reduced local air pollution.

Lessons learned and next steps

The NAMA design was recently confirmed at a validation workshop hosted by ESDM with the involvement of key stakeholders. A workplan for 2014 was also agreed that plans ongoing work to detail the specific components and present these to sources of support in parallel. The development of the NAMA has demonstrated the value of cross-ministerial coordination, as well as the importance of grounding policy interventions in objective research and analysis.

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