Hawai‘i Natural Energy Institute Research Highlights

International Support

USAID Sustainable Energy for Indonesia’s Advancing Resilience (SINAR) Project

OBJECTIVE AND SIGNIFICANCE: In September 2021, HNEI was contracted by Tetra Tech ES to support USAID’s Sustainable Energy for Indonesia’s Advancing Resilience (SINAR) program, which seeks to advance Indonesia’s development goals in expanding reliable and equitable energy services necessary for sustainable development and inclusive economic growth. The objectives of the SINAR program include: 1) accelerating deployment of advanced energy; 2) improving performance of energy utilities; 3) adopting transparent and best value procurement; and 4) strengthening the institutional framework and capacity of the energy sector. To help the SINAR program achieve its objectives, staff from HNEI’s Grid System Technologies Advanced Research Team (Grid*START*) is providing technical support.

Figure 1. Downtown Jakarta, Indonesia.

BACKGROUND: Although Indonesia has abundant renewable energy (RE) resources, they are not being utilized to their full potential. One of the obstacles to accelerating the adoption of RE resources is the limited experience of key energy stakeholders on proper and prudent RE planning for energy transition in accordance with local conditions and current energy policies. In an effort to help the Government of Indonesia increase the use of RE in line with its National Energy Policy and Nationally Determined Contributions (NDC) under the Paris Agreement, USAID SINAR identified a need for Indonesia’s Ministry of Energy and Mineral Resources (MEMR) and PT Perusahaan Listrik Negara (PLN, or State Electricity Company) to have a clear strategy, standard framework, and program roadmap for the successful energy transition toward net zero emissions.

PROJECT STATUS/RESULTS: Grid*START*’s tasks for supporting USAID SINAR involve capacity building on topics including:

- financing for advanced energy systems;
- enabling an environment for deployment and investment in advanced energy systems;
- improving utility cost recovery mechanisms;
- modernizing utility planning and operating practices;
- incorporating competitive procurement standards into energy planning;
- increasing the capacity of Indonesian institutions to use domestic resources;
- improving coordination among relevant stakeholders; and
- enhancing energy sector policies, regulations and standards.

In February 2022, Grid*START* presented a three-day webinar to Indonesia’s Directorate General of Electricity (DGE) and MEMR on Hawai‘i’s renewable energy transformation, lessons learned from incorporating increasing levels of RE, and technical issues posed by high renewable penetrations in modern power systems. HNEI’s deep knowledge and understanding of Hawai‘i’s successful energy transformation and lessons learned garner great interest and attention not only from Indonesia but also from numerous countries in the Asia-Pacific region, due to their similar geographical and climatic characteristics.

Figure 2. Sample Slides from the February 2022 Webinar.

Follow-on webinars/in-person presentations on topics potentially including: the energy transition process, resiliency measures to address climate change, interagency partnerships in the renewable energy sector, and renewable energy procurement processes, are being explored for 2023 with Indonesia’s MEMR and PLN.

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