



Hawai'i Natural Energy Institute Research Highlights

International Support

USAID Southeast Asia's Smart Power Program – Cambodia

OBJECTIVE AND SIGNIFICANCE: HNEI's Grid System Technologies Advanced Research Team (GridSTART), working as a subcontractor to Deloitte Consulting LLP (Deloitte), is supporting the implementation of the USAID Southeast Asia Smart Power Program (SPP) to enhance grid resilience and renewable energy integration across Southeast Asia. This project focuses on two key work streams: 1) a long-term engagement with the national power utility of Cambodia, Electricite de Cambodge (EdC) to manage high levels of variable renewable energy (VRE) penetration and 2) a regional capacity-building workshop for ASEAN Power System Operators (APSO). By transferring U.S. best practices, particularly from Hawai'i, HNEI aims to bolster utility capacity and facilitate increased renewable electricity trading, supporting development goals and modernizing regional power grids.

BACKGROUND: USAID SPP, a \$40 million, five-year initiative, succeeds the Clean Power Asia (CPA) program, under which HNEI GridSTART provided both collaborative (APRESA-funded) and CPA-funded support to Laos' energy sector. SPP aims to transform Southeast Asian energy sectors, mobilizing \$2 billion in blended financing for clean energy infrastructure to help achieve the region's goal of net-zero emissions by 2050. The program expands energy capacity, increases clean energy investments, and enhances regional energy trade. It leverages partnerships to accelerate cross-border power trade and establish energy practitioner training centers. In 2023, we collaborated with SPP to deliver updated Feasibility Study Guidelines, a Grid Code, and interconnection standards for Laos, alongside capacity-building sessions. HNEI continues supporting SPP through its collaboration with Deloitte.

PROJECT STATUS/RESULTS: In May 2024, HNEI GridSTART delivered a capacity-building workshop at EdC's headquarters in Phnom Penh, Cambodia. Organized with USAID SPP and the Australian Department of Foreign Trade and Investment, the workshop enhanced Cambodian energy practitioners' understanding of VRE integration. The workshop, attended by 40 key institutions' representatives, covered critical topics such as power systems coordination and flexible resources. A second

capacity-building visit to EdC is being planned for early 2025.



Figure 1. HNEI at the EdC Capacity Building workshop in Phnom Penh, Cambodia.

In August 2024, GridSTART conducted another workshop in conjunction with the APSO Annual Meeting in Manila, Philippines. Hosted by the Manila Electric Company and the Philippines Department of Energy, the two one-day sessions aimed to improve the capabilities of project developers, production planners, and grid operators in integrating VRE into national grids and facilitating green power trade. Participants from all ten ASEAN Member States engaged in discussions on leading practices, innovative designs, and strategies for enhancing grid resiliency and operational harmonization across the region.



Figure 2. HNEI speaking at the APSO Meeting in Manila, Philippines.

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