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Deep Dive Workshop

Hydro Mini-Grids in the Asia-Pacific: Scaling Inclusive Enterprise-Based Approaches

Point of Contact:
Dipti Vaghela, HPNET,
diptimv@gmail.com



Background

Renewable energy mini-grids are a cost effective and time efficient solution for energy access. Within the technologies available for mini-grids, micro and mini hydropower (MHP) has added advantages. Where resources exist, small-scale hydropower produces the lowest cost energy. Its [techno-economic characteristics](#) (e.g. lower levelized cost of energy, per kilowatt investment cost, and no need for energy storage) allow for economic viability with high social impact, including affordable tariffs, extensive [productive end use](#), and viable [grid interconnection](#). Because its hardware can be manufactured locally and maintained by local actors, MHP development imparts local skills, jobs and enterprise development. It also strengthens catchment areas and watershed protection, which in turn increases climate resilience and integrated development of rural communities.

In recent years, there has been a transition to innovative ownership, management and financing models for mini-grid development – where the income generated has been sufficient to ensure the financial viability and sustainable operations of small-scale hydro projects. The success has been achieved by a variety of enterprise-based models most appropriate for the local context, including among others, cooperatives and community-private partnerships. These approaches show evidence of improved bankability of MHP systems, with greater social and gender inclusion at the same time. The session discusses prospects for scaling, replicating and financing such proven enterprise-based approaches to small-scale hydropower in the Asia-Pacific region.

¹ In this context, micro hydropower refers to <100kW, and mini hydropower refers to 100 - 1000 kW (or 1MW).

Objective

This DDW will provide development partners and professionals (both experts and generalists) the opportunity to understand recent innovative approaches to sustainable small-scale hydropower, in terms of economic viability and social impact. The session will feature key experts who have enabled enterprise-based hydro mini-grids in the Asia-Pacific region, drawn from a cross-section of government, private sector, NGOs, civil society and financiers.

The objectives of this DDW are to:

- Provide an overview of the types of ownership, management, financing, and integrated development models for enterprise-based hydro mini-grids, with examples from several countries in the region.
- Identify opportunities for scaling enterprise-based hydro mini-grids, both in terms of transitioning grant-dependent models to credit-financed enterprise models and also establishing new projects with enterprise-based approaches.
- Discuss solutions to overcome barriers to scalability of high social impact, enterprise-based small-scale hydropower, including building local institutional capacity and access to local and development financing.
- Explore the role of development partners and other stakeholders in strengthening knowledge services that enable partnerships to scale enterprise-based hydro mini-grids.

Agenda

5 minutes

Introduction to the Deep Dive Session

90 minutes

Panel 1: Enterprise-based Hydro Mini-Grids in the Asia-Pacific -- Overview and Opportunities

The panel will provide an overview of the types of ownership, management, and financing models for enterprise-based hydro mini-grids, using 4-5 practitioner case studies from Pakistan, Nepal, Myanmar, Malaysia, Philippines, and/or Indonesia. Opportunities and bottlenecks to scaling will be highlighted.

Format: Short presentations plus interactive, Davos-style moderated discussion.

15-MINUTE BREAK

90 minutes

Panel 2: Scaling Enterprise-based Hydro Mini-Grids – Multi-Actor Solutions

The panel will dive deeper into the challenges and potential solutions for accelerating the replication of enterprise-based approaches to hydro mini-grids. Bringing in multi-actor perspectives, the discussion will reflect on the role of diverse development partners and knowledge coordination in the Asia-Pacific region.

Format: Short presentations plus interactive, Davos-style moderated discussion.

10 minutes

Closing Summary

About the Organizers

The [Hydro Empowerment Network \(HPNET\)](#) is a South-South knowledge exchange and advocacy platform to advance small-scale (<1MW) hydropower. Its approach is to strengthen the work of local practitioners who partner with rural communities to establish sustainable hydro mini-grids. With 150+ members with diverse backgrounds across the globe, HPNET's primary objective is to facilitate collaboration and partnerships that advance technology and capacity development, access to financing, socio-environmental approaches, and evidence-based advocacy for sustainable and equitable micro/mini hydropower in the global South.

The [WISIONS of Sustainability](#) initiative promotes the transition to sustainable energy systems in the global South. Its mission is to empower individuals and communities to transform the production and use of energy so that it effectively enables sustainable development. The initiative is run by the [Wuppertal Institute of Climate, Energy and Environment](#), a German think tank, and has been supported by the Swiss-based foundation ProEvolution since its inception in 2004. In addition to supporting HPNET and other renewable energy practitioner networks, the WISIONS initiative has supported a multitude of decentralized renewable energy projects and knowledge exchange events and activities.