

Floating Solar Webinar Series (Hosted by APVIA)

Making Floating PV Solar Work in Asia

01 July 2022

Closing Remarks

Ruchika Saluja

PPP Specialist

Office of Public Private Partnership

Asian Development Bank

The Case for Floating Photovoltaics (FPVs) in Asia

- 🔄 Asia's demand for power will continue to climb in the face of demographic expansion and continuing urbanization.
- 🔄 Coal and oil dominate the fuel mix for most Asian countries; Consequently, energy security risks and related economic impacts remain key concerns for countries that are net importers of fossil fuels.
- 🔄 Countries in the region are committed to climate governance with many having taken on ambitious GHG emission reduction targets.
- 🔄 With its critical mass of regional production capacity and scale to drive down cost of renewables, Asia is uniquely positioned to accelerate coal decarbonization and put itself on a pathway for a just transition towards a cleaner energy future.
- 🔄 Faster diffusion of technological advancements in recent years has and continues to create favorable conditions for transitioning to energy systems with lower carbon emissions.
 - ✓ B/w 2010-2020, cost of utility scale solar power fell by ~85%
 - ✓ Accessibility and affordability of battery storage

The Case for Floating Photovoltaics (FPVs) in Asia

- ♻️ **FPVs present a valuable opportunity for countries in Asia to scale up their supply of clean power**
 - ✓ Offers an effective way for land-scarce, densely populated countries to ease land-use conflicts by taking up unused spaces on water bodies;
 - ✓ Southeast Asia is endowed with sizable areas of inland water bodies as well as man-made reservoirs. With their proximity to load centres, they offer ideal sites for utility scale FPV development.
 - ✓ Quick to build (compared to fossil fuel or hydro power plants) with modular development and deployment.
 - ✓ Although upfront costs tend to be higher in comparison to ground mounted solar, these are partly offset by higher energy yields due to the cooling effect of the water on the panels.
 - ✓ Increased development and installation experience will help to progressively lower FPV system costs.
 - ✓ FPV-hydropower hybrid plants offer a cost-effective solution wherein the solar project can piggyback on the infrastructure of the hydro and can mitigate the risk of reduced revenues due to lack of water availability.

The Case for Floating Photovoltaics (FPVs) in Asia

- ✓ Environmental impact: While long term track record of operational FPVs remains limited, available findings point to environmental benefits including a reduction in (i) water evaporation, (ii) surface water wind activity leading to slower bank erosion; and (iii) algae blooms.

- 🔗 **Data-sharing and capacity building will play a key role in bridging the knowledge gaps and accelerating the uptake of this relatively new RE technology.**

- 🔗 **Structuring and adopting the right policy mechanisms will be instrumental for attracting greater private capital inflows.**
 - Inter-agency cooperation especially on matters such as surface water and RE resource rights
 - Technology specific auctions
 - Regulatory framework for hydro-FPV hybridization
 - Adoption of new business models (powering near-shore/offshore operations with FPVs)

ADB's work on Floating Solar

- ✎ ADB, through a combination of technical & financing assistance, policy dialogue and transaction advisory services is working with its developing member countries (DMCs) to expand their use of renewable power.
- ✎ Floating solar can play a significant role in the decarbonization pathway for countries. On that front, ADB has been supporting its DMC's via a range of solutions including:
 - knowledge & support technical assistance in Central and West Asia to pilot test and build expertise on the emerging FPV technology to diversify their energy mix.
 - technical assistance to assess the potential for and develop the roadmap for financing FPV projects in 11 Pacific Island countries.
 - financing in Vietnam to install 47.5MWp of FPV generation panels on a made-made reservoir of an existing 175MW hydro project.
 - capacity building support to the Laguna Lake Development Authority in the Philippines to establish the carrying capacity of the Laguna Lake for utility scale FPVs as well as providing guidance on the development of the implementing rules & regulations for leasing of water surface for FPV projects.

“When sun is the main source of energy which makes it possible for life to exist, then why are we digging the Earth”