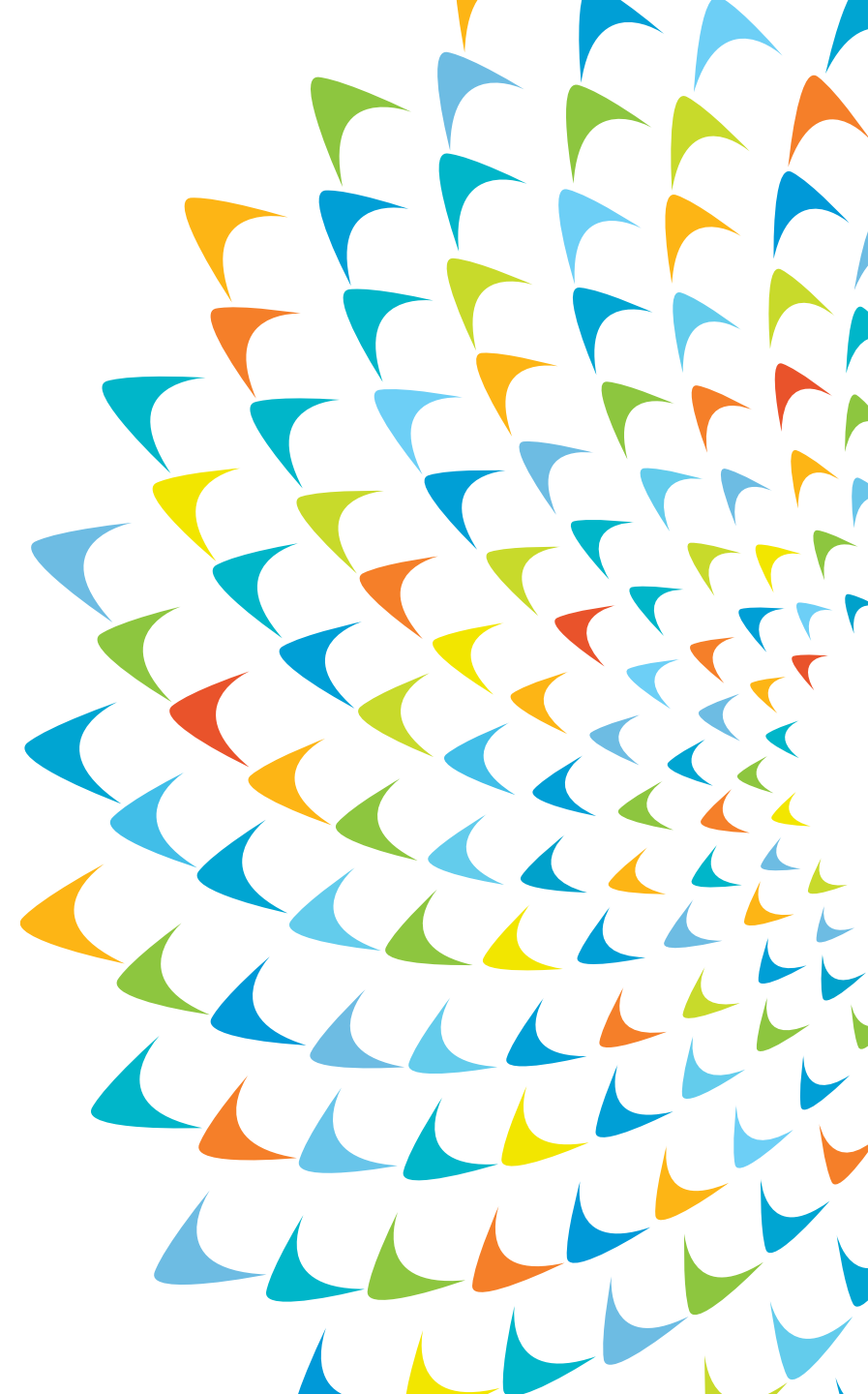




Viet Nam Floating Solar project

Saurabh Kaura,
Senior Investment Specialist

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Viet Nam Floating Solar project

Viet Nam's first large scale floating solar project

Context

- Rapid electricity demand growth from 2005-2015 (~12%/year), and strong projected electricity demand growth 2030 (~8% annually till 2030); coal imports, and energy security
- Untapped renewable energy potential (in 2016), despite abundant potential - Installed capacity was about 7 MW for solar and 135 MW for wind, accounting for less than 0.4% of total installed capacity by the end of 2016
- **Policy push** – the government introduced 20-year feed-in-tariff (US\$ cents 9.35/unit), and targeted 800 MW capacity in wind and 850 MW in solar (by 2020)
- **Private sector** (non-sovereign) expected to mobilize investments due to balance sheet constraints of the state utility (EVN)
- **Barriers** – (i) new technology/ lack of long-term track record in Viet Nam, (ii) lack of local financing options – lacking experience, inability to provide long tenor loans, inability to lend in USD, and (iii) limited availability of long-term US\$ financing due to terms of the PPA



Courtesy: Da Nhim - Ham Thuan - Da Mi Hydro Power Joint Stock Company (DHD)



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Project Details - Financial

- The first large-scale installation of floating solar PV panels in Viet Nam and the largest installation in Southeast Asia
- **Project size : 47.5MW_p** (covering an area of about 60 ha (~ 8% of the reservoir)
- **Location:** On the man-made reservoir of its existing 175 MW Da Mi hydropower plant
- **Borrower:** Da Nhim - Ham Thuan - Da Mi Hydro Power Joint Stock Company (DHD)¹
 - Legally independent and separate from EVN
 - Owned and operated several hydropower plants (~ 642 MW²)
- **ADB assistance** (approved in 2018)
 - A direct loan of \$17.6 million from ADB's ordinary capital resources
 - **Concessional loans aggregating to \$15 million from the Canadian Climate Fund for the Private Sector in Asia (CFPS) , and its follow-on fund - Canadian Climate Fund for the Private Sector in Asia II (CFPS II)**
 - A parallel loan of up to \$4.4 million from LEAP (Leading Asia's Private Infrastructure Fund (Parallel Debt Subprogram))
 - All loans door-to-door tenor of up to 15 years, including a 1-year grace period on principal repayment²
- **Blended Finance**
 - First mover costs and risks high, concessional capital from CFPS funds designed to fill a funding gap, to move financial ratios and returns part-way towards private sector norms and to demonstrate a viable financing model for the private sector
 - Gender elements that were incremental as a result of ADB and CFPS participation ensured receipt of a Some Gender Elements (SGE) rating to the project

¹ Following the 2013 restructuring of EVN, DHD became a subsidiary of the newly created Power Generation Corporation 1 (Genco 1), one of three regional generation companies of EVN. Genco 1 is a limited liability company of EVN that is legally independent with its own audited accounts, management, and board.

² At the time of ADB approval



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Project Details – Targeted Impacts

- **Gender elements:** The project promotes gender equality by offering skills training in hydro and solar energy technology and provides employment opportunities for women in the maintenance and operation of the plant.
- ADB asked DHD/Borrower to develop strategies within its existing human resources policy framework to increase female participation within the DHD/Borrower workforce. *(Solar power plant construction and operation projects offer few opportunities for gender mainstreaming, but planned growth in DHD’s renewable energy business should offer new opportunities for bringing women employees into technical and management roles within the company)*
- As a part of gender action plan developed for the project, the DHD/Borrower committed to adopt inclusive work practices, such as raising awareness on respectful workplaces.
- **Targeted Outcomes and Outputs¹**
 - Emission reductions estimated at 30,302 tCO₂e on an annual basis
 - Annual domestic purchase of goods and services amounts targeted to more than \$25 million during operation
 - Local employment – Additional job creation targeted during construction (40) and operation (10)
 - Improved economic opportunities for women
 - All people directly affected by project construction and operation are engaged in meaningful consultation and are invited to seminars on gender equality, providing training on integrating gender into the development process for local leaders and communities.
 - Training program to raise awareness for a respectful workplace, health and safety, and communicable disease prevention for employees and contractors to be conducted

¹ At the time of ADB approval