

Project name: Assessment of Floating PV potential for Pakistan	Approx. value of the contract 142'000 USD
Country: Pakistan, whole country	Duration of assignment: 2017-2018
Name of Beneficiary/Client: IFC (International Finance Corporation)	Project Partners: PITCO Ltd. (local engineering and consulting partner)
Total No. of staff-months of the assignment: 10	Names of Planair's staff members involved in the project: Leo-Philipp Heiniger (lead), Lionel Perret, Florent Jacqmin, Davy Marcel
Description of Project: <p>The objective of this assignment is to assess the status of Floating PV globally, provide guidelines for design and performance specifications and identify specific project opportunities in Pakistan. Recommendations are given how such projects could be developed and financed in the Pakistani context. The project is divided into the following 4 tasks:</p> <ol style="list-style-type: none"> 1. Assess the general commercial readiness of floating PV globally A global market assessment of the commercial readiness of floating PV was carried out, including worldwide installations, leading suppliers and EPCs, benchmarking of costs and performances and a thorough comparison of floating and land-based PV (advantages, disadvantages, specific risks) 2. Provide guidelines for design and performance specifications of FSPV plants; Typical design and performance specifications with emphasis on distinct aspects of floating PV were provided. The focus was on i) solar PV modules, ii) floating body, iii) inverters and cables, iv) floating body, v) anchoring and mooring, vi) environmental impacts and vii) O&M requirements. 3. Identification of the most suitable sites for FSPV in Pakistan and pre-feasibility study for 5 sites Water bodies (hydro dams, barrages, lakes and industrial ponds) all over Pakistan were identified with a potential to develop floating PV with at least 5 MW capacity. Out of this long list, a revised long list with approximately 60 sites was prepared and key aspects such as max. PV capacity, grid access, solar potential, general accessibility, environmental considerations, water depth, security considerations were assessed. Detailed pre-feasibility studies of 8 sites were performed, including industrial and irrigation reservoirs, hydro dams and natural lakes. 4. Provide recommendation on how to structure a commercial floating PV project in general and more specifically in Pakistan. Description of the operating environment (development of solar sector in Pakistan, potential issues and challenges related to regulatory framework), exploration of contractual options (PPA with owner of hydro dam or other off-taker), necessary agreements (interconnection, ownership of water body), evaluation of key technical and commercial risks and recommendation for the most suitable project structure in Pakistan. 	