



Nymphaea is a new start-up idea aiming at exploiting renewable energy (RE), namely the photovoltaic (PV) technology through a particular application: the floating PV, being a PV plant installed on a water surface.

The main locations where installing this PV system are potentially all water basins like lakes, dams, rivers, lagoons, etc., that are numerous in Turkey. Thus the main customers are power utilities, local communities (municipalities, Regions, marine parks, small islands, etc.) hydroelectric power plant owners or general RE investors which can benefit from the production of clean electricity.

The floating PV system is the combination of a conventional PV plant and a floating structure. The latter is composed of a floating body (structure + floater) for the installation of the PV modules on the water. Underneath the water surface a mooring system insures the correct southward orientation of the plant while compensating the fluctuations of the water level. A cooling and tracking system can be added to increase system efficiency. An underwater cable transfers the generated power from the water up to the land electricity substation. PV technology presents several advantages when applied on a water surface:

- Preservation of land exploitation as no extra land is required to install the PV plant;
- Increased efficiency of about 10% for a fixed installation due to cooling effect of the water (and up to 30% for a system with cooling and tracking system);
- Reduction in water evaporation of approximately 90% in areas covered by the system;
- Improvement of water quality due to the limitation of algae proliferation thanks to the reduction in sunlight penetration inside the water surface;
- Cheaper plant maintenance and significantly reduced efficiency loss of the panels due to thermal shocks and aging.

Nymphaea team members are already active in the PV sector in Turkey and can provide a turn-key PV plant solution. They are now in the phase of chasing new customers to develop and implement this new concept in the country.

Team members: Federico Villatico Campbell, Roberta Sabatino, Cafer Okray

Contact details: Federico Villatico Campbell (team leader)
federico@epeiosideas.com
+90 5318343381