BUSINESS COACHING REPORT
Developing floating solar energy solutions for natural lakes

1. Coaching context

The proposed business opportunity involves expanding the company's existing solar energy activities towards floating photovoltaic (FPV) systems installed on water surfaces. The concept is intended to create a new business line that combines renewable electricity generation with the responsible use and management of lake-related assets.

Potential customers identified by the participant include municipalities, lake authorities, water and wastewater utilities, tourism operators, and renewable energy developers. These organisations differ significantly in their reasons for considering FPV, their purchasing procedures, their risk tolerance, their electricity consumption profile, and their ability to enter long-term contractual arrangements.

The opportunity is commercially relevant because FPV can enable solar generation where land is constrained, can be located close to existing electricity demand or grid infrastructure, and complement hydropower or water-management assets. However, the use of water surfaces introduces additional technical, environmental, regulatory, safety, and stakeholder requirements compared with conventional ground-mounted solar projects.

The coaching assignment therefore focused on three central business decisions: selecting the most attractive initial customer segments, defining a value proposition that combines energy performance with environmentally responsible deployment, and identifying revenue models appropriate to different customer and project conditions.

2. Coaching objectives

The overall objective of the coaching assignment was to support the participant in assessing whether floating photovoltaic systems could become a viable and responsible extension of the company's solar energy activities.

The first specific objective was to prioritise customer segments. The coaching process examined which organisations have a sufficiently strong energy need, control or access to a suitable water body, decision-making capacity, a credible investment or procurement pathway, and an incentive to avoid the use of additional land.

The second specific objective was to define a strong value proposition. The analysis considered how the company could move beyond a generic promise of green energy and offer a differentiated solution based on site screening, engineering integration, environmental safeguards, monitoring, stakeholder acceptance, and long-term operational support.

The third specific objective was to assess the fit of alternative revenue models, including direct installation contracts, leasing, energy-as-a-service, power purchase agreements, and public-private partnerships. The purpose was not to select one universal model, but to identify the commercial conditions under which each option could be viable.

3. Coaching methodology

The coaching methodology followed a structured business opportunity assessment combining customer segmentation, value proposition development, revenue model analysis, and risk-based pilot design.

The first stage assessed customer attractiveness. Each proposed segment was examined according to the scale and predictability of electricity demand, access to suitable water surfaces, internal procurement capacity, investment horizon, grid connection prospects, environmental sensitivity, and potential for replication across several sites.

The second stage applied value proposition logic. The principal customer jobs, pains, and expected gains were matched with possible services offered by the company. Particular attention was given to the difference between selling an FPV installation and providing an integrated service that reduces technical, environmental, regulatory, and operational uncertainty for the customer.

The third stage compared revenue models. The assessment considered ownership of the asset, capital requirements, contract duration, allocation of energy-price and performance risk, operation and maintenance responsibilities, public procurement requirements, and the company's financing capacity.

The fourth stage introduced an environmental compatibility gate. Potential sites should be screened before commercial development according to water-body function, legal and ecological status, biodiversity sensitivity, surface coverage, water-level variation, wind and wave exposure, anchoring conditions, navigation and recreation, grid access, and stakeholder concerns.

The final stage translated the analysis into a phased market-entry recommendation: customer interviews, partner mapping, selection of one low-conflict pilot site, prefeasibility assessment, commercial proposal, environmental baseline, monitoring plan, and a documented decision on whether to scale.

4. Key insights

Floating photovoltaic technology offers a credible business opportunity, but the addressable market should not be defined as all lakes. Water bodies are not interchangeable. Natural lakes, protected areas, drinking-water sources, hydropower reservoirs, irrigation reservoirs, wastewater basins, industrial ponds, and tourism lakes have different legal functions, ecological sensitivities, users, and approval pathways.

The strongest initial opportunities are likely to be managed or artificial water bodies with a clear owner or operator, significant on-site electricity demand, limited competing uses, feasible grid access, and comparatively lower ecological conflict. Water and wastewater utilities, reservoir or hydropower operators, and municipalities managing technical basins therefore represent more attractive first segments than tourism operators or managers of ecologically sensitive natural lakes.

Renewable energy developers can also be valuable customers or partners. They contribute project development, financing, power-market access, and long-term asset ownership, while the participant's company contributes solar engineering, local customer relationships, installation capability, and operation and maintenance. This partnership route is more realistic than assuming the company will immediately finance and own large FPV assets independently.

The value proposition should not claim that FPV automatically protects or restores a lake ecosystem. Environmental effects are site-specific and depend on factors such as surface coverage, location, water depth, hydrology, shading, wind sheltering, materials, anchoring, and existing ecological pressures. The credible promise is responsible deployment supported by screening, avoidance, mitigation, monitoring, and adaptive management.

A differentiated offer could therefore combine energy yield assessment; waterbody and grid screening; concept design; anchoring and mooring assessment; permitting coordination; environmental baseline studies through specialist partners; stakeholder consultation; installation; operation and maintenance; and post-installation monitoring. This integrated approach creates greater customer value than equipment supplies alone.

The customer decision is likely to depend on more than the levelized cost of electricity. Public and utility customers value land preservation, predictable energy costs, visible progress towards climate targets, resilience, use of existing infrastructure, and an auditable environmental process. At the same time, unfamiliar technology, approval uncertainty, ecological concerns, long contract periods, and maintenance on water can delay decisions.

The revenue model must follow the customer's financial and institutional situation. A customer with available capital and a preference for asset ownership favour a direct engineering, procurement, and construction contract. A customer seeking to avoid upfront investment prefer a power purchase agreement or energy-as-a-service arrangement. A public owner with a strategic asset and complex investment needs consider a PPP, although transaction costs and procurement requirements make this unsuitable for a small first pilot.

5. Business model alignment

The framework below summarises the recommended alignment between priority customers, responsible value creation, and revenue model selection (Figure 1). The three decisions must be made together: an attractive customer is insufficient without a suitable site and value proposition, while a technically sound project is not bankable without a workable allocation of investment, performance, and market risks.

The framework recommends entering the market through a controlled pilot rather than a broad commercial launch. The first project should demonstrate not only electricity generation and technical reliability, but also the company's ability to manage permits, environmental safeguards, stakeholder communication, maintenance, and contractual performance.

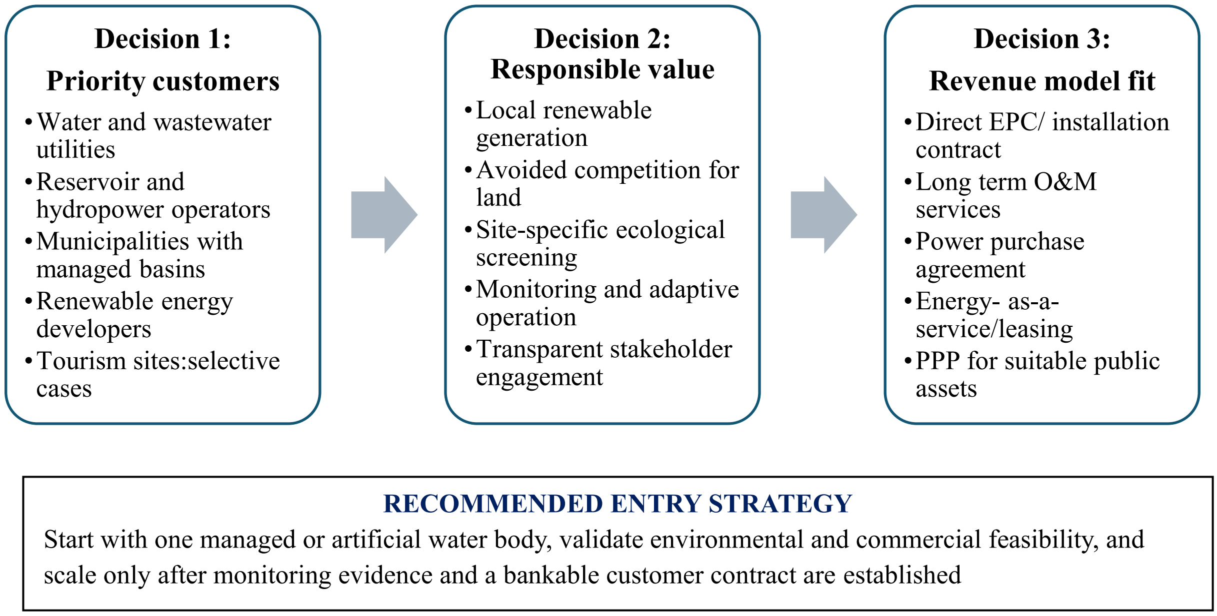

Figure 1 – Floating PV business model alignment
Source: developed by the business coach

6. Coaching recommendations

The participant should initially prioritise water and wastewater utilities, reservoir or hydropower operators, and municipalities with artificial or highly managed water bodies. These segments combine identifiable asset control with energy demand and a potential strategic reason to preserve land. Renewable energy developers should be approached as partners or business-to-business customers, particularly when project financing and power-market capabilities are required.

Tourism operators should remain a selective secondary segment. FPV is relevant where electricity consumption is substantial and the installation can be placed away from sensitive landscapes, recreation areas, navigation routes, and key habitats. On highly visible tourism lakes, social acceptance and visual impact may outweigh the energy benefits.

The recommended value proposition is: *An integrated floating solar solution that enables suitable water-asset owners to generate local renewable electricity while reducing land-use pressure and managing environmental, technical, and operational risks through site-specific design, monitoring, and long-term service*. This proposition should be supported by a modular service portfolio:

- Stage 1 - opportunity screening: water-body ownership and use, ecological constraints, electricity demand, grid access, preliminary system size, and stakeholder mapping;
- Stage 2 - prefeasibility: solar yield, concept design, anchoring and mooring options, preliminary costs, environmental baseline requirements, permitting pathway, and commercial model;

- Stage 3 - project delivery: engineering, procurement, installation, testing, safety procedures, and documentation;
- Stage 4 - long-term services: operation and maintenance, energy-performance reporting, structural inspections, water-quality or biodiversity monitoring through qualified partners, and adaptive measures.

The company should establish clear exclusion and escalation criteria. Sites should be rejected or subjected to enhanced independent assessment when they involve protected habitats, high ecological sensitivity, unresolved ownership, drinking-water restrictions, intensive recreation or navigation, unsuitable water-level variation, difficult anchoring, inadequate grid capacity, or strong stakeholder opposition.

The revenue model should be selected using the following logic:

- Direct installation contract: recommended for customers that finance and own the system. It offers faster revenue and lower long-term capital exposure for the company, but requires a strong pipeline and clear warranty and performance obligations;
- Leasing or energy-as-a-service: appropriate when the customer wants predictable service payments and limited upfront investment. It requires financing capacity, long-term asset management, and careful allocation of operational risk;
- Power purchase agreement: suitable where there are stable long-term electricity consumption and a creditworthy off taker. Revenue depends on energy production and contract pricing, so bankability, grid rules, performance guarantees, and contract duration are central;
- Public-private partnership: potentially relevant for larger public assets that combine energy and infrastructure objectives. It should be considered only when project scale justifies the longer preparation, procurement, legal, and financing process;
- Hybrid model: a development or prefeasibility fee followed by EPC (Engineering, Procurement and Construction contract) and recurring operation, maintenance, and monitoring services may provide the most realistic entry path for the first projects.

Before investing substantially, the participant should conduct 10 to 15 structured interviews with potential customers and partners. The sample should include at least three utilities or water operators, three municipalities or public asset managers, two renewable energy developers or investors, two environmental or permitting specialists, and two prospective technology or engineering partners.

The interviews should test whether the customer controls a suitable water body; the level and timing of electricity demand; current energy cost and decarbonisation targets; land constraints; procurement and investment capacity; minimum acceptable project size; environmental concerns; decision criteria; preferred ownership model; and willingness to finance a prefeasibility study.

The first pilot should preferably be located on one artificial or managed water body with a clearly identified owner, limited ecological conflict, accessible grid connection, manageable wind and water-level conditions, and on-site electricity demand. The pilot should begin with a paid or co-funded prefeasibility stage rather than a full-scale installation commitment.

A decision to proceed should require evidence that at least one customer is willing to provide site and consumption data, one site passes preliminary technical and environmental screening, a viable commercial model can meet the customer's energy-cost expectations, qualified environmental and engineering partners are available, and the project can progress through a credible permitting and financing pathway.

The participant should avoid presenting FPV as intrinsically restorative. A more defensible market position is *renewable energy with responsible water-body integration.* Where monitoring identifies measurable co-benefits, these is documented as project outcomes; they should not be promised before site-specific evidence is available.

7. Reference considerations

The recommendations were informed by the World Bank and ESMAP 'Where Sun Meets Water' floating solar reports and handbook, European Commission Joint Research Centre work on floating PV and hydropower reservoirs, SolarPower Europe recommendations for onshore floating PV, and the EU-funded FPV4Resilience research project on ecological impacts. These sources support the commercial relevance of FPV while emphasising site-specific design, environmental assessment, data collection, and responsible deployment.

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