

From Country Needs to Finance-Ready Projects: Lessons from Japan's CTCN Technical Assistance Experience

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Ryosuke Tanaka

Ministry of Economy, Trade and Industry, Japan

Basic Information

NDE of Japan

- Ministry Economy, Trade and Industry (METI)
- Ministry of Environment (MOE)



Contribution for CTCN and TEC

Appx. 17.4 million USD (as of 2026FY)

Network Members from Japan (11 institutions)

- New Energy and Industrial Technology Development Organization (NEDO)
- Research Institute of Innovative Technology for the Earth (RITE)
- Global Environment Centre Foundation (GEC)
- Overseas Environmental Cooperation Center (OECC)
- Institute for Global Environmental Strategies (IGES)
- Japan Environmental and Sanitation Centre (JESC)
- Nippon Koei Latin America-Caribbean Co. Ltd (NKLAC)
- Deloitte Tohmatsu Financial Advisory LLCion (DTFA)
- Ernst & Young ShinNihon LLC
- Sora Technology (SORA)
- Asia Air Survey Co., Ltd. (AAS)

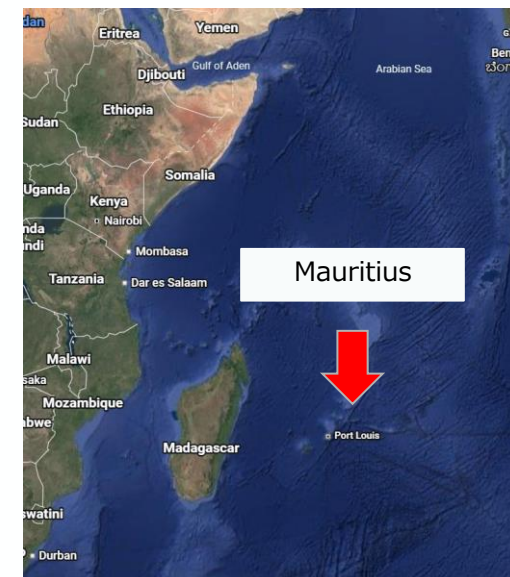
TA projects implemented by Network Members from Japan

Project title	Period	Implementors
Substantial GHG emissions reduction in the cement industry by using waste heat recovery combined with mineral carbon capture and utilization (South Africa)	2017-2018	RITE
Benchmarking Energy & GHG Intensity in Thailand's Metal Industry	2017-2018	NEDO
Technology Road Map for Palestine's Implementation of Climate Action Plans (INCR, NAP and NDC) (Palestine)	2017-2019	DTFA
Technology Needs Assessment and associated action plan for climate change mitigation and adaptation in Nigeria's most vulnerable economic sectors (Nigeria)	2020-2022	DTFA
Developing a power to gas masterplan in Lao PDR	2020-2022	GEC
OTEC: Ocean Energy Technical Pre-Feasibility Study (Nauru)	2020-2022	OECC
Technical Capability Enhancement to Promote Waste-to-Energy Technology in Viet Nam	2021-2022	GEC
Feasibility study for low emission land transport sector in Vanuatu	2021-2022	OECC
Feasibility study of a combined heat and power supply using green hydrogen (Mongolia)	2022-2024	OECC
Pre-Feasibility Study on Seawater Intake Infrastructure for Project Samurai Blue-The Savanne Regional Model in Mauritius (Mauritius)	2024-2025	OECC

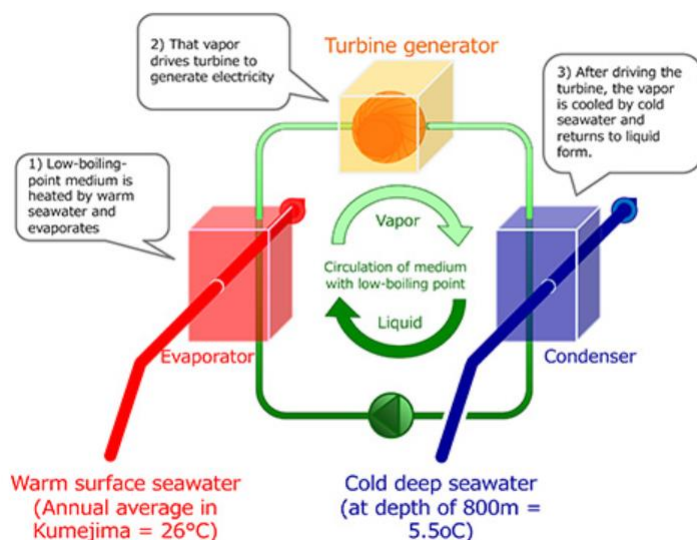
Pre-Feasibility Study on Seawater Intake Infrastructure for Project Samurai Blue-The Savanne Regional Model (OTEC and DSW industries development)

Background & Challenge

- **High dependency on import of primary energy sources during the time of energy crisis:** 90% of primary energy is imported, and Mauritius has only 9.1% of domestic produced energy sources. In the midst of energy crisis, this has become quite large burden for national economy.
- **Lack of baseload energy** has been major challenges in pursuing renewable energy development, as PVs and other are unstable.
- **Mauritius' NDC** seeks introduction of ocean energy development, including **Ocean Thermal Energy Conversion (OTEC)** and **Deep Sea Water(DSW)** technologies. (Mitigation)
- **Effective utilization of DSW** is expected to support sustainable economic development of Mauritius, e.g. tourism, food and water production, while increasing resilience to climate change (Adaptation).



Location of Mauritius in the Indian Ocean



Technological Feature of OTEC

Content of Pre- Feasibility Study

1. Stakeholder engagement through a Project Working Group
2. Context analysis for seawater intake infrastructure
3. Technical assessment to define the optimal site, routing, design and installation methods for DSW infrastructure
4. Financial Assessment and business models for DSW intake infrastructure



5. Development of a Concept Note for the Green Climate Fund

Existing cases

Deep Sea Water Intakes Around the World

38 Sites
45 Intakes

Includes known sites with intake depth 200m+. Current status of intake sites not confirmed

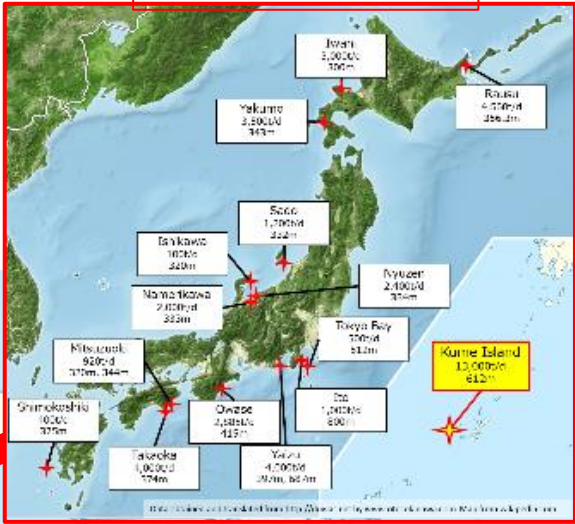
NELHA, USA
3 DSW Intakes



French Polynesia
3 DSW Intakes



Japan
18 DSW Intakes



South Korea
8 DSW Intakes

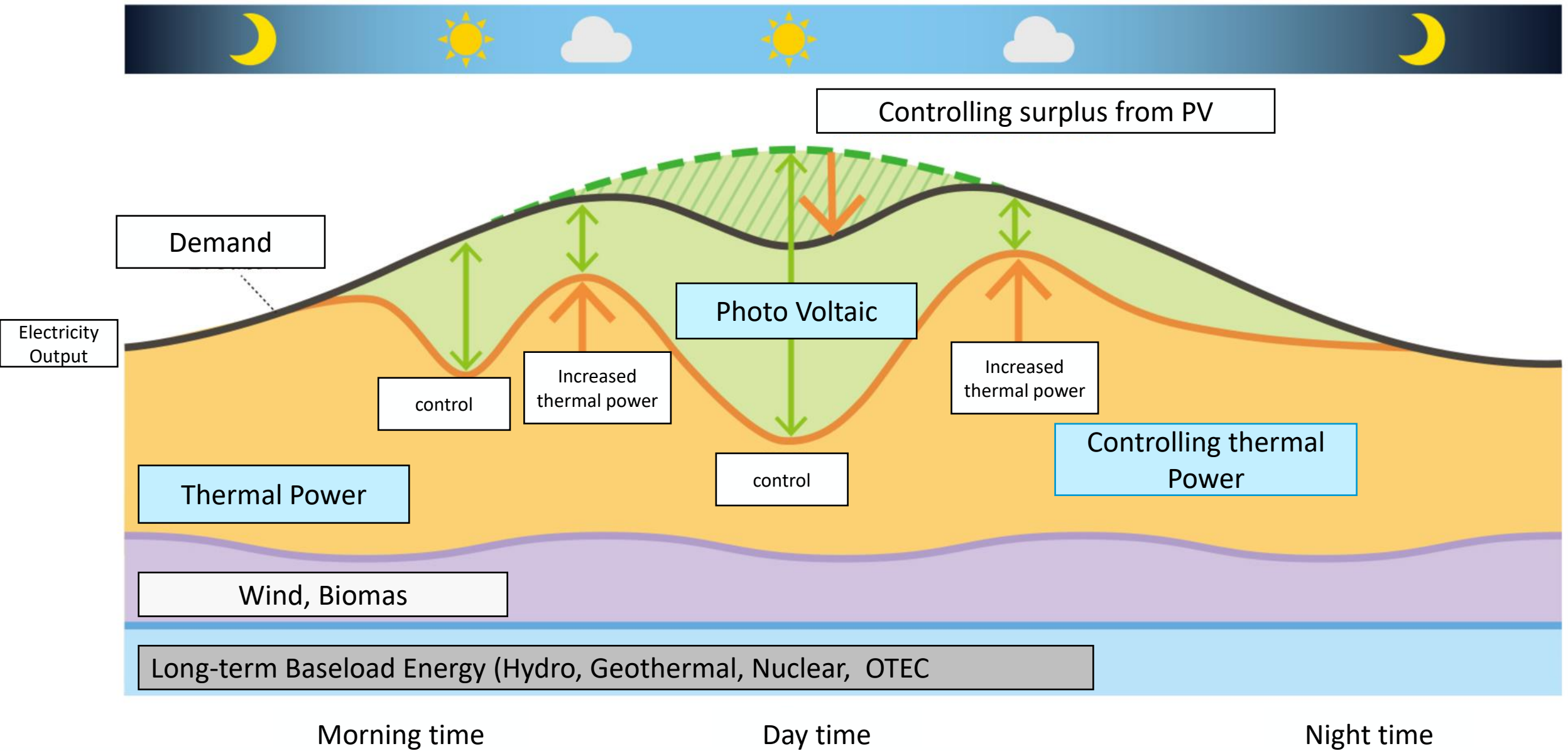


India
8 DSW Intakes



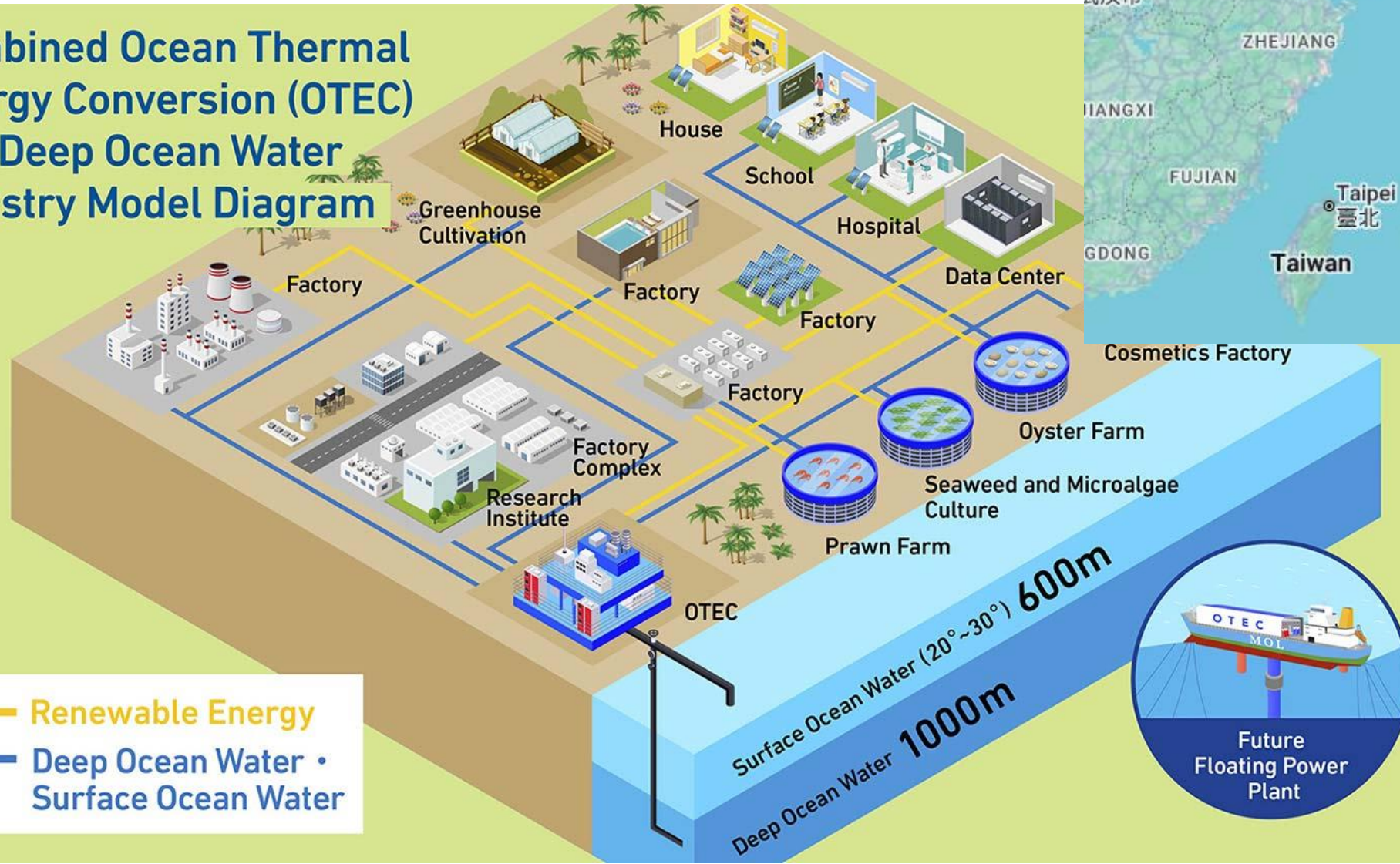
Source: OTEA (Ocean Thermal Energy Association)

OTEC as Stable Renewable Energy



Learning from the Kumejima Island Model in Japan

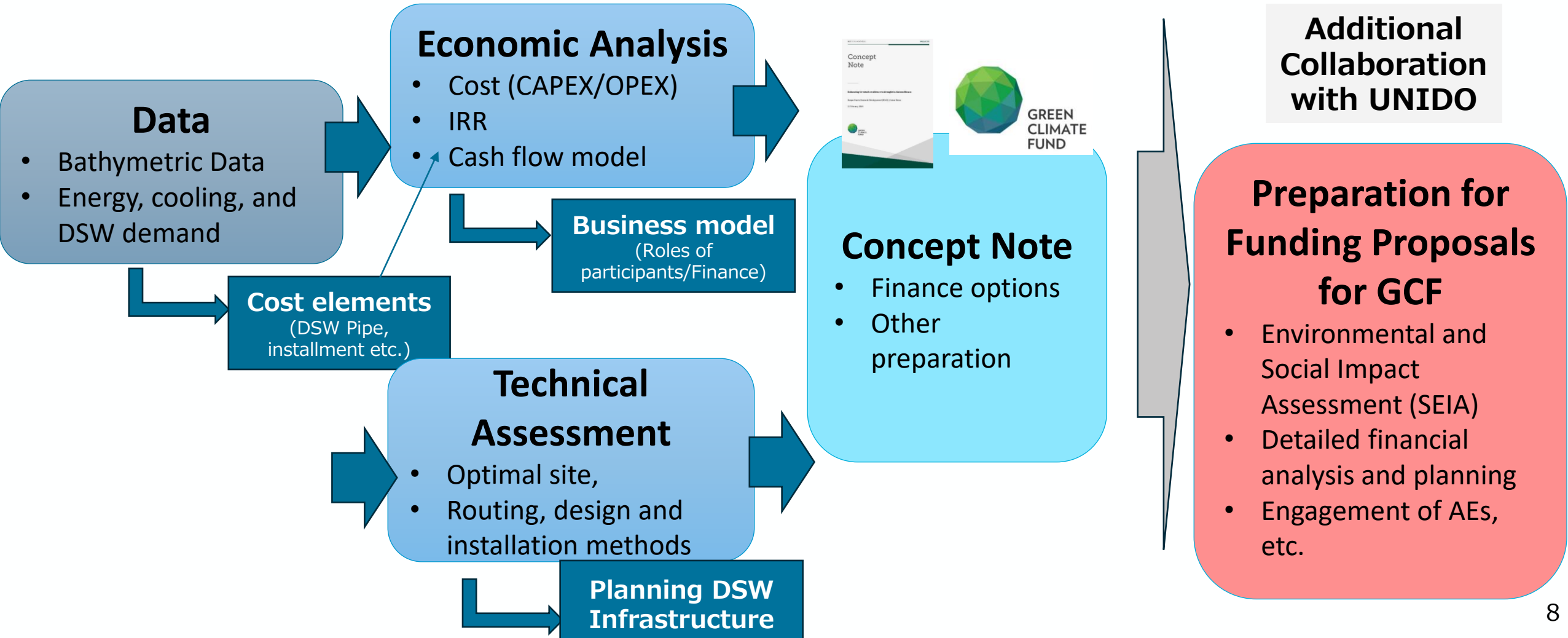
Combined Ocean Thermal Energy Conversion (OTEC) and Deep Ocean Water Industry Model Diagram



Steps of the Pre-FS and further actions



Stakeholder engagement through a Project Working Group



Schedule

Technical Assistance (2024-2025)

Output	Month																							
	2024												2025											
	1	2	3	4	5	6	7	8	9	10	11	12	1	2	3	4	5	6	7	8	9	10	11	12
1.Stakeholder engagement through a Project Working Group																								
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5. Development of a Concept Note for the Green Climate Fund																								
6. Capacity building and communication																								

Follow-Up
(2026~)

Currently the Team is working on follow up activities with local partners

Lessons Learned

◆ Key Message

- Country-driven TA can bridge technical assessment and implementation.
- Early investment planning helps turn TA results into finance-ready project pipelines.

① Start with Country Needs

- ✓ TA should be aligned with national development priorities, energy plans, and climate strategies.
 - Energy security
 - Economic diversification
 - Climate resilience



② Build an Investment Case Early

- ✓ Technical studies should be complemented by business and financial analysis.
 - Technical feasibility
 - Cost and revenue structure
 - Business model and financial assessment



③ Plan the Pathway to Climate Finance

- ✓ TA outputs can provide a basis for project concept notes and funding proposals.
 - GCF Concept Note
 - Financing partners
 - Follow-up support