Leading the Global Green Transition

Team Sapporo-Hokkaido

Team Sapporo-Hokkaido Green Finance Framework

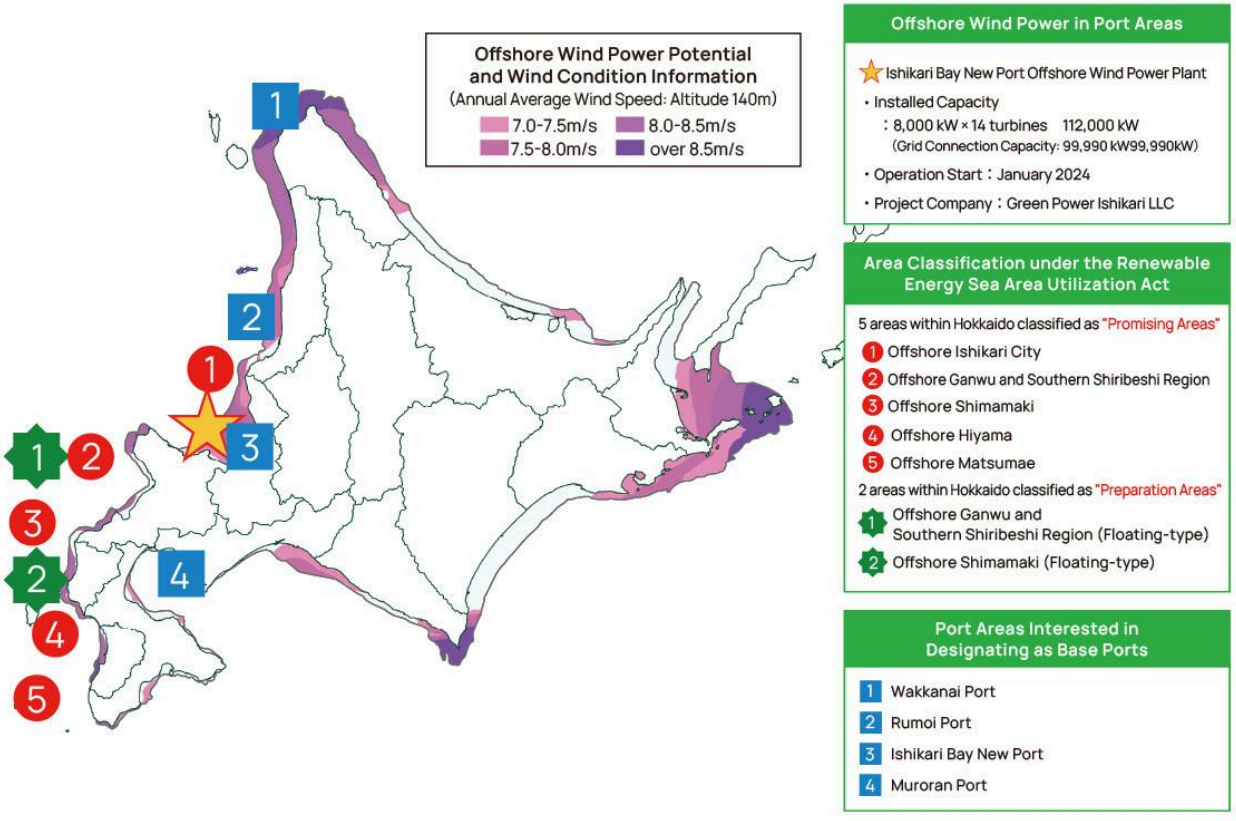
Sub-Framework (Offshore Wind Power)

1. Offshore Wind Power

Offshore wind power is considered a game-changer in Japan's push to make renewable energy a primary power source. This is due to its ① potential for large-scale deployment, ② cost-competitiveness, and ③ expected economic ripple effects. Consequently, the Act on Promoting the Utilization of Sea Areas for Renewable Energy was enacted in April 2019, which streamlined the process for the long-term use of sea areas and the procedures leading up to the start of operations.

In Hokkaido, five sea areas were designated as "promising zones" in May 2023 under the relevant act. In 2025, two of these were upgraded to "promotion zones," further building momentum for business expansion. The Japanese government has set a national target to install up to 45 GW of capacity by 2040, with Hokkaido expected to contribute approximately 15 GW. This will be a massive project, estimated to involve around 1,000 units and an investment of about 3 trillion yen.

Offshore wind power generation consists of various components, including the wind turbine (nacelle, blade, tower), foundation, cables, and substation equipment. Each of these requires the involvement of a diverse range of businesses throughout the manufacturing, installation, and O&M (Operations and Maintenance) phases. The active participation of local companies and the establishment of an associated supply chain are therefore highly expected to have a significant positive impact on the local economy.



As of January 2025

2. Green Criteria

Evaluation Label	Criteria		Key Reference Standards
	[Power Generation Business]	[Related Businesses (Research and Development, Manufacturing, Systems, O&M, etc.)]	
Green Premium	Meet the Offshore Wind Technology Standards + Green standards for five environmental goals other than climate change mitigation (water, pollution prevention, circular economy, climate change adaptation, biodiversity) meet at least one of the above	R&D* related to offshore wind power generation, and/or Supplying the essential hardware (including auxiliary facilities and equipment) and software systems required for offshore wind power including its manufacturing + Green standards for five environmental goals other than climate change mitigation (water, pollution prevention, circular economy, climate change adaptation, biodiversity) meet at least one of the above	Climate Bonds Standard (CBS) EU Taxonomy
Green	Meet the Offshore Wind Technology Standards	R&D* related to offshore wind power generation, and/or Supplying the essential hardware (including auxiliary facilities and equipment) and software systems required for offshore wind power including its manufacturing	
Transition	None		—
Not applicable	Projects that do not meet any of the above Green/Transition criteria. Or projects that meet the criteria but do not meet DNSH		

* R&D is required to be at TRL[1]6 or higher. Early stage R&D may be considered eligible if aiming for TRL6.

For details on each criterion, please see below.

■CBS: Marine Renewable Energy
https://www.climatebonds.net/standard/marine

■EU Taxonomy: Offshore wind power Electricity generation from wind power
https://ec.europa.eu/sustainable-finance-taxonomy/activities/activity/289/view

■Offshore Wind Power Facility Review Committee, Unified Explanation of Technical Standards for Offshore Wind Power Equipment, March 2020 Edition
https://www.mlit.go.jp/kowan/kowan_tk6_000054.html

■Agency for Natural Resources and Energy Project Plan Formulation Guidelines, Revised October 2024

[1] Technology Readiness Level, a systematic measurement system used to assess the maturity level of a particular technology. The scale ranges from TRL1 (the initial idea) to TRL9 (a fully proven and operational technology).

https://www.enecho.meti.go.jp/category/saving_and_new/saiene/kaitori/dl/fit_2017/legal/guideline_wind.pdf

3. Reporting

Business operators are required to submit annual reports.

【Annual Report Template】

Business Operator Name		Department Person in Charge: Name Contact: Listed
Target Project	Category	☐ Offshore Wind Power Generation ☐ Hydrogen ☐ Data Centers ☐ Battery Storage ☐ Next-Generation Semiconductors ☐ Synthetic Fuels (e.g., SAF) ☐ Subsea DC Transmission ☐ Electric and Hydrogen Carriers ☐ Other (specify)
	Project Name	Specify
	Basic Information	Details (Location, Scale, Specifications, Start of Operation)
	Reporting Period	YYYY MM - YYYY MM (Number of Months)
	Green Evaluation Label	☐ Green Premium ☐ Green ☐ Transition
Funding Status	Funding Date	YYYY MM DD
	Funding Amount	Amount in millions JPY
	Allocation Category	☐ New Investment (Including expenditures from cash on hand within the past three years) ☐ Refinancing
	Allocation Status	☐Fully allocated ☐ In progress (Amount already allocated: ¥XX million JPY Unallocated Amount: [Amount in millions JPY] Expected Allocation Completion Date: [Year] [Month] ※If there are multiple projects, list them individually
Environmental Benefits	Item	GHG/CO_2 Reduction ☐ Other (specify)
	Quantity (Unit)	Description (t-CO_2 / year)
	Attribution	☐Business Operator (Specify) ☐User (Specify) ☐Other (Specify)
	Actual/Plan	☐Actual ☐Planned
	Calculation Method	**A = B × (C - D) × E** A: CO_2 Reduction Amount, B: CO_2 Emission Factor, C: Baseline Factor D: Project Coefficient,

		E: Equipment Utilization Rate/Period *If there are prerequisites, describe them in the reference information below
	Reference Information	☐Ministry of the Environment materials ☐Ministry of Economy, Trade and Industry materials (List materials referenced for the above calculation) ☐Other (specify)
Region Sustainability	Target Individuals/Target Area	Specify (e.g., XX Town)
	Item	☐Environmental Impact Assessment ☐Fostering Local Understanding ☐Solving local issues and Promotion regional development ☐Participation in Community Activities ☐Number of Employees ☐Procurement Ratio ☐Value Added Creation Amount
	Actual/Planned	☐Actual Results ☐Plans
	Plan Progress Status	Description
	Quantitative Data	Description (Person, Case, JPY) Other (Specify)
	Calculation Method	Listed by item (e.g., data comparable to the previous fiscal year)
	Other Reference materials, etc. Remarks	

4. Do No Significant Harm Criteria (DNSH)

※1 Quoted from the EU Taxonomy
※2 Quoted from the Climate Bonds Standard (CBS)

4.1 Climate Change Adaptation

- The activity complies with the criteria set out in Appendix-A (Attachment) (※1)

4.2 Water

- In case of construction of offshore wind, the activity does not hamper the achievement of good environmental status as set out in Directive 2008/56/EC of the European Parliament and of the Council, requiring that the appropriate measures are taken to prevent or mitigate impacts in relation to that Directive's Descriptor 11 (Noise/Energy), laid down in Annex I to that Directive, and as set out in Commission Decision (EU) 2017/848 in relation to the relevant criteria and methodological standards for that descriptor.

4.3 Circular Economy

- The activity assesses availability of and, where feasible, uses equipment and components of high durability and recyclability that are easy to dismantle and refurbish. (※1)
- Waste is responsibly dealt with, including appropriate disposal of construction waste and oil-based lubricants, including recycling options where possible. Also, reuse or recycling where possible of equipment after decommissioning. (※2)

4.4 Pollution Prevention

- The business operator has recognized and listed the potential risks for accidental site contamination either from leakage of hydraulic fluid (or any other potential pollutant) or from wreckage/debris on the seabed. Demonstrable steps have been taken to minimize these risks and plans have been made for clean-up should a site contamination event occur. (※2)

4.5 Biodiversity

- The activity complies with the criteria set out in Appendix-D (Annex) (※1)
- In case of offshore wind, the activity does not hamper the achievement of good environmental status as set out in Directive 2008/56/EC, requiring that the appropriate measures are taken to prevent or mitigate impacts in relation to that Directive's Descriptors 1 (biodiversity) and 6 (seabed integrity), laid down in Annex I to that Directive, and as set out in Decision (EU) 2017/848 in relation to the relevant criteria and methodological standards for those descriptors. (※1)

4.6 Operation and maintenance plan for achieving long-term, stable environmental improvement effects and consideration for the surrounding environment

- An adaptation plan has been designed and is being implemented to address the risks. (※2)
- The business operator has designed or amended asset maintenance plans to ensure that scheduled maintenance is sufficient to cope with the ongoing impacts of climate change and a plan has been established to govern how they approach emergency maintenance needs arising from sudden climate change impacts (e.g. extreme storms) (※2)
- The business operator has remotely controlled or automated shutdown procedures, training, capacity and governance arrangements in place to manage the impacts of exceptional events (such as extreme storms, winds etc.) (※2)
- The business operator has monitoring and reporting systems and processes to identify high risk scenarios. (※2)
- The business operator has contingency plans to address disruptions to operations or loss of the asset and any resulting environmental or social damage. (※2)
- The business operator has processes for feeding risk assessments back into decision making. (※2)
- The business operator has a budget allocated to implementing the adaptation plan and has a named member of staff responsible for its implementation. (※2)
- The business operator complies with any existing broader or higher-level adaption plans, such as NAPAs (National Adaptation Program of Action). (※2)
- Inspections are carried out regularly and there is a maintenance regime in place for future inspections with evidence that this is adhered to. (※2)
- The business operator is involved in stakeholder engagement and collaboration (e.g. policy development, consultation, collaboration and active engagement with other marine users). (※2)
- Decommissioning of the plant is planned in a way that considers the environmental impacts. (※2)
- The business operator has plans and processes in place to effectively manage and minimize conflict with other users of the marine and coastal space. (※2)