

# Regional Assessment of Offshore Wind Development in Nova Scotia Frequently Asked Questions (FAQ) – Edition One

## Offshore Wind in Nova Scotia

The purpose of this document is to provide responses to frequently asked questions (FAQs) raised during the conduct of the Regional Assessment. New FAQ editions, addressing a variety of topics, will be posted regularly to the Registry throughout the Regional Assessment process.

### Q. Why do we need offshore wind in Nova Scotia?

A. Offshore wind has many benefits such as:

- production of electricity without burning fuel or emitting carbon dioxide, contributing to the reduction of greenhouse-gas emission targets set by provincial and federal governments;
- helping governments meet the future growing energy needs of Nova Scotia;
- establishing a new supply chain with the potential to export innovation, technologies, and expertise to the global market;
- creating jobs and new career opportunities for Nova Scotians and Canadians; and
- supporting the global transition to a low-carbon energy supply while creating opportunities for sustainable economic development.

### Q. Why isn't Nova Scotia considering more wind farms on land to meet future energy needs?

A. Offshore wind is considered a more reliable and efficient energy supply compared to wind farms on land because:

- offshore winds are faster than winds on land and higher wind speed means that a lot more energy can be captured and produced. A turbine catching 20 km/h winds can generate twice the energy than the same turbine in a 15 km/h wind.
- offshore winds are more consistent and predictable than winds on land; and
- offshore wind turbines are larger and can therefore harness more energy and produce more electricity (per turbine) than wind turbines on land.

### Q. What factors need to be considered for building offshore wind?

A number of factors must be considered when building an offshore wind farm including:

- distance to the shore and grid connection point;
- water level and seabed conditions;
- whether to use fixed or floating turbines;
- wind and weather conditions; and
- possible impact to the environment and to other industries and marine users.

### Q. Why is Nova Scotia favorable for offshore wind?

Nova Scotia's offshore wind speeds are world-class and rival the winds of the North Sea, where the world's offshore wind sector started.

Nova Scotia also has the necessary resources and expertise for developing an offshore wind industry including:

- abundant wind resources;
- land for port facility development;
- deep, ice-free harbours;
- well-established port services;
- academic researchers with expertise in clean technology;
- experience working in the ocean and in other energy sectors; and
- a scientific and industry community that are leading in emerging technologies.

### Q. How does the cost for electricity between offshore wind and wind on land compare?

A. The economics of offshore wind fluctuates constantly. It is affected by new research and innovations, and as more projects take place around the world.

Offshore wind can produce more energy in a year, at a lower cost, than wind on land. But the cost to install offshore wind is higher because it is a new industry and because the work takes place in the marine environment.

As the industry develops costs will decrease. The extra power provided by offshore wind, once the turbines are installed, makes it worthwhile to add this renewable option.

### Q. What is the timeline for offshore wind development in Nova Scotia?

A. Currently, there is no set schedule for development or construction of offshore wind farms in Nova Scotia. In consideration of the steps and processes noted below, a reasonable estimate for construction of the first wind farm would be approximately 2032-2033:

- Legislative amendments: Fall 2024
- Completion of the Regional Assessment: January 2025
- Issuing of seabed license(s): Fall 2025
- Work on site assessments by developer(s): approximately 2026 to 2028
- Project specific Impact Assessment: 2027 – 2032
- Project authorization: 2031 – 2032
- *Possible* start of construction for an offshore wind project: 2032 – 2033.

Project timelines can also be affected by project size and design, weather conditions during construction, supply chain or labour constraints, regulatory processes, and engagement processes.

### Q. Where will the energy made by offshore wind go?

A. Electricity created by offshore wind is brought to shore using underwater cables that connect to a substation or converter station. In most jurisdictions, the electricity is then transferred directly to the existing local and regional electrical grid where it is distributed to homes, schools, and businesses. Any excess electricity can be stored or exported to help other jurisdictions meet their net-zero targets, while providing a potential revenue opportunity for Nova Scotia.

### For more information on offshore wind visit:

- [Offshore wind - Government of Nova Scotia, Canada](#)
- [Marine Renewables 101 » Marine Renewables Canada](#)
  - [Offshore Wind 101 - NYSERDA](#)