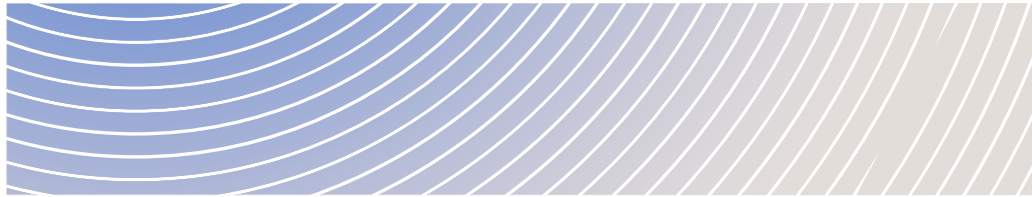


Analysis Report



WHETHER TO DESIGNATE THE PORT AU PORT-STEPHENVILLE WIND POWER AND HYDROGEN GENERATION PROJECT (PROJECT NUJIO'QONIK) IN NEWFOUNDLAND AND LABRADOR PURSUANT TO THE *IMPACT ASSESSMENT ACT*

September 28, 2023

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Purpose

The Impact Assessment Agency of Canada (the Agency) prepared this report for consideration by the Minister of Environment and Climate Change Canada (the Minister) in their response to a request to designate the Port au Port-Stephenville Wind Power and Hydrogen Generation Project (also known as Project Nujio'qonik) (the physical activities referred to as the Project) pursuant to section 9 of the *Impact Assessment Act* (the IAA).

Context of Request

On April 18, 2023, the Minister received a request to designate the Project from the Environmental Transparency Committee (the requester), a group of public citizens that formed in response to concerns about the Project. The correspondence also included nine letters of support for the designation request from:

- West Wind First Nation;
- Port au Port Community Coalition;
- Sheaves Cove Recreation Committee Corporation;
- Local Service District of Mainland;
- Mainland Heritage Committee Corporation;
- Recreation of Mainland Inc.;
- Local Service District of Sheaves Cove;
- Cape St. Georges Volunteer Fire Department; and
- Local Service District of Piccadilly Slant and Abraham's Cove.

The request expressed various concerns about the Project including: accidents and malfunctions; wildlife and plants (including migratory birds and species at risk); the freshwater and marine environment (fish and fish habitat, historic contamination); human health; socioeconomic; water quality/quantity; cumulative effects; Indigenous Peoples; and climate change. The request also expressed that alternative means of carrying out the Project were not adequately considered, the public and Indigenous groups were not adequately engaged, and mistrust with World Energy GH2 (the Proponent) and its project changes, and the provincial environmental assessment process (e.g., perceived project-splitting, lack of funding, and inadequate comment period length).

As part of the designation request, the requester also submitted the results of public opinion polls that it held in various communities¹ on the Port au Port peninsula. As described by the requester, of the over

¹ Cape St. George, Sheaves Cove, Piccadilly, Piccadilly Head, Piccadilly Slant, Port au Port West, Part au Port East, Black Duck Brook, Stephenville, Lourdes, West Bay, Kippens, Degrau, Ship Cove, Campbell's Creek, Mainland, Three Rock Cove, and Abraham's Cove.

1,100 members of the public that participated (or about one quarter of the residents on the peninsula) 85 percent were against the Project.

The requester stated that there are three phases to the Project, which include a hydrogen and ammonia plant and three wind farms (Port au Port Peninsula wind farm, Pine Tree wind farm, and Codroy wind farm). The Proponent confirmed that there have been project updates since the submission of the provincial registration document, and stated that the Project would consist of two wind farms, one located in the Port au Port area, and one in the Codroy area. The Proponent noted that the Port au Port wind farm was extended to include Port au Port East, an off-peninsula area east of the Port au Port peninsula. The Proponent stated that an area referred to as “Site B” that was shown in the provincial registration document had been dropped from the Crown land nomination process. Since the Agency cannot consider designation requests for a plan or hypothetical activity (as outlined in the Agency’s *Operational Guide: Designating a Project under the Impact Assessment Act*), the “Site B” site was not considered as part of this request for designation, as it is not considered to be part of this Project.

Before the Agency was able to begin the designation request process, it had to confirm whether or not any of the proposed activities are already described in the *Physical Activities Regulations* (the Regulations). The Minister can only designate a project that is not described in the Regulations. On May 12, 2023, the Agency sent a letter to the Proponent to notify of the designation request and request information. On May 19, 2023, the Proponent responded with information about the Project, its potential adverse effects, proposed design and mitigation measures, and its view that the Project should not be designated. On June 19, 2023, the Agency sent requests to the Proponent for additional clarification about the Project components.

The Proponent confirmed that there are no plans for the Project to export ammonia using vessels larger than 25,000 dead weight tonnes; therefore, items 52 and 53 of the Regulations related to marine terminals designed to handle ships larger than 25 000 dead weight tonnes do not apply. The Agency agreed that the Project was not described in the Regulations and on July 5, 2023, the Agency began the designation request process for the Project.

In addition, the Agency requested input from the Department of Fisheries and Oceans Canada (DFO), Environment and Climate Change Canada (ECCC), Natural Resources Canada (NRCan), Health Canada (HC), Transport Canada (TC), Indigenous Services Canada (ISC), Crown-Indigenous Relations and Northern Affairs Canada (CIRNAC), Innovation, Science and Economic Development Canada, Infrastructure Canada (IC), Parks Canada, Public Health Agency of Canada, Women and Gender Equality Canada (WAGE), Heritage Canada, Employment and Social Development Canada, the Government of Newfoundland and Labrador, Qalipu First Nation Band, and Miawpukek First Nation.

DFO, ECCC, NRCan, HC, TC, ISC, CIRNAC, WAGE, and the Government of Newfoundland and Labrador provided advice on applicable legislative mechanisms and potential effects due to the Project.

The Agency also received responses from Miawpukek First Nation, Qalipu First Nation Band, and submissions from stakeholders and the public, including the Town of Cape St. George, Council of Canadians (national organization and the Avalon [Newfoundland and Labrador] Chapter), Centre for Long-term Environmental Action in Newfoundland and Labrador, Enviro Watch NL, Sierra Club Canada Foundation, and the Social Justice Co-operative of Newfoundland and Labrador.

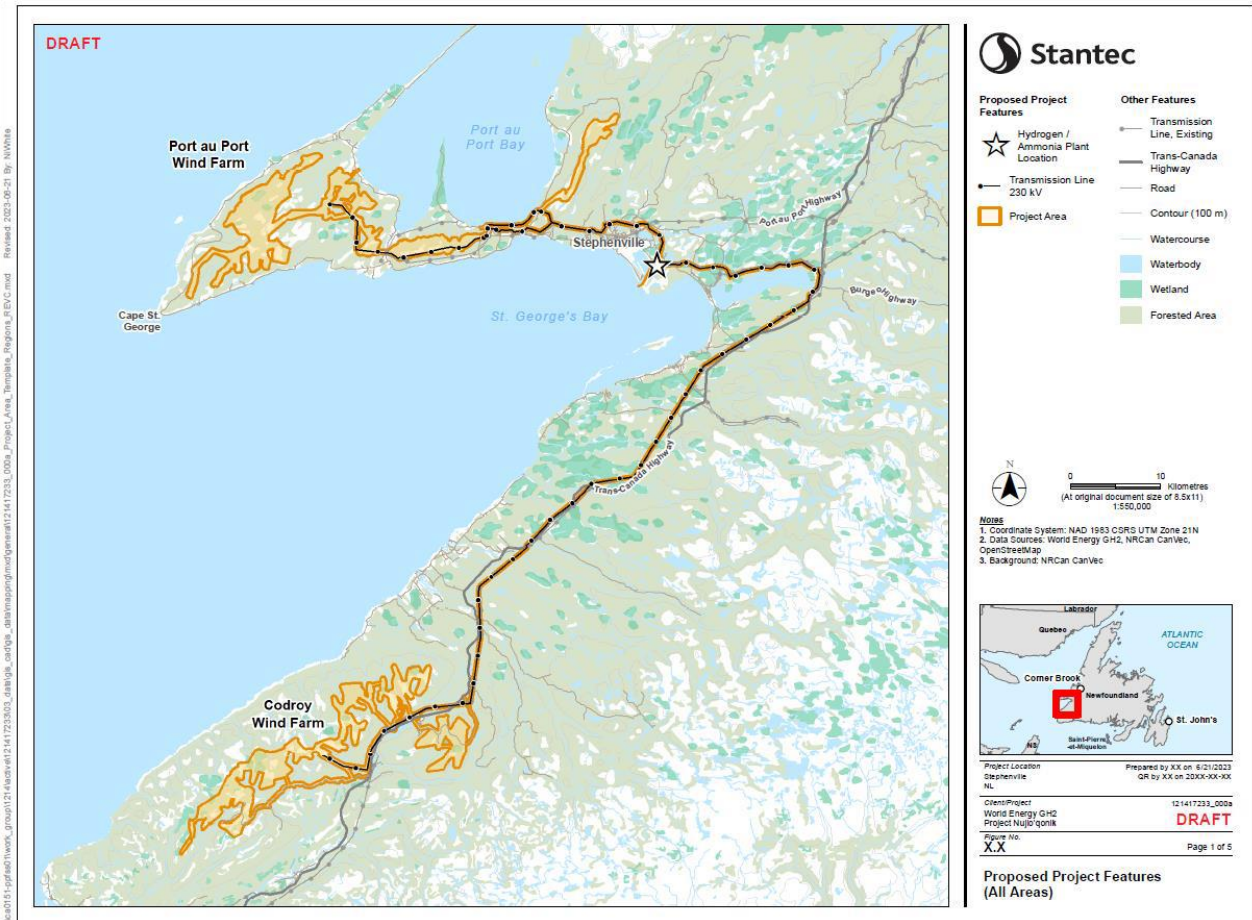
Project Context

Project overview

World Energy GH2 Inc. is proposing to construct, operate and decommission a new hydrogen and ammonia production facility along with two new wind farms, all located on the west coast of the island of Newfoundland. As proposed, the Project would produce roughly 140,000 tonnes of hydrogen a year at the facility located in Stephenville, most of which would be converted to ammonia. Each wind farm (one located in the Port au Port area and the other in the Codroy area) would contain up to 164 wind turbines and produce roughly one gigawatt of renewable electricity. Hydrogen and ammonia would be transported by trucks for local distribution, and by marine vessels for export. Marine shipping would utilize the Port of Stephenville.

The Project would also include the storage of hydrogen and ammonia, a 165-kilometre electrical collector system and substation, approximately 162 kilometres of 230 kilovolt transmission lines to connect to the local grid, and access roads. The Project would cover a surface area of roughly 4100 hectares and operate for about 30 years.

Figure 1: Project Location



Source: Project information document submitted by the Proponent to the Agency on June 26, 2023.

Figure Description: A picture containing a map of southeastern Newfoundland, zoomed in to show the proposed project features, including: the Port au Port Wind Farm in the Port au Port area, the hydrogen/ammonia plant location outside of Stephenville, and the Codroy Wind Farm in the Codroy area. A transmission line is shown connecting the wind farms to the plant.

Project components and activities

The Project is proposed to occur in two phases. The first phase would consist of the construction and operation of the hydrogen and ammonia production facility and the Port au Port area wind farm, and the second phase would include the construction and operation of the Codroy area wind farm. Depending on market demand and utilization, the Proponent may consider future expansion of the Project through additional wind power generation.

The main components associated with the Project include:

- hydrogen and ammonia production facility, including:
 - high and medium voltage substations;
 - electrolyzer building, separators, pipe racks;
 - cooling system and oxygen handling;
 - hydrogen purification and surge storage;
 - ammonia production;
 - industrial water supply (extraction from surface water system with Gull/Mine Pond);
 - marine wastewater outfall;
 - offices, controls, and security;
 - truck loading rack for local distribution; and
 - ammonia storage and offloading to and shipping by marine vessels.
- wind turbines (up to 328 across two sites);
- electrical collector system and substation;
- 230 kilovolt transmission lines (55 kilometres [Port au Port] and 107 kilometres [Codroy]);
- 230 kilovolt submarine cable (six kilometres)
- access roads (approximately 332 kilometres of new and repurposed roads);
- laydown areas (approximately one hectare for each wind turbine location); and
- equipment pads and foundations.

The main project activities include:

- site preparation activities, including site clearing, excavation, grading and compaction, installation of temporary drainage systems, and blasting (if required for turbine foundations);
- construction of access roads and upgrades to existing access roads;
- installation of electrical collector system and substation;
- installation of transmission lines;
- construction of the hydrogen and ammonia production facility;
- transportation of wind turbine components by truck, ship and/or barge;
- installation of wind turbines;
- utilization of a jetty-less mooring and loading system or a more traditional offloading system;
- improvements to the existing dock at the Port of Stephenville;
- utilization of two temporary marine landing sites for barging of wind turbine components;
- dredging within the channel to and within the Port of Stephenville (if necessary).

The Project would operate 24 hours a day, 7 days a week, except for scheduled maintenance events, until the end of the Project (30 years). Decommissioning would occur after Project completion.

Analysis of Designation Request

Authority to designate the Project

The Regulations of the IAA identify the physical activities that constitute designated projects. The Project, as described in the information provided by the Proponent, is a hydrogen and ammonia production facility with two onshore windfarms, and as such is not included in the Regulations.

Under subsection 9(1) of the IAA the Minister may, by order, designate a physical activity that is not prescribed in the Regulations. The Minister may do this, if, in the Minister's opinion, the physical activity may cause adverse effects within federal jurisdiction or adverse direct or incidental effects, or public concerns related to those effects warrant the designation.

The carrying out of the Project has not substantially begun and no federal authority has exercised a power or performed a duty or function that would permit the Project to be carried out, in whole or in part.²

Given this understanding of the Project, the Agency is of the view that the Minister may consider designating this Project pursuant to subsection 9(1) of the IAA.

Existing Legislative Mechanisms

Key federal and provincial legislative mechanisms that are or may be relevant to the Project are summarized below. This is followed by the Agency's analysis of potential adverse effects within federal jurisdiction or adverse direct or incidental effects, and public concerns related to those effects, as outlined in subsection 9(1) of the IAA, and potential adverse impacts on Indigenous Peoples.

Federal Legislative Mechanisms

Fisheries Act and Species at Risk Act (Aquatic)

The Fish and Fish Habitat Protection Program of DFO reviews projects for their impacts to fish and fish habitat by ensuring compliance with the *Fisheries Act* and the *Species at Risk Act* (SARA). Through this program, DFO may provide information to the Proponent on measures to avoid, mitigate, or offset impacts of the Project to fish and fish habitat. A *Fisheries Act* Authorization would be required if the Project is likely to cause the harmful alteration, disruption, or destruction to fish habitat and/or is likely to result in the death of fish. The *Fisheries Act* also prohibits the deposit of deleterious substances into waters frequented by fish, unless authorized by regulations or other federal legislation.

² The Minister must not make the designation if the carrying out of the physical activity has substantially begun, or a federal authority has exercised a power or performed a duty or function in relation to the Project (subsection 9(7) of IAA).

Should the Proponent require an authorization under the fish and fish habitat protection provisions of the *Fisheries Act*, or SARA, DFO is required to consult with Indigenous groups and will consider any adverse effects that the decision may have on Indigenous Peoples. DFO would also encourage the Proponent to engage with Indigenous groups and the public on the fish habitat offsetting plan (if required).

ECCC is the lead department responsible for the administration and enforcement of the pollution prevention provisions of the *Fisheries Act*. These provisions serve to protect fish as a public resource by prohibiting pollution that could be deleterious to fish.

Species at Risk Act

For non-aquatic species listed in Schedule 1 of SARA as Extirpated, Endangered, or Threatened, a permit may be required from ECCC (i.e., under section 73 of SARA) for activities that affect a listed terrestrial wildlife species, any part of its critical habitat, or the residences of its individuals, where those prohibitions are in place. Such permits may only be issued if: all reasonable alternatives to the activity that would reduce the impact on the species have been considered and the best solution has been adopted; all feasible measures will be taken to minimize the impact of the activity on the species or its critical habitat or the residences of its individuals; and, if the activity will not jeopardize the survival or recovery of the species. Permits are also required by those persons conducting activities that contravene the critical habitat destruction prohibitions.

ECCC will require detailed information on the potential effects of the Project, including locations and/or occurrences of species at risk, their use of habitat and critical habitat within the project area, and specific effects on federal land, before ECCC can determine whether a SARA permit is required. In the event that a SARA permit is required, ECCC would evaluate and determine consultation requirements, if any.

Migratory Birds Convention Act, 1994

The *Migratory Birds Regulations, 2022*, pursuant to the *Migratory Birds Convention Act, 1994*, protect migratory birds, their eggs, and their nests, by prohibiting activities that may harm them. Unless a person has a permit or the regulations authorize it, it is prohibited to engage in the following activities:

- capturing, killing, taking, injuring or harassing a migratory bird or attempting to do so;
- destroying, taking, or disturbing an egg; and
- damaging, destroying, removing, or disturbing a nest, nest shelter, eider duck shelter or duck nesting box, unless the nest does not contain a live migratory bird or a viable egg; and the nest was not built by a species listed in Schedule 1 of SARA.

A permit may be required for activities affecting migratory birds, with some exceptions detailed in the *Migratory Birds Regulations, 2022*.

Canadian Environmental Protection Act, 1999

The Project may be required to provide greenhouse gas (GHG) emissions reporting as required by the Greenhouse Gas Reporting Program under the *Canadian Environmental Protection Act, 1999* (CEPA 1999) if ten kilotonnes or more of GHGs are emitted in carbon dioxide equivalent units per year.

Disposal at Sea permit

ECCC's Marine Programs group administers the Disposal at Sea permitting process. Some project activities and components (specifically the dredging/disposal of dredged material, as well as submarine cable installation) may be subject to the Disposal at Sea provisions of CEPA 1999. Material proposed for disposal at sea must undergo a detailed waste assessment and characterization process in accordance with Schedule 6 of CEPA 1999. This includes the requirement for an alternatives assessment to examine alternative waste management options in accordance with environmental, human health, and economic considerations. Disposal at Sea permits will only be considered for material that both meets characterization criteria and where disposal at sea is demonstrated to be the most suitable waste management option.

Environmental Emergency Regulations

Part 8 of CEPA 1999, on environmental emergencies (sections 193 to 205) addresses the prevention of, preparedness for, response to, and recovery from environmental emergencies caused by uncontrolled, unplanned, or accidental releases. It also addresses the reduction of any foreseeable likelihood of releases of toxic or other hazardous substances listed in Schedule 1 of the *Environmental Emergency Regulations*. This act may apply if Schedule 1 substances onsite meet or exceed the threshold to be regulated under CEPA 1999, which ECCC indicated seems likely during the operation of this Project.

Canadian Navigable Waters Act

The *Canadian Navigable Waters Act* applies to projects that will interfere with navigable waters. TC indicated that the marine-based elements of the Project, including but not limited to the proposed improvements to the existing dock at the Port of Stephenville, a jettyless mooring and loading system, dredging, the marine outfall, the marine cable and two temporary marine landing sites may require *Canadian Navigable Waters Act* approvals. If an approval is required for any Project component, public and Indigenous consultations would be required as part of the review process.

Canada Shipping Act, 2001

The *Canada Shipping Act, 2001* is the principal legislation governing safety of marine transportation and protection of the marine environment. TC's role in marine safety and security is to oversee and regulate a marine transportation system that is safe and secure, efficient, and environmentally responsible.

Provincial Legislative Mechanisms

The Environmental Protection Act

The Project is currently undergoing an environmental assessment under Newfoundland and Labrador's *Environmental Protection Act*. The Proponent submitted an Environmental Assessment Registration Document (EARD) and on December 13, 2022, the province issued the Environmental Impact Statement (EIS) Guidelines. The Proponent submitted its EIS which focuses on key issues relating to the effects of the Project on the bio-physical and socio-economic environment. The public and Indigenous Peoples have until October 11, 2023 (50 days) to review and provide comments. ECCC, DFO, HC, and TC are currently

participating in the provincial environmental assessment process and ECCC and DFO are members of the Environmental Assessment Committee³.

Should the Project be released from the provincial environmental assessment, the Department of Environment and Climate Change is responsible for overseeing that the conditions of release are being met and that commitments made in the Proponent's environmental assessment submissions are upheld. The Proponent would be required to comply with the conditions of release as outlined in the *Environmental Protection Act*. Upon release, the Proponent may proceed with obtaining all other required regulatory permits or licences.

Endangered Species Act

The provincial *Endangered Species Act*, administered by the Newfoundland and Labrador Department of Fisheries, Forestry, and Agriculture provides special protection for plant and animal species considered to be endangered, threatened, or vulnerable. This legislation applies to species, sub-species and populations that are native to Newfoundland and Labrador but does not include marine fish. Designation of species under the Act follows recommendations from the Committee on the Status of Endangered Wildlife in Canada (COSEWIC) and/or the Species Status Advisory Committee on the appropriate assessment of a species. A permit under the *Endangered Species Act* may be required.

Water Resources Act

The *Water Resources Act* is administered by the Newfoundland and Labrador Department of Environment and Climate Change. Proponents require a permit for work in and around streams, waterbodies, and wetlands, as well as for water use.

Management of Greenhouse Gas Act

Section 4 of the *Management of Greenhouse Gas Act* regulates any industrial facility that emits 15,000 tonnes of GHG emissions in any year after the coming into force of this Act. An industrial facility that is regulated under section 4 of the Act must provide information regarding best available control technology to the Minister for approval by the Lieutenant Governor-in-Council.

Potential adverse effects within federal jurisdiction

The Agency's analysis identified the potential for adverse effects within federal jurisdiction that may result from carrying out the Project. The Agency is of the view that existing legislative mechanisms and processes provide a framework to address the potential adverse effects within federal jurisdiction.

³ EAC members: Provincial (Department of Environment and Climate Change; Department of Fisheries, Forestry and Agriculture; Department of Health and Community Services; Department of Immigration, Population Growth and Skills; Department of Industry, Energy and Technology; Department of Justice and Public Safety; Department of Municipal and Provincial Affairs; Department of Tourism, Culture, Arts and Recreation; Department of Transportation and Infrastructure) and Federal (Environment and Climate Change Canada and Fisheries and Oceans Canada).

Fish and Fish Habitat and Aquatic Species at Risk

The Agency considered information provided by the requester, Indigenous groups, DFO, ECCC, the Government of Newfoundland and Labrador, the Proponent, and the public. The Agency is of the view that existing legislative mechanisms, including the *Fisheries Act*, CEPA and the provincial *Environmental Protection Act* and *Water Resources Act*, provide a framework to consider potential adverse effects on fish and fish habitat, including aquatic species as defined in subsection 2(1) of the SARA and other marine animals as defined in subsection 2(1) of the *Fisheries Act*.

Concerns expressed by the requester included impacts to fish and fish habitat due to watercourse crossings, the disturbance of contaminated sediments on the harbour bottom, potential ammonia spills during loading activities, and cumulative effects.

As mentioned above, DFO is able to provide information to the Proponent on measures to avoid, mitigate, or offset impacts of the Project on fish and fish habitat. DFO indicated that the Project has the potential to adversely affect fish and fish habitat and/or a species at risk.

The Proponent stated that marine activities associated with the Project include routine civil works associated with installing a non-invasive, floating, jettyless loading system. Dredging plans are limited to within the channel and harbour. The Proponent committed to continue its consultation with TC, DFO, and ECCC to ensure compliance with the requirements of assessment and permitting. The Proponent expressed that impacts to fish and fish habitat on land are easily mitigated through the implementation of routine civil construction best practices.

The Proponent identified two critical habitat areas for spotted wolffish and one critical habitat area for northern wolffish that occur within the marine local and regional study area as described in its EIS. The closest identified spotted wolffish critical habitat occurs 11.7 kilometres from the Project, while the closest identified northern wolffish critical habitat occurs 9.7 kilometres from the Project. Approximately 2,626 square kilometres of spotted wolffish critical habitat and approximately 1,172 square kilometres of northern wolffish critical habitat are intersected by the marine local and regional study areas.

These adverse effects can be managed through the issuance of a *Fisheries Act* authorization and associated offsetting, if required, and/or a species at risk permit. Prior to issuing an authorization, DFO would engage with the Proponent to minimize impacts to fish and fish habitat and species at risk (freshwater/marine), which includes consideration of alternative means of carrying out the project (e.g., redesign, relocation). Any required DFO authorizations will require a separate review of the impacts by DFO.

ECCC indicated that potential adverse effects on fish and fish habitat could be managed, in part, through the pollution prevention provisions of the *Fisheries Act*, which prohibit the deposit of deleterious substances into waters frequented by fish.

Adverse effects to fish and fish habitat, including critical and sensitive habitat will also be assessed as part of the provincial environmental assessment as indicated in the Government of Newfoundland and Labrador's EIS Guidelines issued for the Project.

The EIS is required to describe:

- the existing environment, including aquatic environment, and provide a baseline study on aquatic environment;
- effects of the Project on water bodies including existing and potential commercial, recreational, and Indigenous fisheries and aquaculture operations;
- effects on fish habitat and fish populations by species including species of special concern, threatened and endangered species, and rare species;
- measures to mitigate effects on existing and potential commercial, recreational, and Indigenous fisheries and aquaculture operations; and
- measures to mitigate the adverse environmental effects of all phases of the Project on fish habitat and fish populations by species, including species of special concern, threatened and endangered species, and rare species.

In addition, conditions of an approval, if granted, under the *Environmental Protection Act* could address effects on fish and fish habitat. As well, the Project would require a permit under the provincial *Water Resources Act* to work in and around streams, waterbodies, and wetlands, and for water use.

The Agency is of the view that these legislative mechanisms provide a framework to limit potential effects of the Project to fish and fish habitat.

Migratory Birds and Terrestrial Species at Risk

The Agency considered information provided by the requester, Indigenous groups, ECCC, the Government of Newfoundland and Labrador, and the Proponent. The Agency is of the view that existing legislation provides a framework to address changes to migratory birds, as defined in subsection 2(1) of the *Migratory Birds Convention Act, 1994*, and effects on federally-listed terrestrial species at risk under SARA.

Concerns expressed by the requester included effects to migratory birds, such as adverse effects via direct fatalities and impacts to migration corridors. In addition, the requesters expressed concern related to species at risk, including endangered plant species.

ECCC indicated that activities linked to all phases of the Project and associated infrastructure could have negative effects on terrestrial wildlife, including migratory birds and species at risk listed under SARA and their habitat and critical habitat. The Project is likely to alter the existing hydrological regimes essential for maintaining wetlands and thus affect the quality and availability of habitat for migratory birds, species at risk, and other wildlife. The destruction and modification of wetlands is likely to have adverse effects on migratory birds and species at risk that use these areas for breeding, foraging, resting, and migration.

ECCC indicated that land clearing activities could lead to destruction, disturbance, and fragmentation of habitat, habitat avoidance, sensory disturbance, and the inadvertent disturbance and destruction of individuals, nest and eggs of migratory birds and species at risk. Destruction and disturbance of habitat can have increased impacts on species at risk individuals, residence, and their critical habitat, which can lead to changes in prey and predator dynamics, loss of food resources, loss of breeding areas, changes in migration or movement, and increased risk of mortality.

In addition, ECCC stated that collision with turbines and towers is a risk for migratory birds and species at risk and may cause direct collision related mortality to bird species that are migrating through the area. Noise, vibrations, artificial lighting, and disturbances from construction, operation, and decommissioning activities may also result in injury, mortality, sensory disturbance and change in habitat use. Attraction to lights at night or in poor visibility conditions may cause birds to collide with lit structures or vertical support structures, resulting in injury or death. Birds can be disoriented while circling an artificial light source and may deplete their energy reserves and either die of exhaustion or drop to the ground where they would then be at risk of predation.

The Proponent identified the potential for habitat for 21 species at risk within the regional assessment area in its EIS, in particular noting critical habitat for piping plover within the regional study area, bobolink within the local assessment area, and American marten within the project area. For marten, the proposed critical habitat overlaps approximately 11.4 kilometres of transmission line and approximately 0.8 kilometres of proposed critical habitat will be lost.

The Proponent stated that the Project has been designed to avoid locating wind generating turbines in existing or proposed ecological reserves, such as the Cape St. George Transitional Reserve on the Port au Port Peninsula. The Proponent, through the provincial environmental assessment process, is undertaking an ecological land classification to identify other areas where rare plants may occur. The Proponent acknowledged that the most effective mitigation is impact avoidance, and it has committed to aligning infrastructure to avoid impacts to rare plants.

ECCC stated that potential adverse effects on migratory birds may be managed via conditions of approval, and prohibitions of the *Migratory Birds Convention Act, 1994*, and SARA.

These adverse effects can also be managed through the provincial environmental assessment process. The Government of Newfoundland and Labrador's EIS Guidelines require:

- a description of the existing environment, including:
 - flora and fauna including migratory birds protected by the *Migratory Birds Convention Act, 1994* (landbirds, shorebirds, seabirds, and waterfowl); and
 - species at risk and of conservation concern and their habitats, including designated critical habitat under the *Endangered Species Act*, SARA, and areas of conservation concern.
- a comprehensive analysis of the predicted environmental effects of the Project on flora and fauna (including bats, migratory birds, moose, caribou, muskrat, species at risk and of conservation concern, and the Limestone Barrens): and
- a comprehensive analysis of related habitat, including that which is critical, sensitive, and rare.

In addition, conditions of release, if granted, under the *Environmental Protection Act* could address effects on migratory birds and species at risk.

The Agency is of the view that these legislative mechanisms provide a framework to limit potential effects of the Project to migratory birds.

Indigenous Peoples

The Agency considered information provided by the requester, West Wind First Nation, Miawpukek First Nation, Qalipu First Nation Band, ISC, HC, the Government of Newfoundland and Labrador, and the Proponent.

Qalipu First Nation Band has its head office in Corner Brook which is approximately 64 kilometres from the project area, with additional offices in Glenwood, Grand Falls-Windsor, Gander, St. George's, and Stephenville. The Miawpukek First Nation community of Samiajij is within 200 kilometres of the project area.

Qalipu First Nation Band stated that it disagrees with the request to designate the Project and views the Project as an important green energy development in the path towards achieving net zero and moving away from use of fossil fuels. Qalipu First Nation Band stated potential adverse effects of the Project include:

- impacts to berry patches and medicinal plants caused by installation of windmills and access roads;
- impacts to ponds and streams that are traditionally fished, caused by siltation from road construction;
- negative impacts of operating windmills on marine and songbirds, which may impact ability to harvest waterfowl; and
- additional research and work that is necessary to identify potentially significant cultural sites.

Miawpukek First Nation stated that Newfoundland and Labrador has included Indigenous perspectives and noted that the province has encouraged proponents to engage early with Indigenous groups on wind to renewable hydrogen projects. Miawpukek First Nation stated that it recognizes its unique connection to and stewardship of the land, as well as the potential these projects have for Indigenous Peoples and economic reconciliation. It stated that it wishes to work collaboratively with the province.

West Wind First Nation stated that its organization recently formed to represent members of the Indigenous community on the Port au Port peninsula who have been outside of consultation process regarding the Project. Concerns expressed include social, economic, and environmental disruption; destruction and limited access to the environment; compromising local water supplies, and loss or wildlife and plants (including traditional medicines).

DFO stated that when designing measures to avoid, mitigate, or offset the death of fish or the harmful alteration, disruption or destruction within the freshwater and marine environments, concerns expressed by Indigenous groups and proponent-led public engagement will be taken into consideration prior to issuance of a *Fisheries Act* Authorization.

The province stated that concerns brought forward by members and Chiefs of the Qalipu First Nation Band and Miawpukek First Nation during the registration review and draft EIS Guidelines review have been incorporated into the EIS Guidelines. Terms and conditions of an approval under the provincial *Environmental Protection Act* could address impacts on Indigenous Peoples.

The Proponent stated it has support from Qalipu First Nation Band, as well as other organizations including Three Rivers Mi'kmaq Band, Benoit First Nation, Newfoundland Alliance of Rural Mi'kmaq Nations, and Newfoundland Indigenous People's Alliance.

Current Use of Lands and Resources for Traditional Purposes

ISC noted that the Qalipu First Nation Band offices give representation to the 67 traditional Mi'kmaq communities, spread out over nine Electoral Wards. As such, any proposed changes from the project activities may interfere with land use/access, loss of traditional lands and ability to hunt, fish, gather and/or trap as well as the ability for Indigenous Peoples to practice their culture.

The Government of Newfoundland and Labrador's EIS Guidelines require a Land and Resource Use Baseline Study with information on traditional, cultural, and recreational land use (e.g., berry picking, hunting, and fishing) on the project area. The EIS Guidelines also require the EIS to describe landscapes, viewsapes and the extent of developed and undeveloped land; the effects of all phases of the Project on human health and quality of life, including effects on viewsapes; and measures to mitigate adverse effects.

The EIS Guidelines also require a description of the predicted environmental effects of the Project on existing and potential commercial, recreational, and Indigenous fisheries, measures that will be undertaken to mitigate adverse effects, and a follow-up monitoring program.

The Proponent indicated that it is working in cooperation with the Qalipu First Nation Band, a key project partner, to gather data on Indigenous fisheries and traditional land and resource use. In its EIS, the Proponent stated that Qalipu First Nation Band undertook a study entitled, "The Collection of Current Land Use and Aboriginal Traditional Knowledge" in 2023.

Qalipu stated that reflecting on previous traditional use studies in the Port au Port area, participants identified a multitude of locations for harvesting medicinal plants, food plants and berries. The peninsula was also identified as an active area for harvesting waterfowl, other birds, cutting logs for firewood, cabins, and wharves. Additionally, moose hunting, trapping, harvesting rabbit and grouse, as well as fishing for trout have been and continue to be important activities for people in the area.

The Agency is of the view that the legislative mechanisms described above provide a framework to address potential effects on current use of lands and resources for traditional purposes.

Physical and Cultural Heritage / Structures, Sites, or things of Historical, Archaeological, Paleontological or Architectural Significance

Qalipu First Nation Band stated that within the project footprint there are no ceremonial or burial sites reported by participants of traditional use studies. Qalipu First Nation Band also stated past traditional use and Aboriginal traditional knowledge studies have identified where members have built cabins, lean-tos, and Mi'kmaw village sites within the general project area. While these sites have been reported, there are no formally recognized historical, archaeological or paleontological sites that have been identified to date. Additional research and work will be required to identify potentially significant cultural areas.

The Government of Newfoundland and Labrador's EIS Guidelines require the EIS to describe existing land and resource use, heritage, and cultural resources (including historic, cultural, paleontological, and

architectural and tourism generating sites), and communities. A description of burial, cultural, spiritual and heritage sites is also required. The EIS Guidelines require the EIS to describe the existing environment, the predicted environmental effects of the Project, measures that will be undertaken to mitigate adverse effects, residual effects, and a follow up monitoring program.

The provincial Department of Environment and Climate Change stated that the Provincial Archaeology Office is represented on the Environmental Assessment Committee and will review the Project to determine if additional work is required to assess archaeological concerns.

The Agency is of the view that the legislative mechanisms described above provide a framework to address potential effects on physical and cultural heritage, as well as structures, sites, or things of historical, archaeological, paleontological or architectural significance.

Health Conditions

HC indicated that the information provided was not sufficient to confirm whether there exists a potential to cause adverse effects on human health within federal jurisdiction, i.e., effects to Indigenous Peoples. Based on the information provided, HC indicated that there may be adverse impacts to the health of Indigenous Peoples from project-related changes to the biophysical environment (e.g., potential changes to noise, water and air quality, and country foods).

HC stated that the EARD identified potential negative impacts on human health in the project area resulting from noise during both the construction and operation phases. The Proponent outlined measures to mitigate and understand the current and future potential risks in the EARD, including timing activities to avoid nuisances to off-site receptors and a grievance resolution protocol.

Surface and groundwater may be impacted by the release of harmful substances during construction and operation phases of the Project (e.g., sediment runoff if contaminated soils or sediments are present, spills, waste products, wastewater discharge from the water purification plant). HC noted that standard mitigation measures have been identified in the EARD that are known to be effective at reducing the project-related effects on water quality (e.g., implementation of sediment control measures, hazardous materials management practices). While wastewater discharge concentrations were not provided, the Proponent indicated that discharge concentrations above provincial or federal discharge regulations would require mitigation measures such as water treatment or water re-circulation prior to discharging into the marine environment.

HC stated that there is a potential for adverse impacts to human health through the degradation of ambient air quality from increased exhaust emissions from machinery, fugitive dust, and fuel combustion by-products during road construction, clearing, and drainage activities. HC stated that standard mitigation measures such as those identified by the Proponent in the EARD are known to be effective at reducing construction-related emissions and best practices should be employed to manage project effects on ambient air quality.

HC indicated there is potential for project activities to adversely impact the quality of country foods through changes to water quality (e.g., wastewater discharge), soil quality (e.g., deposition of contaminants onto soil and subsequent plant uptake, oil/fuel spills), and air quality (e.g., deposition of contaminants from air onto plant surfaces).

The Government of Newfoundland and Labrador's EIS Guidelines require the EIS to address human health concerns with the following information:

- baseline study for atmospheric environment including air quality, noise, vibration, and light;
- predicted environmental effects (vibrations, noise emissions and noise levels, light emissions and shadow flicker/nighttime flicker, dust and air emissions and ice throw from wind turbines); and
- mitigations (vibrations, noise emissions and noise levels, light emissions and shadow flicker/nighttime flicker, dust and air emissions and ice throw from wind turbines).

The Agency is of the view that the legislative mechanisms described above provide a framework to address health conditions of Indigenous Peoples.

Economic Conditions

Qalipu First Nation Band noted that it has entered into a Memorandum of Understanding with the Proponent to ensure members' priority for new job opportunities. Qalipu First Nation Band is also working with Memorial University, the College of the North Atlantic, and Skilled Trades NL to build project-related skills for members. Qalipu Holding Limited Partnership (Qalipu First Nation Band's arms-length business arm) has also signed an agreement to establish an institute in Western Newfoundland with the Netherlands-based De Oude Bibliotheek Academy, a provider of wind and hydrogen education and training programs. Qalipu First Nation believes the Project has the potential to provide long-term, positive, and meaningful social and economic impact in the region. Qalipu First Nation Band stated that it disagrees with the request to designate the Project and views the Project as an important green energy development in the path towards achieving net zero and moving away from use of fossil fuels.

Federal Lands

The Proponent stated that the project area has the potential to overlap two parcels of federal land:

- land at the Stephenville Upper Air Station, 0.5 hectares; and
- land in Port au Port East that is associated with the former Pinetree Line network of radar stations, approximately 127 hectares.

The Proponent stated it is exploring purchasing the required land or designing around it.

The Agency is of the view that existing legislative mechanisms provide a framework to consider potential effects on federal lands.

Transboundary Effects

The requester expressed concerns regarding marine impacts that could extend beyond the jurisdiction of the province of Newfoundland and Labrador and into the territorial sea of Canada. The requester also expressed concern that hydrogen, when emitted into the atmosphere, contributes to climate change by increasing the amounts of other GHGs such as methane, ozone, and water vapor, resulting in indirect warming. As such, it is necessary to ensure that leaks from production activities are contained.

ECCC stated that the construction, operation, and decommissioning of the Project may result in GHG emissions or may impact carbon sinks (e.g., wetlands), and may hinder the Government of Canada's ability

to meet its commitments in respect of climate change. Furthermore, the Project has the potential to be affected by future climate change, possibly resulting in impacts to the environment.

The Proponent stated that hydrogen emissions are not expected from the Project. The Proponent is required to account for all air emissions associated with the Project as per the provincial *Management of Greenhouse Gas Act* and the federal CEPA 1999. The provincial *Management of Greenhouse Gas Act* regulates any industrial facility that emits 15,000 tonnes of GHG emissions in any year. Reporting as per the CEPA 1999 is required if ten kilotonnes or more of GHGs are emitted in carbon dioxide equivalent units per year.

The provincial EIS Guidelines require the Proponent to provide a long-term capital plan through which the Proponent demonstrates how the facility will reduce its emissions over time with the objective of achieving net zero by 2050 or otherwise maximizing annual GHG reductions between start-up and 2050.

Transport Canada administers the *Canada Shipping Act, 2001*, the principal legislation governing safety of marine transportation and protection of the marine environment, which contains measures related to marine pollution prevention and response.

The Agency is of the view that existing legislation will provide a framework to address the potential for the Project to cause a change to the environment that would occur in a province other than the one in which the Project is being carried out or outside Canada.

Potential adverse direct or incidental effects

Direct or incidental effects refer to effects that are directly linked or necessarily incidental to a federal authority's exercise of a power or performance of a duty or function that would permit the carrying out, in whole or in part, of a project, or to a federal authority's provision of financial assistance to a person for the purpose of enabling that project to be carried out, in whole or in part.

The Project as described may potentially require the exercise of the following federal powers, duties, or functions:

- *Fisheries Act* authorization, administered by DFO;
- CEPA 1999 Disposal at Sea permit, administered by ECCC;
- *Canadian Navigable Waters Act* approval, administered by TC;
- *Migratory Birds Convention Act, 1994* permit, administered by ECCC; and
- SARA permits, administered by ECCC and DFO.

If one of the above federal authorizations is issued, the carrying out of the Project has the potential to cause adverse direct or incidental effects on water quality, species at risk, and navigation. Additional information would be required to understand these potential effects; however, the Agency is of the view that existing legislative mechanisms provide a framework to address them.

Public concerns

The Minister must consider if the public concerns related to effects within federal jurisdiction warrant designation of the Project. As described above, the original designation request was accompanied by nine letters of support.

Additional submissions of support for designation were received from the Centre for Long-term Environmental Action in Newfoundland and Labrador; Enviro Watch NL; Council of Canadians (national organization and the Avalon [Newfoundland and Labrador] Chapter); the Town of Cape St. George; Sierra Club Canada Foundation; and the Social Justice Co-operative of Newfoundland and Labrador.

Issues and concerns raised by the public in relation to the Project included:

- complexity of Project: potential for unforeseen impacts due to the unique and untried nature and scale of the Project; concerns with the extent of the Project, the required infrastructure, the size of the proposed industrial turbines, and the short-term life of wind turbines;
- environmental risks: impacts on wildlife and plants, including migratory birds and species at risk; impacts to fish and fish habitat (marine and freshwater); potential disruption of historic contamination in Port Harmon; potential impacts to local water quality and quantity (supply, infrastructure damage, contamination); cumulative effects from past drilling, mining and milling in the area; potential accidents and malfunctions, including ammonia spills and hydrogen leaks, and capacity of emergency response;
- health, social and economic risks: potential impacts on human health from increased noise pollution, electromagnetic field generation, and shadow flicker; impacts on current use of the area (cultural and recreational activities, tourism); impacts on 'the way of life' and aesthetics of the area; no benefits for Newfoundland and Labrador or the communities; and safety concerns related to access roads to the community;
- alternatives assessment: inadequate assessment of alternative means of carrying out the Project;
- climate change: effects to climate change from upstream and downstream GHG) from hydrogen and ammonia production; and GHG emissions from shipping;
- Indigenous matters: potential impact to Indigenous people's current use of the land (loss of access to country foods, traditional medicines, harvesting, trapping); potential impacts to the health, social and economic conditions of Indigenous Peoples (noise and shadow flicker, commercial fishing, recreational use); potential impact to spiritual, physical, and cultural heritage sites (destruction of unknown archeological sites); and impacts to species of cultural importance; and
- insufficient provincial process: the provincial environmental assessment process is insufficient and inadequate with respect to Indigenous and public consultation; lack of trust and transparency in the Proponent and provincial environmental assessment process; potential political bias.

The Provincial Department of Environment and Climate Change stated that upon registration, a project information page was posted on the Department's web page, which provides an overview of the Project, including the registration submission, dates for public consultation and the Minister's decision, the Minister's decision letter, draft and final EIS Guidelines, and links to all public announcements in the EA Bulletins.

The EIS is currently being reviewed by the Environmental Assessment Committee and is undergoing a required 50-day public review period, including notification of the Qalipu First Nation Band and Miawpukek First Nation. The Minister will consider the advice of the Environmental Assessment Committee and all public comments and will advise the Proponent within 70 days of posting the EIS of whether it is acceptable or deficient. If the EIS is deficient, the Proponent will be required to provide additional information in an amendment to the EIS. The EIS amendment will be subject to a 50-day Environmental Assessment Committee and public review period, followed by the Minister's acceptability decision by day 70. The requirement for an amendment, subject to a 50-day government and public consultation period, will be repeated until the EIS is found to be acceptable. If/when the EIS is acceptable, a decision will be made by the Lieutenant Governor in Council as to whether the Project may or may not proceed.

The EIS Guidelines require the Proponent to provide an opportunity for interested members of the public to meet with the Proponent at a place adjacent to or in the geographical area of the undertaking, in order to:

- provide information concerning the undertaking to the people whose environment may be affected by the undertaking; and
- record and respond to the concerns of the local community regarding the environmental effects of the undertaking; and
- the EIS must describe, in a separate chapter, concerns brought forward during public consultations and measures the Proponent is undertaking to mitigate those concerns.

The Proponent noted that since March 2022, it has undertaken stakeholder engagement regarding the Project, including meetings with individuals and groups, drop-in sessions within communities, opening a Community Information Office in Stephenville, delivering presentations to communities and business leaders, distributing brochures and household mailouts, launching a website and social media accounts, sharing a monthly e-newsletter, conducting media interviews, and participating in community events and sponsorships. In April 2023, the Proponent and subject matter experts visited the region to participate in 20 hours of community open houses over four days. The Proponent noted that over 400 people attended the open house sessions. The Proponent received approximately 40 comments that were not supportive of the Project.

The Agency is of the view that existing legislative mechanisms provide a framework to consider the concerns within federal jurisdiction and adverse direct or indirect effects and include opportunities for public participation and consideration of public comments related to those effects.

Other considerations

Cumulative Effects

The Agency considered information provided by the requester, Indigenous groups, ECCC, ISC, the Government of Newfoundland and Labrador, and the Proponent in relation to effects set out in subsections 9(1) and 9(2) of the IAA, and is of the view that existing legislation provides a framework to address cumulative effects.

The requester expressed concerns related to cumulative impacts within the Stephenville docking area that includes Little Port Harmon, the Bay St. George area, and the Stephenville harbour.

ECCC indicated that given the areal extent of the proposed activities, the Project has the potential to contribute to cumulative effects in the region (including water quality, air quality, and impacts to wildlife and their habitat).

The Government of Newfoundland and Labrador's EIS Guidelines require the Proponent to identify and assess the Project's cumulative environmental effects. The Proponent indicated that each of the project components will be assessed, including an assessment of potential cumulative effects.

Accidents and Malfunctions

The requester raised concerns regarding the potential Project effects of an accident or malfunction, including possible ammonia spills during loading or shipping activities. An accident or malfunction could result in adverse effects within areas of federal jurisdiction.

ECCC stated that there is potential for adverse environmental effects from accidents and malfunctions including spills or releases of hazardous materials such as diesel fuel, bunker fuel, water treatment chemicals, or other explosive materials such as hydrogen and ammonia. Adverse effects to air quality, water quality, wildlife and wildlife habitat could result from the accidental release of fuels or explosion from hydrogen or ammonia during manufacturing, storage, or shipping. Optimized prevention, preparedness and response measures and systems will be important given the risk of spills of hazardous substances to water and uncontrolled releases of manufactured substances. ECCC is currently participating in the provincial environmental assessment process for the review of this project, and it administers the *Environmental Emergency Regulations*.

Transport Canada administers the *Canada Shipping Act, 2001*, the principal legislation governing safety of marine transportation and protection of the marine environment, which contains measures related to marine pollution prevention and response.

The Government of Newfoundland and Labrador's EIS Guidelines require the Proponent to describe potential accidents and malfunctions related to the Project including spills (including ammonia and hydrogen), fire and explosions, traffic accidents, and wildlife emergencies/incidents. The province also requires the provision of an Emergency Response/Contingency Plan and a Hazardous Materials Response and Training Plan.

Regional and strategic assessments

There are no regional or strategic assessments pursuant to sections 92, 93, or 95 of the IAA that are relevant to the Project.

Conclusions

The Agency took into account the information it received as part of the designation request process for the Project to inform its analysis. The Agency is of the view that existing legislative mechanisms provide a framework to address the potential for adverse effects in federal jurisdiction (including potential impacts to Indigenous Peoples), adverse direct or incidental effects, and public concerns related to those effects, as described in subsection 9(1) of the IAA.

Existing federal and provincial legislative mechanisms that provide a framework to address the potential adverse effects include federal acts (*Fisheries Act*, CEPA 1999, the *Canadian Navigable Waters Act*, the *Migratory Birds Convention Act, 1994*, SARA, the *Canada Shipping Act, 2001*) and provincial acts (*Endangered Species Act*, *Water Resources Act*, and *Management of Greenhouse Gas Act*.) The provincial environmental assessment process under Newfoundland and Labrador's *Environmental Protection Act* can include conditions of approval to mitigate potential environmental effects for all stages of the development if the Project is approved.
