

Welcome!

Thank you for coming to our information session and for welcoming us to your community.



ABO Wind is committed to ongoing engagement, transparent dialogue, listening to feedback and working together with you. Our team members are here to listen to you and provide information. We invite you to:

- Visit our informational posters throughout the room that outline various elements of this proposed wind project.
- Provide feedback and ask any questions you may have to the ABO Wind team as you visit the informational posters.
- Fill out a comment card! Our team welcomes comments or questions and will follow up directly with more information as requested.
- Join our Project Community Liaison Committee (CLC).

Questions or feedback following this session, or wish to join the CLC? Please contact:
Heidi Kirby, Communications and Engagement Lead (Atlantic)
heidi.kirby@abo-wind.ca | 902-329-9907

Did you know?

In addition to sharing your feedback with ABO, The Environmental Assessment Registration Document we must submit and have approved before constructing the Project will also have a 30 day comment period for residents to submit support for the Project or outline any concerns.



Project Information

www.abo-wind.ca



Our team



A local team working for a more renewable Atlantic Canada, backed by global expertise

- A company since 1996, ABO Wind now has 1200 employees worldwide. Internationally active in 16 countries in Europe, North and South America, Africa.
- ABO Wind Canada Ltd. is a subsidiary of ABO Wind AG and was founded in 2017. We developed Canada's largest wind farm to-date, Buffalo Plains (AB). 30+ staff in Canada, half based in our Atlantic Canada hub in Halifax to embrace the growing renewable energy section in this region.
- ABO Wind is focused on wind, hydrogen, solar and battery storage projects throughout the region. Our local team works closely with ABO Wind team members in Canada and globally.
- Our team is committed to building relationships and working together with First Nations, local communities and all stakeholder groups.



ABO Wind becomes ABO Energy in 2024

We are changing our name. But why?



Our new name better captures the entirety of the clean energy projects we develop, demonstrating the value of working with (and for) ABO. We started with wind, then added solar and battery, and are now also developing hydrogen projects. The name ABO Wind no longer fully describes our business.

Project Information

www.abo-wind.ca



What we're working for

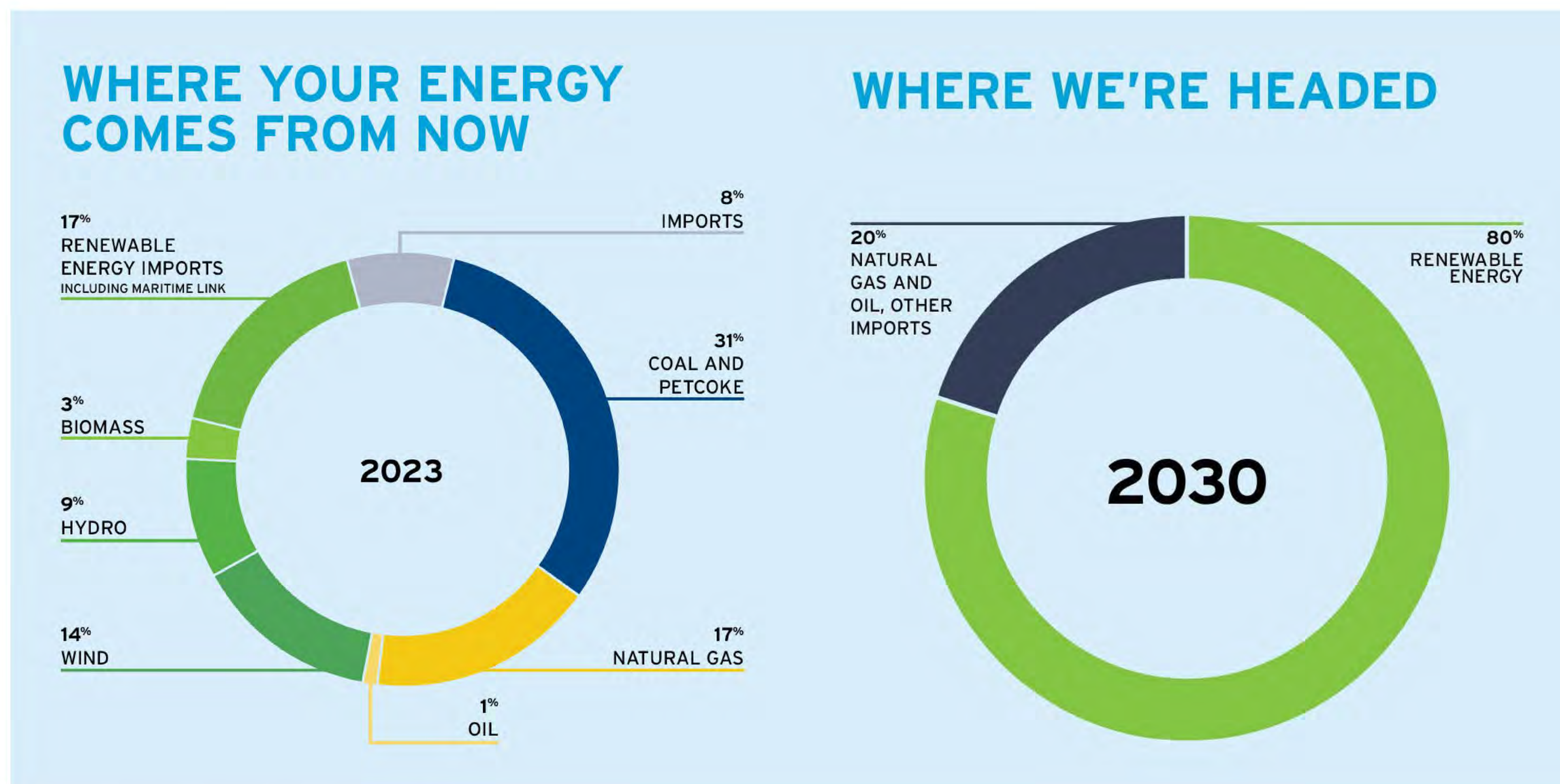
Helping create a cleaner, more sustainable Nova Scotia



ABO Wind is currently developing two wind farm projects in Nova Scotia to submit into the Green Choice Program this year: Melvin Lake Wind and Rhodena Wind.

Our wind Projects will be part of a large and collective effort to meet provincial and federal goals to reach 80% renewable energy and move off coal by 2030.

ABO Wind Canada will submit a proposal in the Green Choice program issued by the Province of Nova Scotia. The submission deadline is now June 14, 2024.



What is the Green Choice Program?

- An emerging green power offering developed between the Province, suppliers, the utility, and large energy buyers.
- The Green Choice Program will allow large energy customers in the province to purchase up to 100% of their electricity use from local renewable energy sources.
- This could include governments, educational institutions, factories and more.
- More access to renewable energy will help to create jobs and ensure that Nova Scotia continues to lead in the fight against climate change.

Image Credit: Nova Scotia Power (2024)

Project Information

www.abo-wind.ca



Rhodena Wind

In Partnership with Eskasoni First Nation



How many wind turbines?

Up to 6 in total

Why has the number of turbines changed since 2023?

The Green Choice program has a new requirement to build on private land only, so we are no longer utilizing Crown lands for our turbines. We made modifications based on land access which also aligns with feedback we have heard.

We are hopeful this new layout, with a reduced footprint and only 6 turbines, is accepted positively by the community, and welcome your feedback on this change.

Where will it be located?

In the hills between Route 19 and Trans-Canada Highway 105 in the Municipality of the County of Inverness on private land. This area has very favourable wind speeds, an existing network of forestry roads, and the ability to adhere to and exceed company, municipal and provincial setback guidelines.

How far from the nearest home?

The smallest distance from a turbine to a residence is 1238m.

How much clean power?

42 megawatts of green energy – enough to power more than 13,600 homes annually!

How high are the turbines?

118m to hub, 199.5m including the tip of the blade.

Are existing access roads being used?

The new layout is expected to use nearly 70% already existing roads, with about 10% of these requiring upgrades to ensure safe access and sufficient widening for equipment association with wind turbine installation.

Total footprint of infrastructure when complete?

With our new 6-turbine layout, we have reduced the amount of expected land disturbance caused by site preparation and construction by nearly 50 ha (from 155 ha to 107 ha).

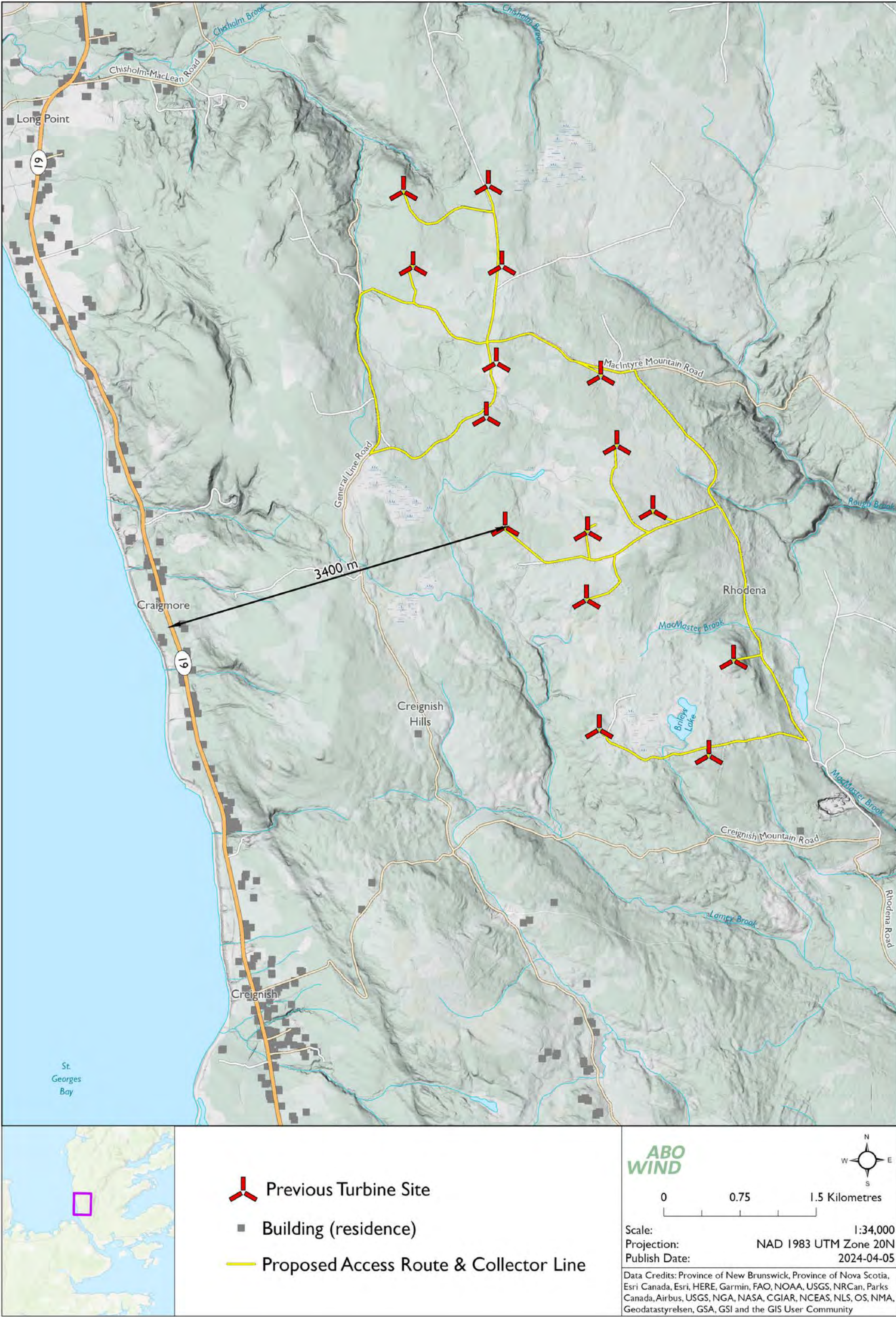


Evolution of Rhodena Wind

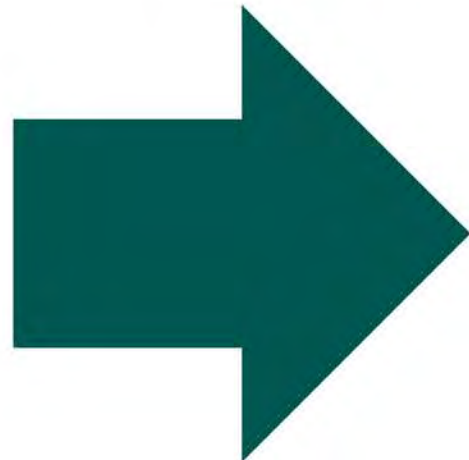


Old layout (2023) 15 turbines

New layout (2024)



6 turbines
42 megawatts



Why this change?

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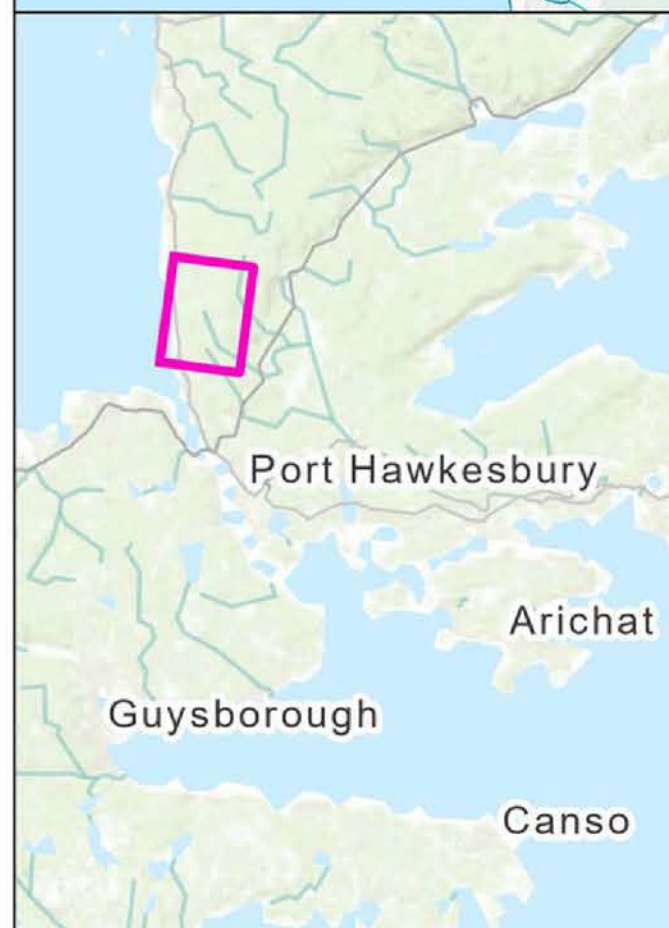
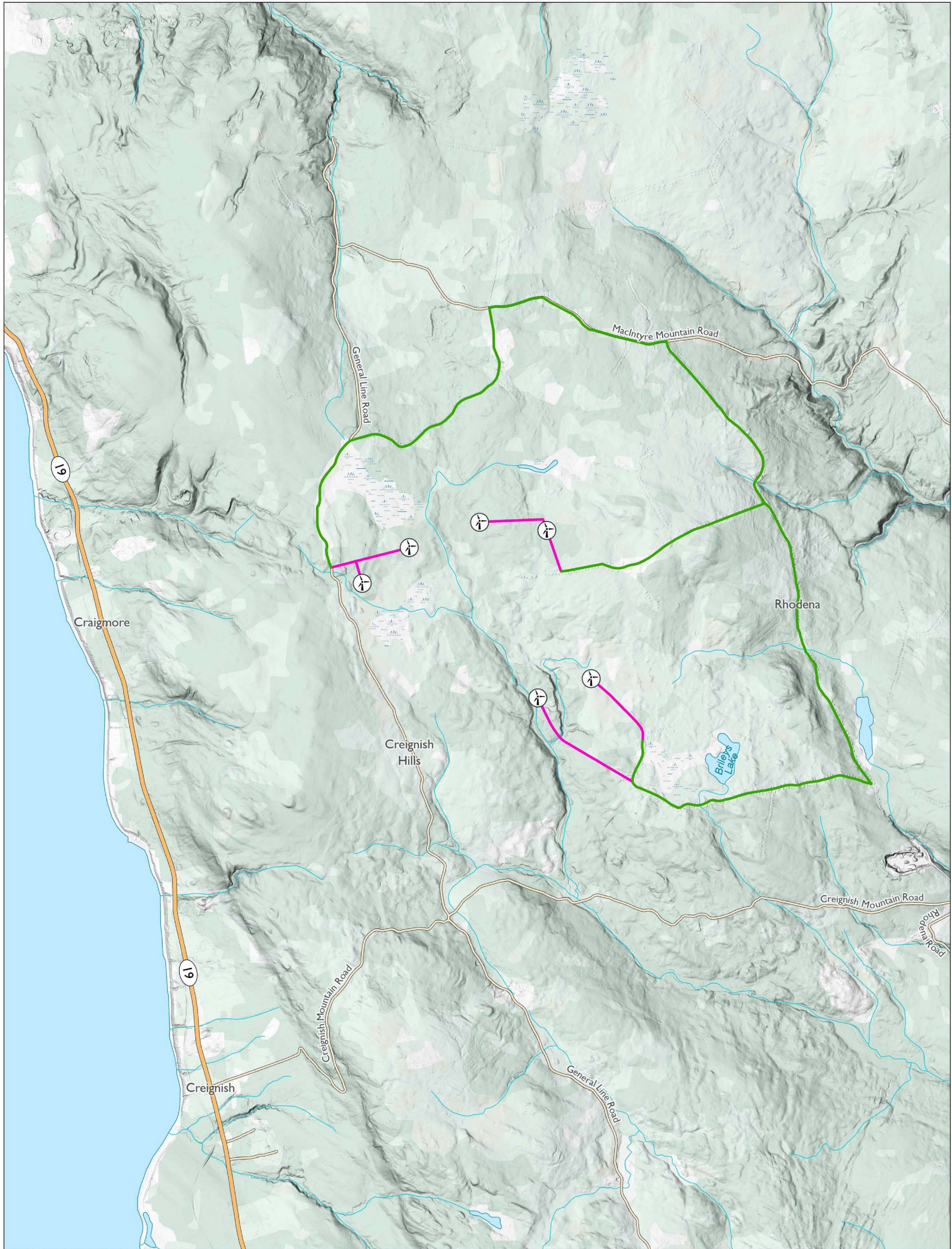
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We welcome your feedback on this change.



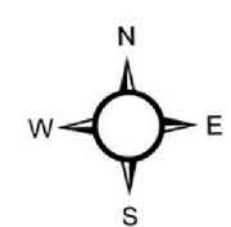
New vs. Existing Access Roads



Rhodena Wind Project Preliminary Layout

-  Proposed Turbine
-  Proposed Project Road
-  Existing Road
-  New Road
-  Highway
-  Road

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0 500 1,000 Meters

Scale: 1:30,000
 Projection: NAD 1983 UTM Zone 20N
 Publish Date: 2024-04-10

Data Credits: Province of New Brunswick, Province of Nova Scotia, Esri Canada, Esri, HERE, Garmin, FAO, NOAA, USGS, NRCAN, Parks Canada, Airbus, USGS, NGA, NASA, CGIAR, NCEAS, NLS, OS, NMA, Geodatastyrelsen, GSA, GSI and the GIS User Community

Benefits & Opportunities

A significant Project in the region, valued at \$85 - 95 million total



Clean, renewable energy production will create significant opportunities in the region, and across the province - from direct employment, contracts, and spin-off benefits. :

ABO believes that those in close proximity should benefit from the project.

- We have many mechanisms we use that captures this mindset, including our Local Economic Development Policy, Indigenous Inclusion Policy, Community Benefit Funds.

Rhodena Wind - Local Benefits and Opportunities



Local Contracts and Jobs, and Spinoff Revenue

30-50 jobs during construction, 1-3 long-term for operations and maintenance



Community Benefits Fund

Funds will go to communities in the vicinity of the Project to help local initiatives through the life of the Project



Municipal Tax Payments

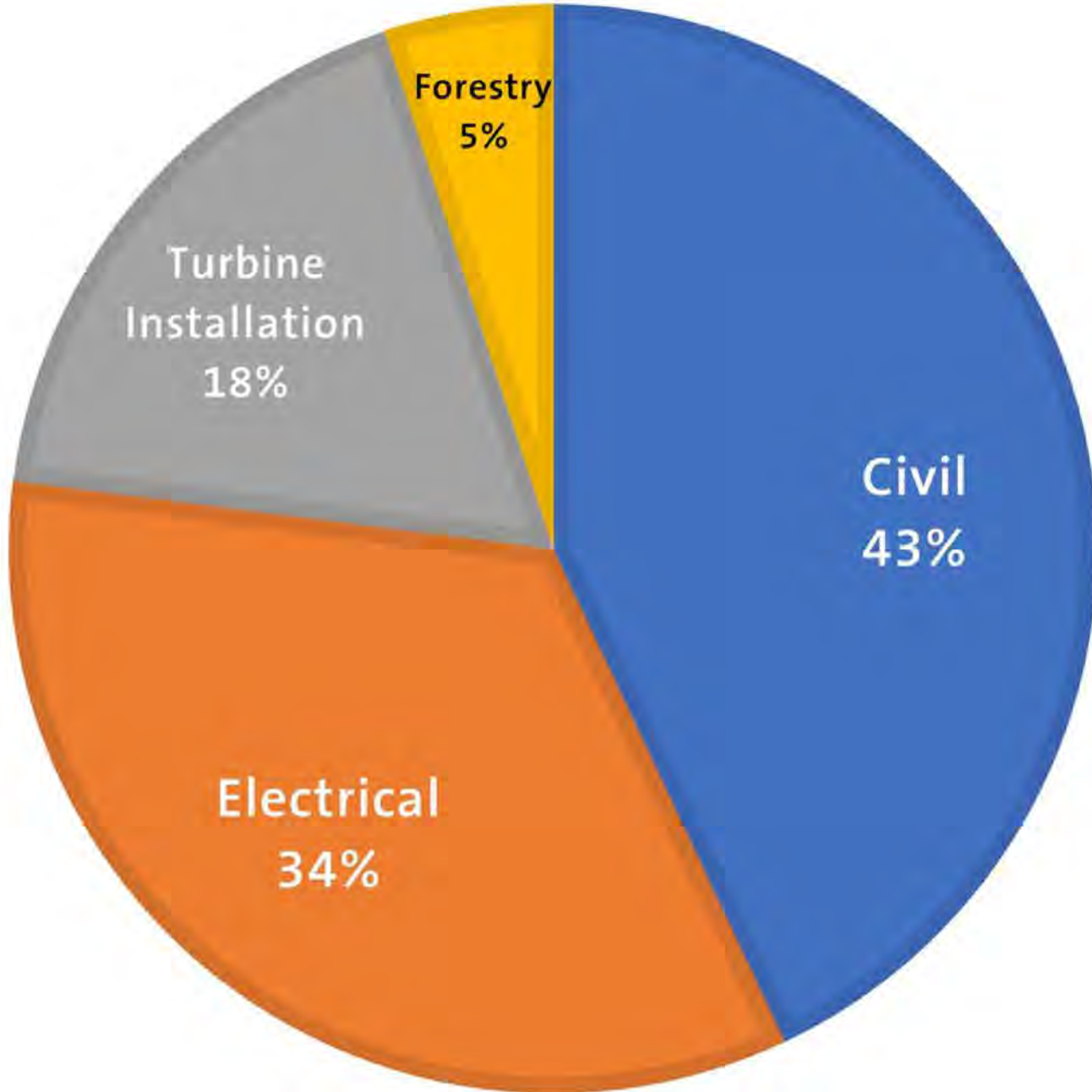
\$8-10M from ABO Wind to the municipality for local services and infrastructure over the lifetime of the project



Health Benefits

The Project will offset emissions that would otherwise be emitted through the burning of fossil fuels. It will generate electricity without emitting greenhouse gases or air pollutants or any use of freshwater

Major Works Required



- Wind turbines (transport to site, erection)
- Measurement Equipment (installation, etc.)
- Access roads (clearing and other civil works)
- Electrical transmission lines and collector lines (geotechnical, transmission line installations, etc.)
- Substations (electrical)
- Operations and Maintenance Facilities

Join ABO Wind's Contractor Portal: Scan Phone Here



Minimizing Environmental Impact

Rhodena Wind



Environmental Studies



- Bird surveys were completed across all seasons in 2022-2023 (spring migration, breeding, fall migration, and winter).
 - The number of birds observed during the surveys is not considered high relative to other wind Projects that have been approved in NS.
- Two Species at Risk (SAR) are known in the area – wood turtle and Canada lynx. Targeted surveys for both species were completed. Neither species was detected during surveys.
- Bat acoustic monitoring was completed and there were detections of bats.
- One SAR lichen (blue felt lichen) was observed within the study area and the location was and included in Project design to avoid disturbance.

Environmental Mitigations and Reporting



Based on the field results ABO undertook additional infrastructure siting activities to avoid wetland and wildlife features, where feasible. This includes avoiding Canada Lynx Range.

Construction footprint and disturbance of regular activity reduced to:

- Prioritize use of existing roads
- Minimize tree clearing.
- Reduce disruption to recreational uses and hunting activities. No fencing is anticipated to be installed at the Project except for around the substation for safety reasons. Disruption is only expected during construction due to construction related safety measures and temporary road closures.

• Interactions between the Project and environmental components will be reviewed as part of the Effects Assessment in the Environmental Assessment Registration Document.

Next Steps

- Continue Studies within New Project Footprint (i.e. turbines now sited on private lands)
- Updated Wetland and watercourse delineation, rare plants surveys and lichen surveys
- Updated Fish capture studies within new catchment area.
- Wood turtle assessments within new watercourses
- Updated Archeological assessment
- Other previous environmental studies were determined to have suitable coverage.
- Environmental Assessment Registration winter 2025



Wind Power

How does it work?

- Wind turbines are installed on concrete foundations, and have several key components: Tower, nacelle (generator) and the turbine blades.
- Wind causes the blades to rotate. The blades are connected to a gearbox in the nacelle, which turns the generator to produce electricity.
- This clean electricity is transmitted through cables and collected at a substation before feeding into the Nova Scotia electrical grid through overhead power lines.

How high?

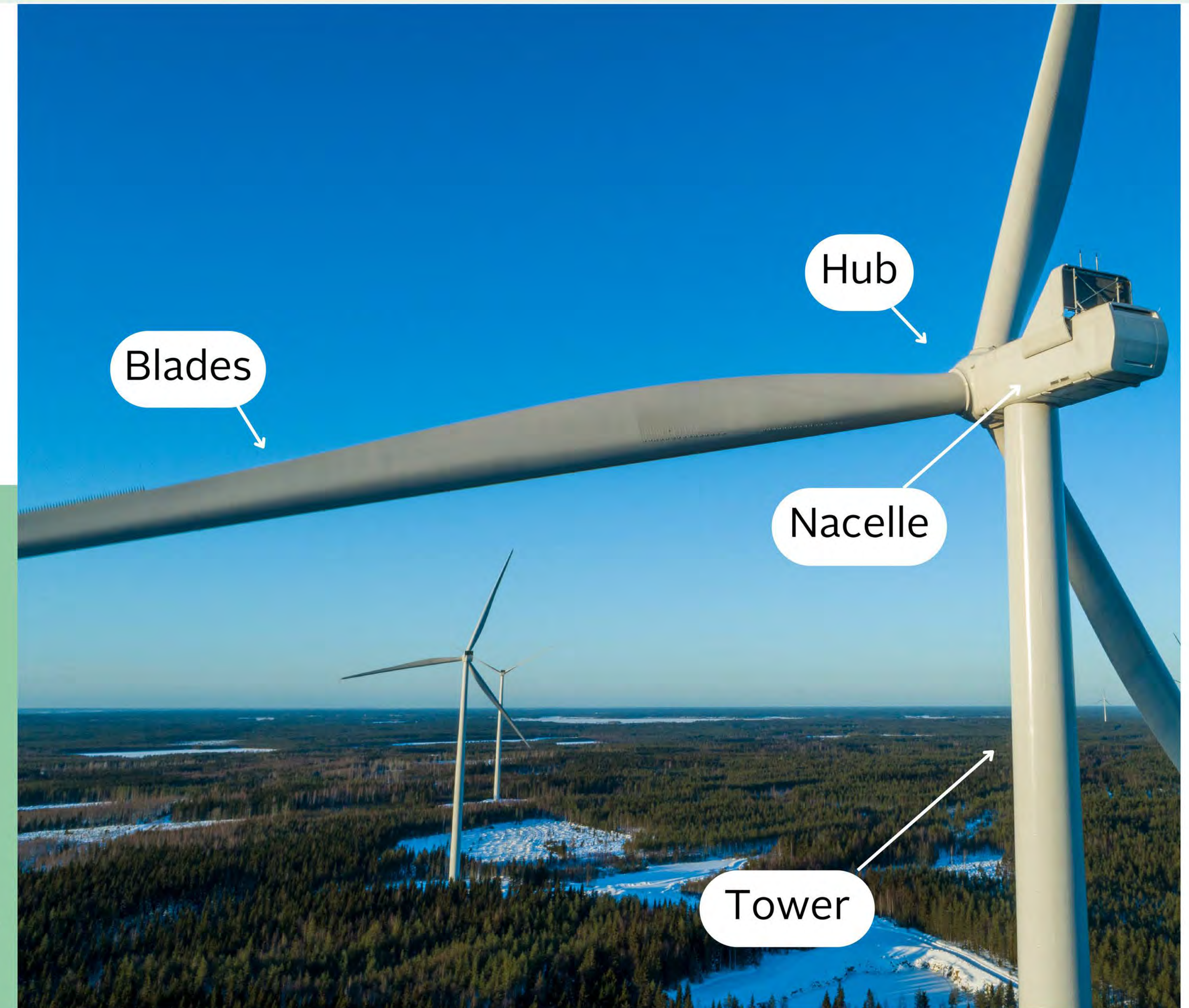
Nova Scotia Projects

Rhodena Wind turbine height - 387 ft. hub / 655 ft. tip
Melvin Lake turbine height - 410 ft. hub / 676 ft. tip

Comparison to Large Structures

Length of Canso Causeway – 4544 ft.
Length of MacDonald Bridge, Halifax – 4265 ft.
Height of CN Tower – 1816 ft.
Height of Eiffel Tower – 1063 ft.
Height of New Transmission Tower at Straight of Canso – 525 ft.
Height of Purdy's Wharf Tower 2 in Halifax – 288 ft.

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Project Information

www.abo-wind.ca



Health and Safety

Human Health

There have been well over 100 peer-reviewed research papers published by academics, consultants and medical agencies around the world on the potential health effects of people living near wind turbines. The studies include issues of audible sound, low frequency noise, infrasound, shadow flicker, and electromagnetic fields (EMF).

Health Canada conducted the largest study in the world of people living, working and playing near wind turbines:

- Largest study ever undertaken around the world on wind turbines and health. 1238 people participated, including those in homes as close as 820 ft out to 7 miles from wind turbines.
- Conducted self-reported questionnaires and for the first time ever, tested objective measures of health including: sleep studies, hair cortisol (stress), and blood pressure.

The overall conclusion to emerge from the study findings is that the study found no evidence of an association between exposure to wind turbine noise and the prevalence of self-reported or measured health effects beyond annoyance.

Municipal setback distances - that we meet and exceed - will ensure the protection of public health from wind turbine sound.

Safety

- A Project-specific Emergency Management Plan will be developed. It will be informed by industry best-practices, ABO's global and Canadian expertise in developing wind farms, and local emergency responders.
- We'll use existing access roads along with some new access roads as part of this Project, working to ensure adequate emergency access, including identified egresses for the Project site are incorporated and shared as part of the Project safety plans.
- For the safety of workers and residents, like any construction site, there would be periods of limited access in zones that are under active construction (i.e., turbine installation, foundation pouring, etc.).
- Once turbines and other infrastructure are installed in a given area, if there is not active construction happening, in-season hunting, hiking, ATV use, snowmobiling, and other activities can occur in/around the Project site.



Wind turbine failures, fires and ice throw are very rare events

- 1 blade failure per 10,000 a year
- Fires are very rare events with <1 a year in Canada
- Ice throw can occur but only as far as the height of the turbine

Project Timeline

The timeline is preliminary and subject to change



Sound

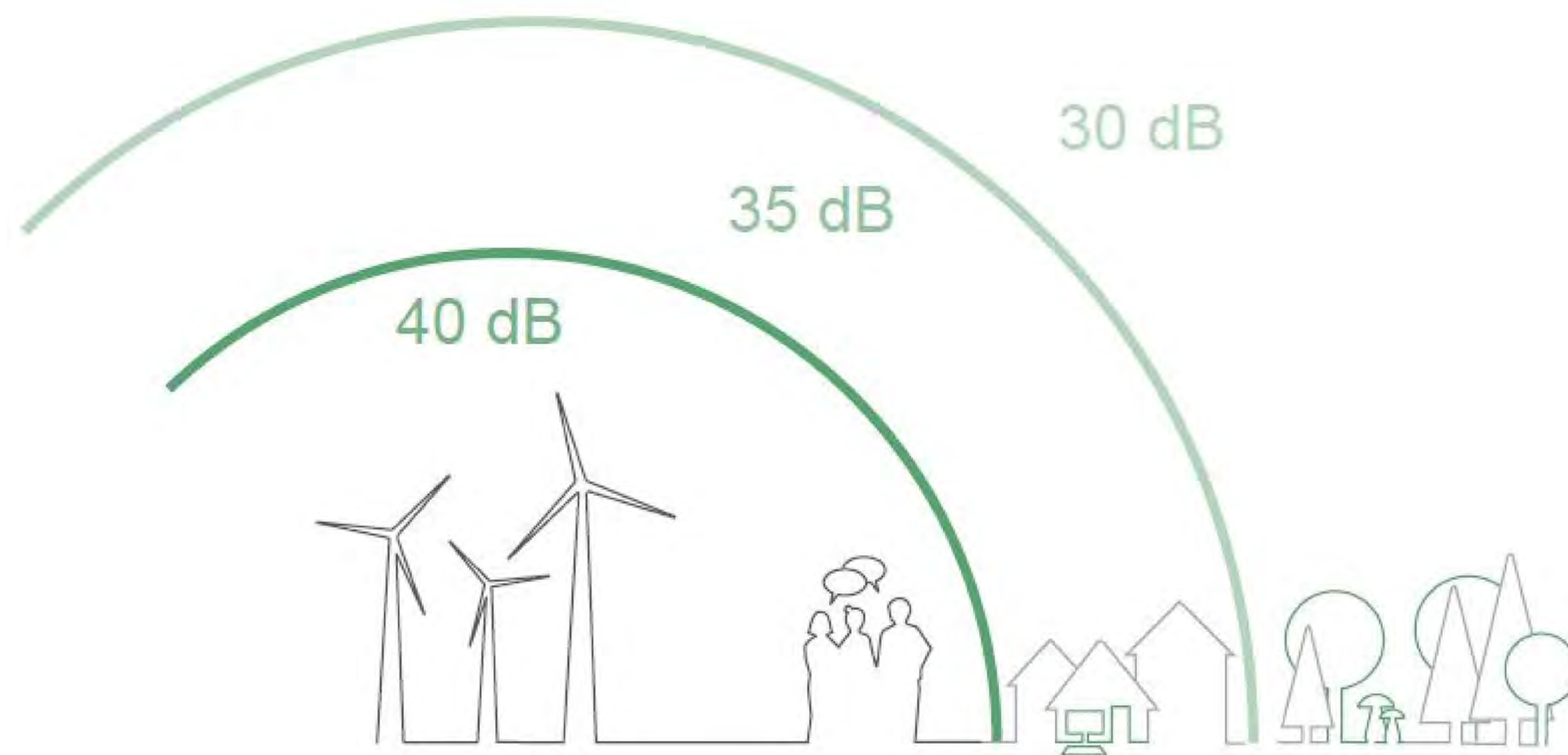
How we're reducing and measuring noise related to wind turbines



The Project will be designed in accordance with the Province of Nova Scotia's Environmental Assessment ("EA") requirements for Wind Power Projects.

This Project not only meets, but exceeds the requirement for sound levels: "a proponent must ensure that the wind farm design and turbine siting does not cause sound levels to exceed 40 dBA (A-weighted decibels) at the exterior of receptors" (Province of Nova Scotia, 2021).

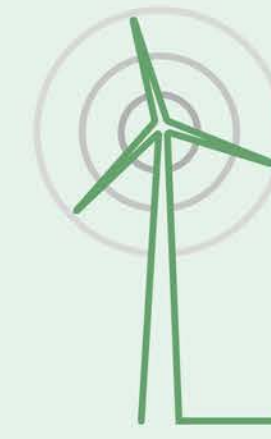
- The Project-specific noise modelling study indicates that cumulative noise level, including turbine-generated noise, will not exceed 40 dBA at any existing residences.
- A 40 dBA sound level is similar to a quiet library or a suburban area at night.



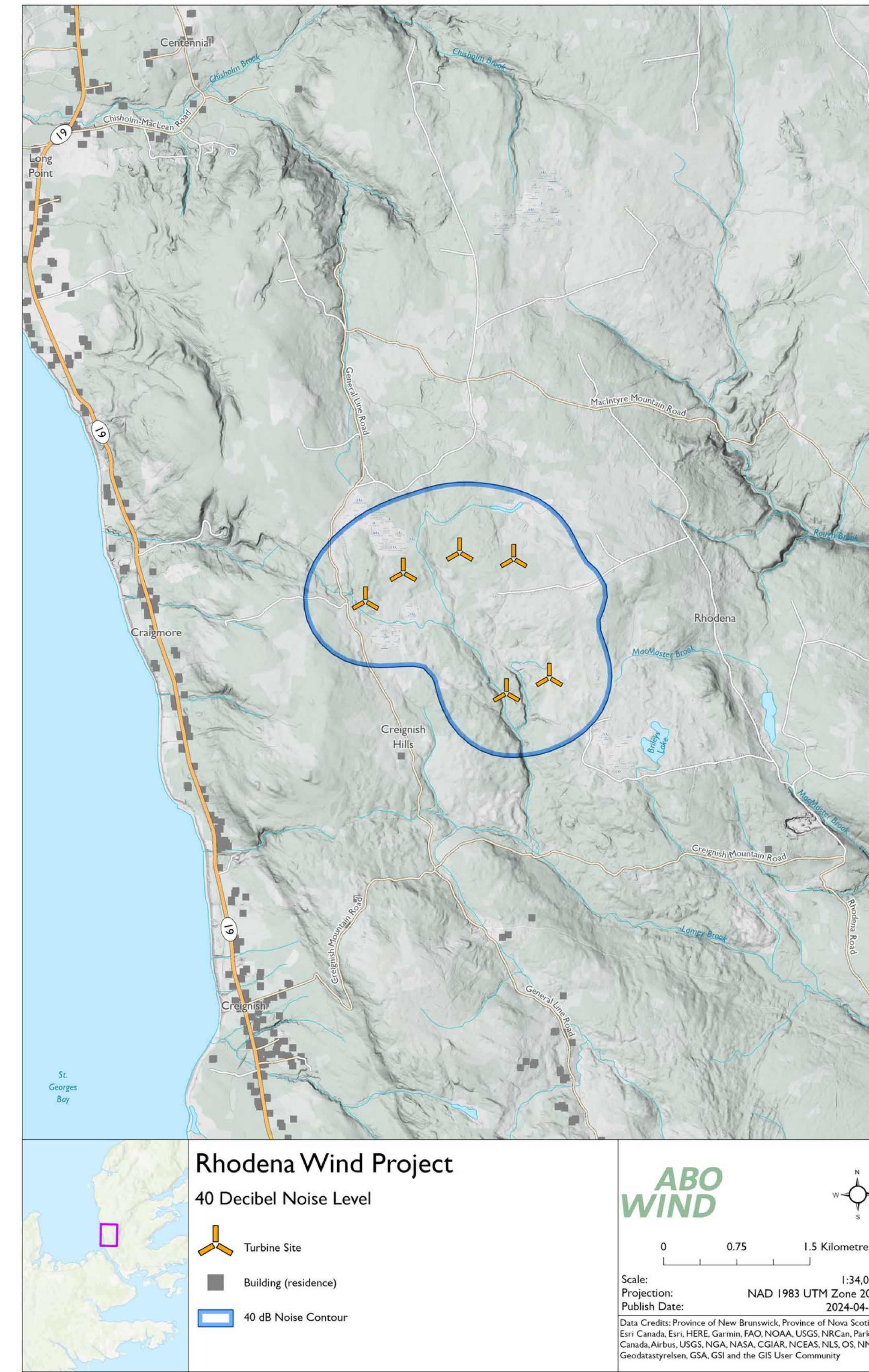
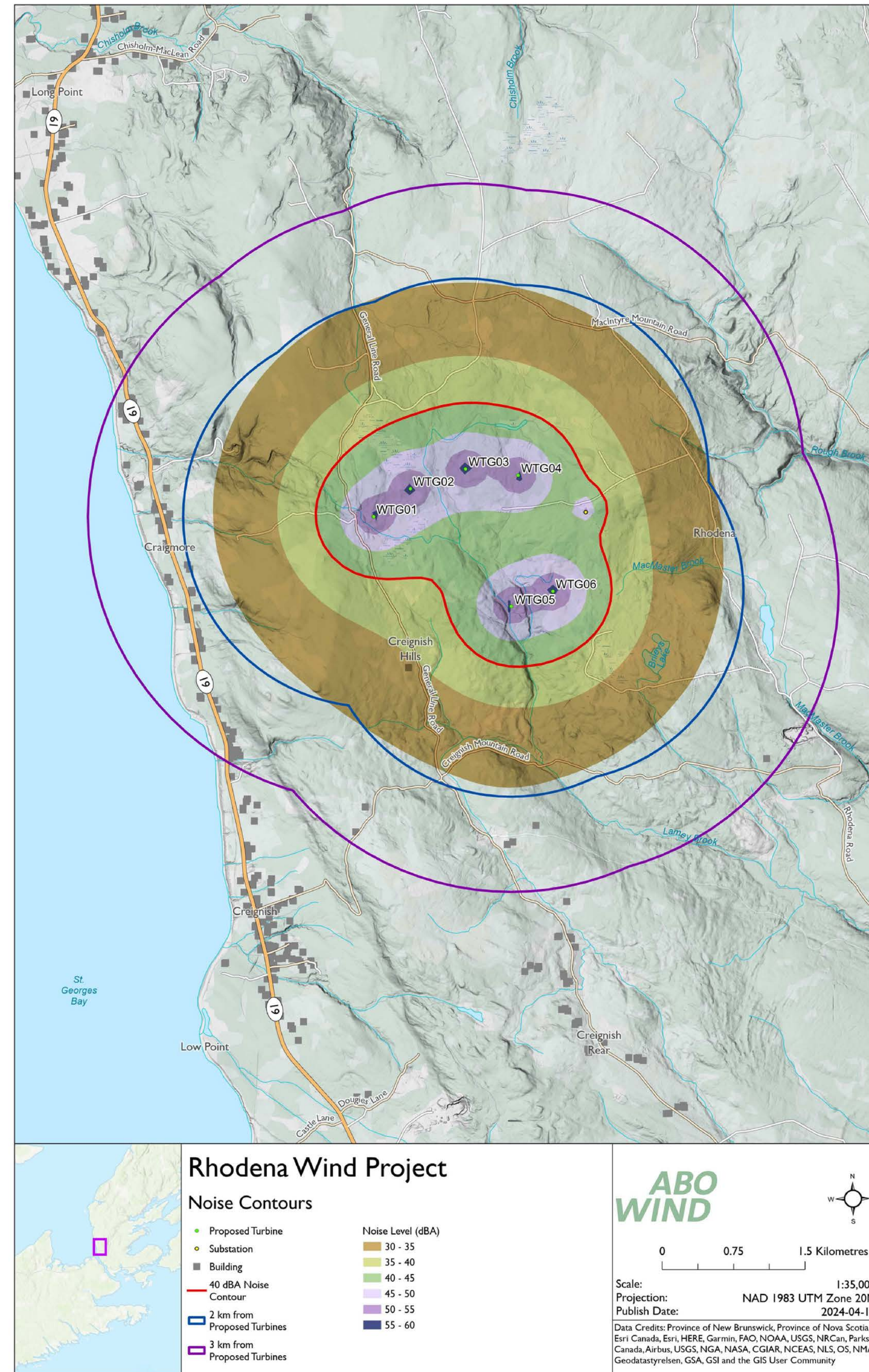
Examples of common sound levels (dBA)

140	Threshold of pain
130	Jet take off
120	Rock concert
110	Jackhammer
100	Power saw
90	Street traffic
80	Doorbell
70	Office
60	Normal conversation
50	Quiet urban neighborhood, daytime
40	Library
30	Soft whisper
20	Ticking of a wrist watch
10	Rustling leaves

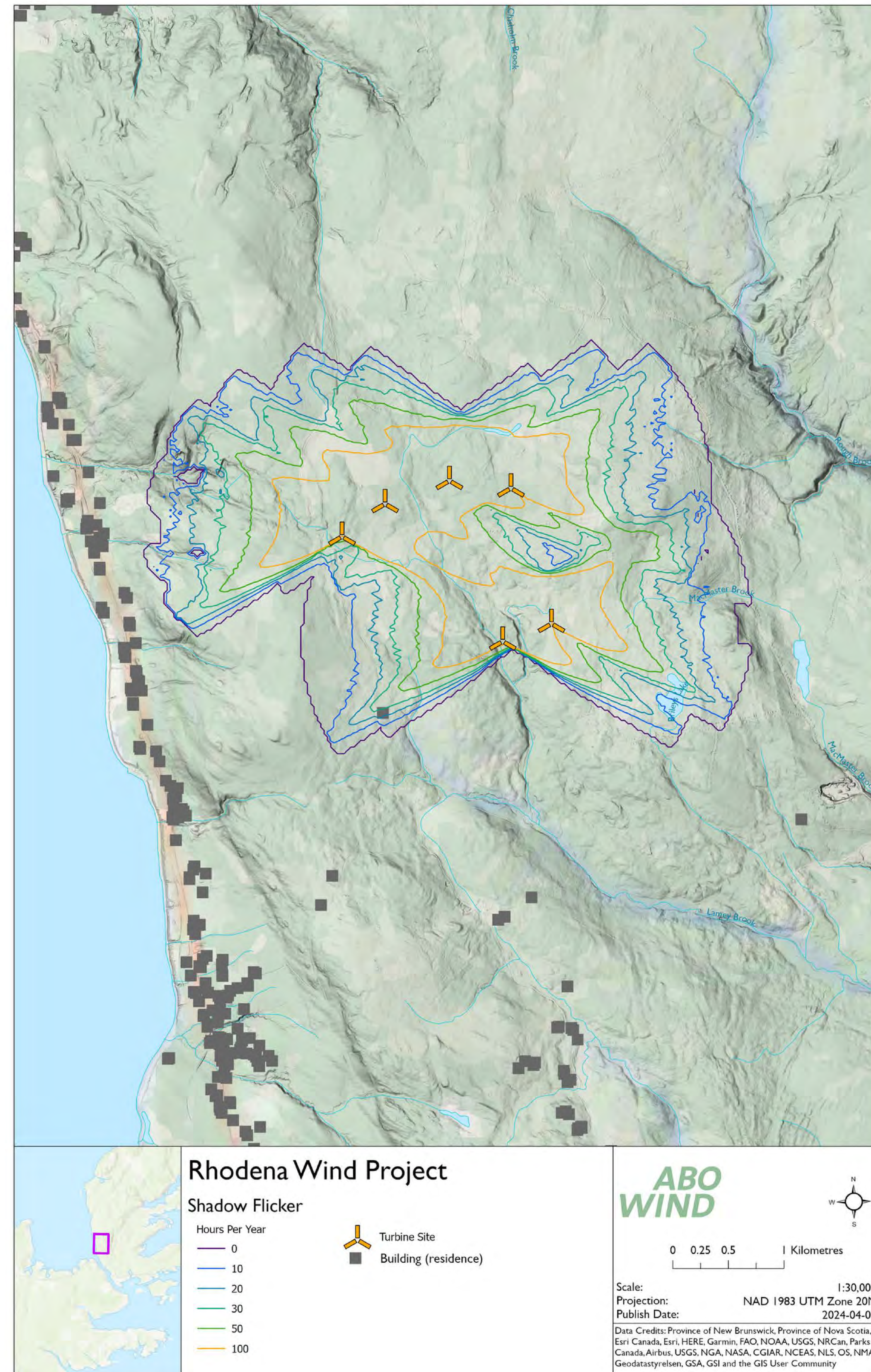
Sound Contours



40 dBA Zone



Shadow Flicker



What is “shadow flicker”?

Shadow flicker occurs when the spinning rotor is located between the sun and a building, and the turbine blades alternately block and allow the sunlight to shine through.

This causes a ‘flicker’ effect and only occurs when certain conditions are met such as the sun shining and turbine(s) operating.

A Shadow Flicker study has been conducted to assess the potential for shadow flicker at nearby receptors (residences).

The assessment will be included in the Project Environmental Assessment that is being submitted to the Province of NS for approval.

Shadow flicker study results:

Shadow flicker modeling indicates that regulatory thresholds will be met by the Project.

There are no predicted exceedances of 30 mins per day and/or 30 hours per year at any existing residential receptors.





Original Photograph



Rhodena
Wind Project

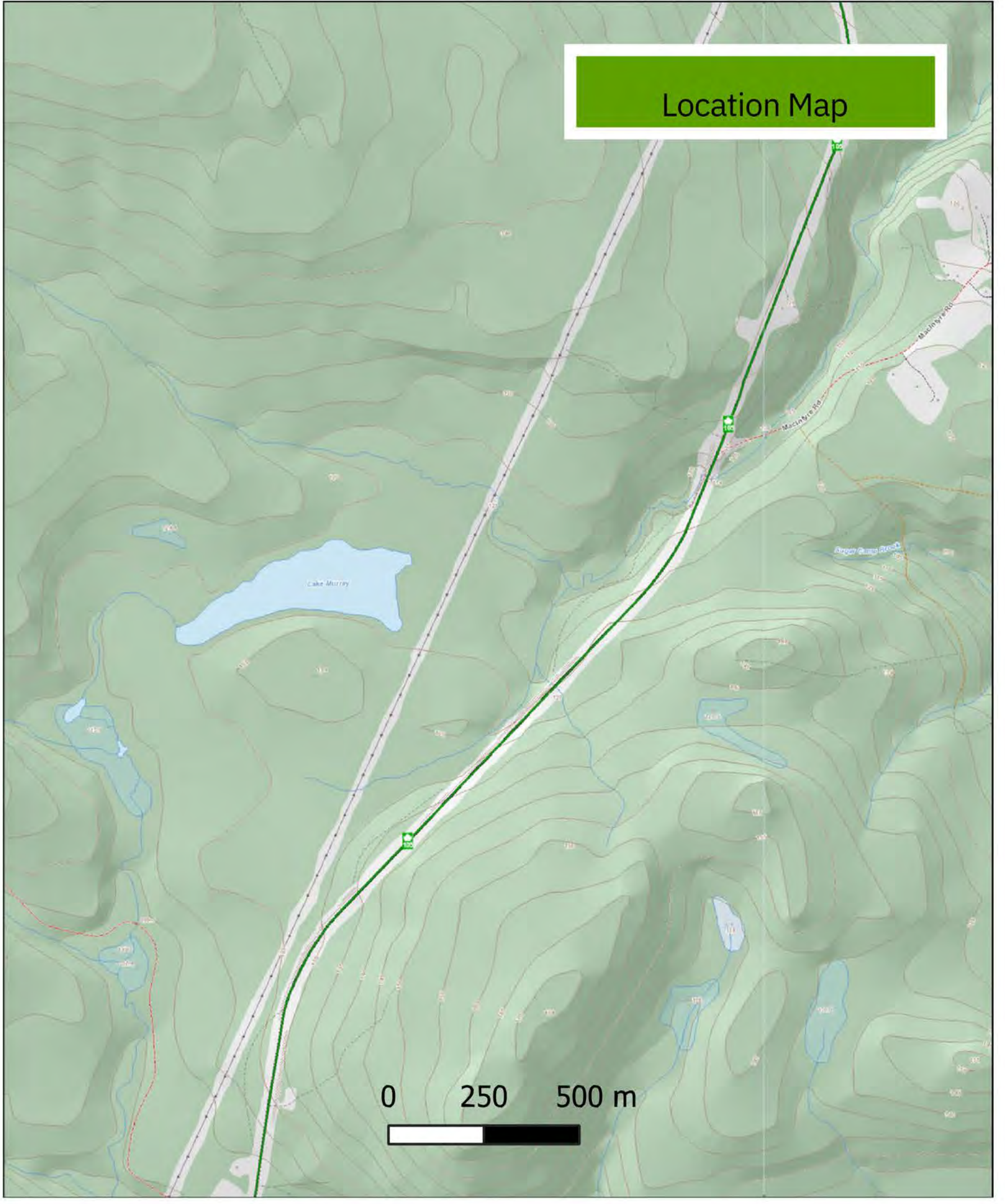
Image: Visual Simulation 1
Lake Murray/Hwy 105
Easting: 627,513
Northing: 5,061,930
Photograph Date: August 28,
2021
View Angle: 327 Degrees

Tu r b i n e Manufacturer: Nordex
Model: N163 6.X 7000
Hub Height: 118 m
Rotor Diameter: 163 m
Rated Power: 7,000 kW

Coordinate System UTM, NAD83, Zone 20	April 8, 2024
Analysis By: AL-PRO GmbH & Co. KG	



Visual Simulation



Location Map



Original Photograph



Rhodena
Wind Project
Visual Simulation 2
MacMaster Brook/Hwy 105

Image: Easting: 628,161
Northing: 5,065,568
Photograph Date: August 28, 2021
View Angle: 316 Degrees

Turbine Manufacturer: Nordex
Model: N163 6.X 7000
Hub Height: 118 m
Rotor Diameter: 163 m
Rated Power: 7,000 kW

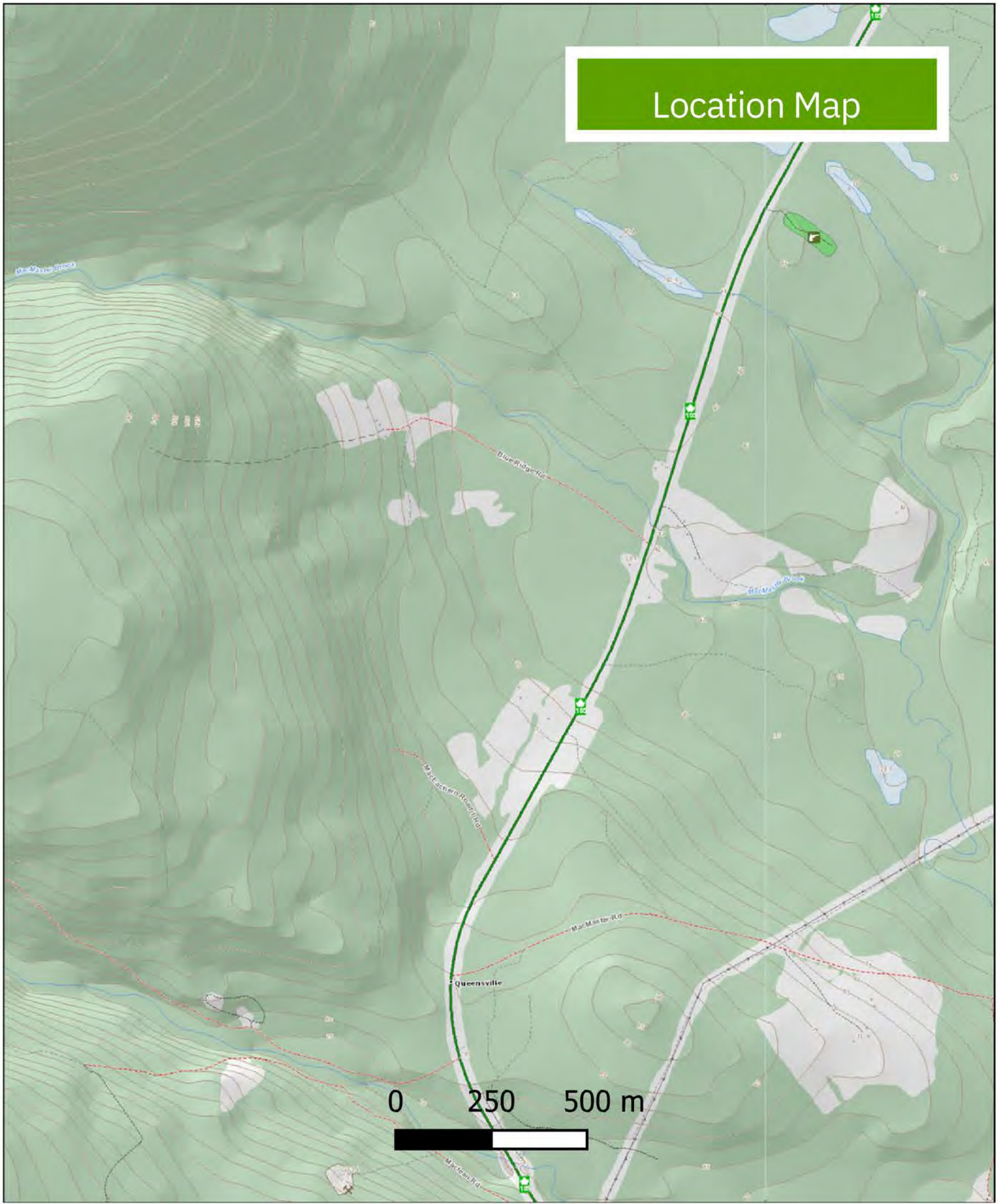
Coordinate System UTM, NAD83, Zone 20

April 8, 2024

Analysis By: AL-PRO GmbH & Co. KG



Visual Simulation



Location Map



Original Photograph



Rhodena
Wind Project
Visual Simulation 3
Walkers Cove Rd/Hwy 19

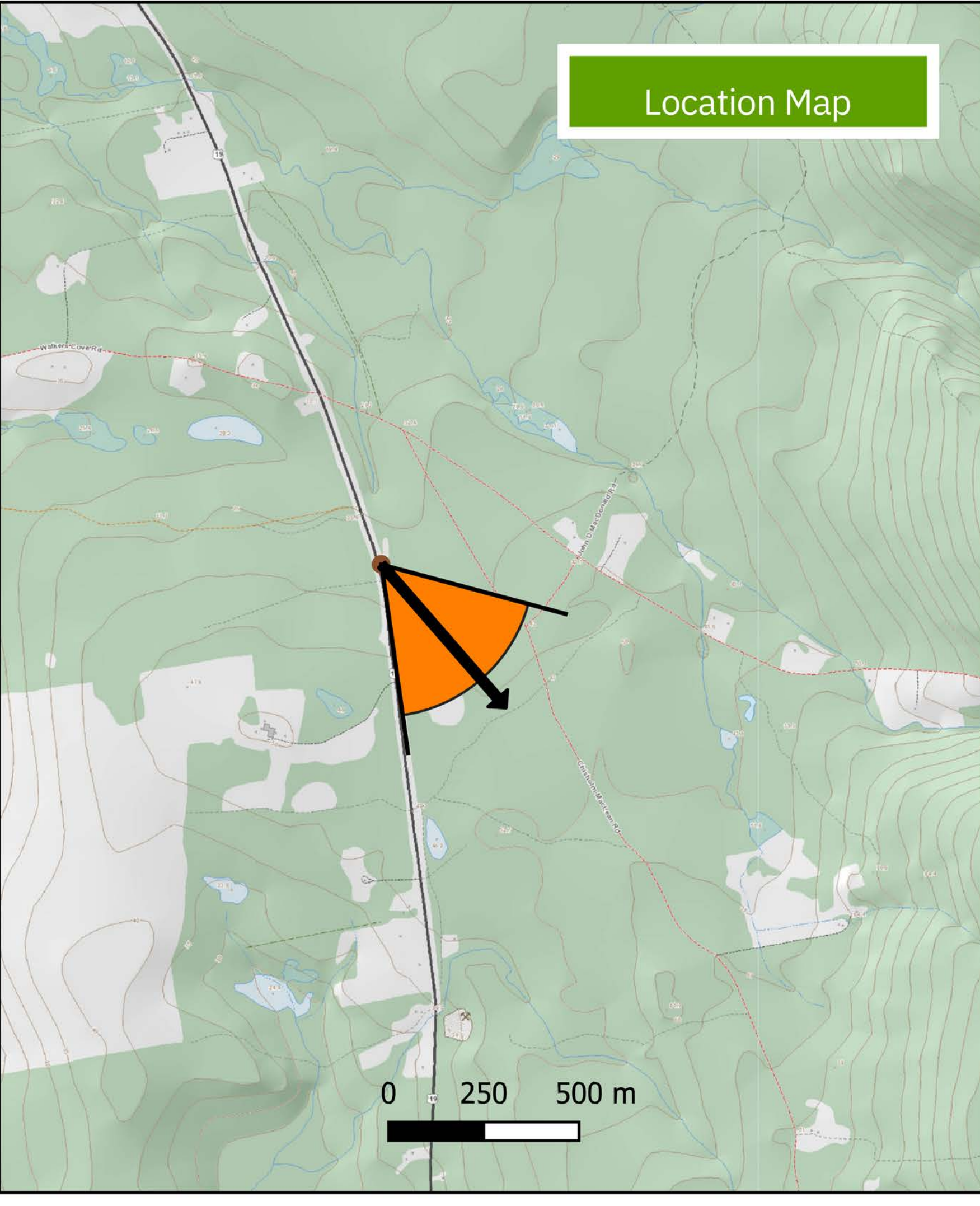
Image: Easting: 618,069
Northing: 5,077,197
Photograph Date: August 28, 2021
View Angle: 139 Degrees

Turbine Manufacturer: Nordex
Model: N163 6.X 70000
Hub Height: 118 m
Rotor Diameter: 163 m
Rated Power: 7000 kW

Coordinate System UTM, NAD83, Zone 20	April 8, 2024
Analysis By: AL-PRO GmbH & Co. KG	



Visual Simulation



Location Map



Original Photograph



Rhodena
Wind Project
Visual Simulation 4
Judique

Image: Easting: 617,151
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Photograph Date: August 28, 2021
View Angle: 137 Degrees

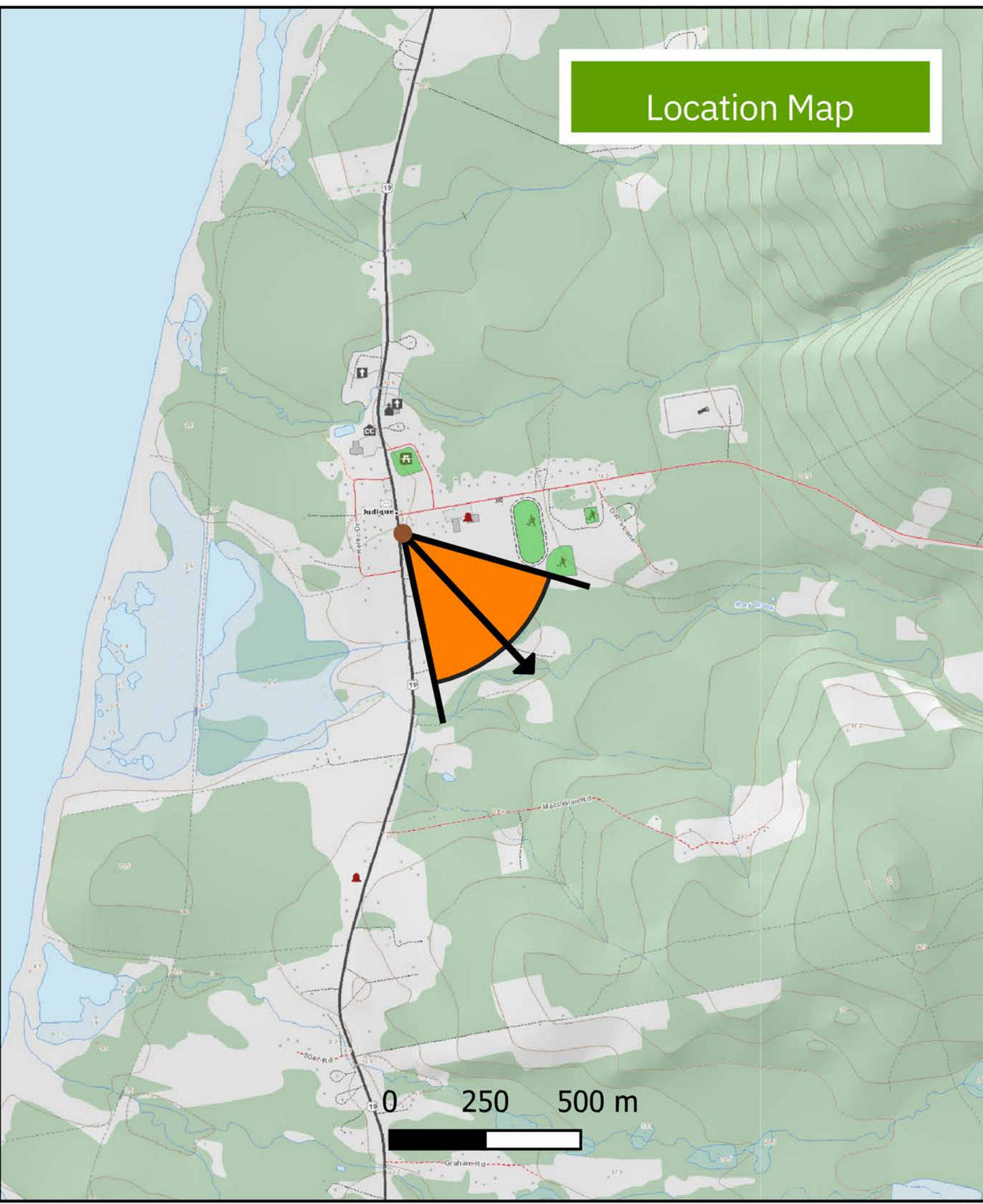
Turbine Manufacturer: Nordex
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Coordinate System UTM, NAD83, Zone 20	April 8, 2024
Analysis By: AL-PRO GmbH & Co. KG	



Visual Simulation

Location Map



Wind farm life cycle

Decommissioning and Repowering



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Wind turbines are expected to last between 20 and 30 years.

During the life of the wind farm, maintenance will occur as needed to replace parts, like your vehicle or home. Operations and maintenance workers will be required to fulfill this important task through the life of the wind farm.

There will be a decommissioning and reclamation plan required as part of the Environmental Assessment.

What happens at the end of life of a wind farm? It may be repowered or decommissioned.

Repowering

The older wind turbines or other components can be upgraded with newer, more efficient equipment.

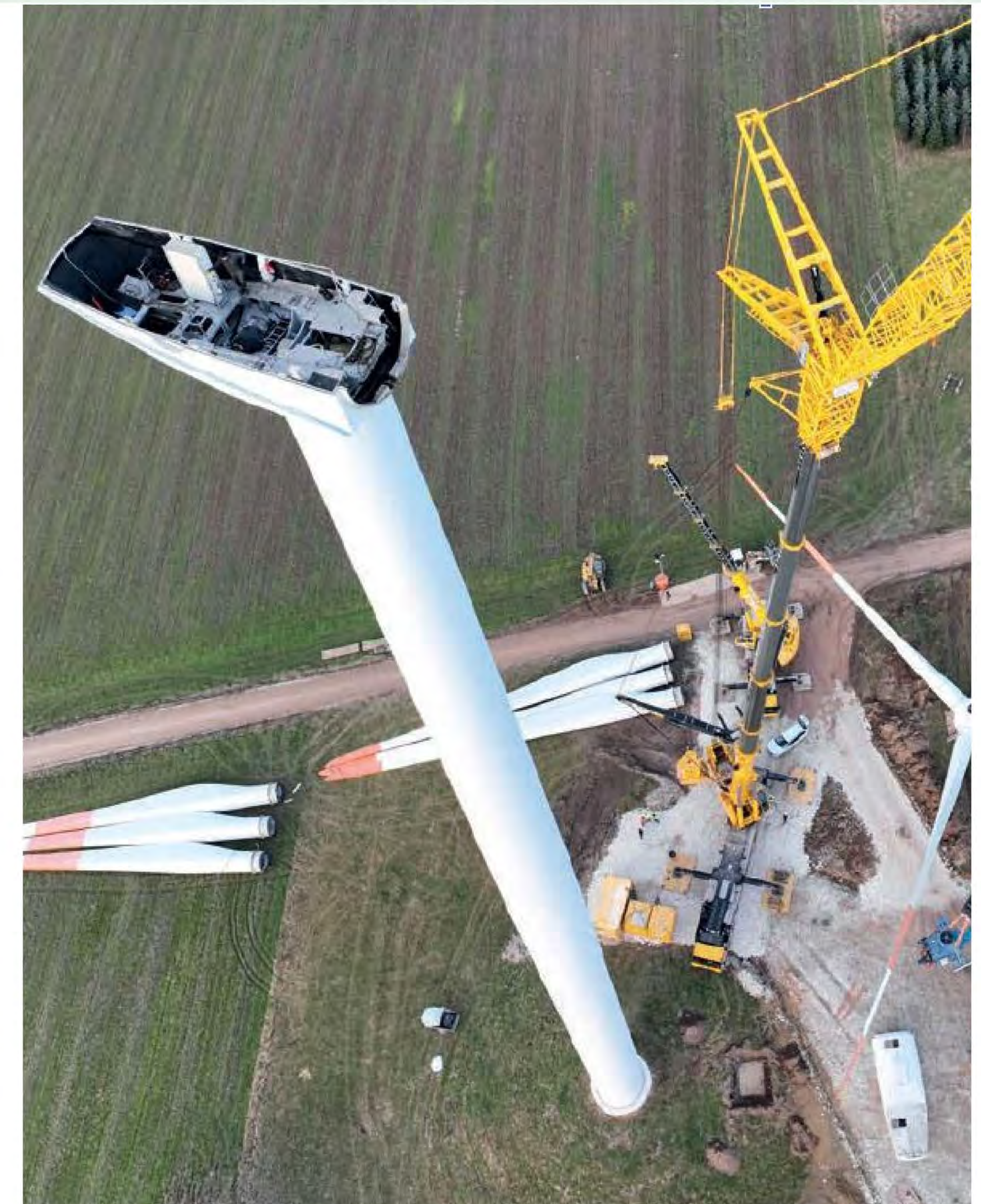
Decommissioning

Due to economics, regular wear and tear or other factors, it may be necessary to remove the project and return the land to its original state.



The main components of a wind turbine that can be recycled, repurposed, or salvaged include: Steel tower sections, steel reinforcement, electrical equipment and cables, precious metals, and concrete. Other materials or pieces of equipment that cannot be recycled, repurposed, or salvaged will be disposed of according to local/provincial regulations.

Two of the largest turbine manufacturers have created the first set of turbine blades that are fully recyclable. The use of these blades will be evaluated for this project.



Dismantling a wind farm