



Halkirk 2 Wind Virtual Workshop

Halkirk 2 Wind Project Team
December 1 & 2, 2021

Capital 
Power

A growth-oriented North American wholesale power producer



26 facilities in Canada and U.S. with regional offices in Boston and Calgary



~780 employees in Canada and the U.S.



Publicly-traded company headquartered in Edmonton, Alberta with a market capitalization of ~\$4.9B*



Named World's Most Ethical Companies[®] by the Ethisphere Institute (2019, 2020, 2021)



Owns over **6,400** megawatts (MW) of power generation; ~425 MW of owned renewable generation capacity in advanced development in North Carolina and Alberta and 560 MW of incremental natural gas combined cycle capacity from the repowering of Genesee 1 and 2 in Alberta

Operational facilities

6,420
megawatts

26
facilities

95%
plant availability

425
megawatts in
advanced development

In operation



In advanced development





Project concerns from the community

- Turbine siting and setbacks
- Aerial spraying
- Noise
- Impacts to agriculture
- Hydrogeology
- Visual impacts
- Wildlife impacts
- Consultation
- Emergency response
- Reclamation/decommissioning
- Shadow flicker
- Transmission lines
- Environmental impacts
- Ice throw
- Health effects
- Property values
- Employment/contracting opportunities





Proposed project changes from feedback

Visual impacts:

- Decrease wind turbines from 74 (approved) to between 25 to 36 (pending final selection of make and model)
- Reduced project footprint

Setbacks:

- Increased the setback from turbines to dwellings on non-participating lands from 750 metres to 1,000 metres (per the *County of Paintearth's Land Use Bylaw No. 698 – 21*)

Turbine lighting:

- Plan to install an Aircraft Detection Lighting System to mitigate the impact of the required turbine lighting on the community (subject to applicable approvals)





Proposed project changes from feedback

Safety:

- Reduced the quantity of underground collector lines running along Township Road 400, which will reduce construction activities and associated traffic congestion on a main community road
- A Traffic Management Plan will be developed in consultation with the County of Paintearth, landowners and residents.

Noise:

- A Project Noise Impact Assessment is underway and results will be shared in a future update.
- The revised project design (layout and turbine model) will remain compliant with *AUC Rule 012: Noise Control*.

Emergency Response Plan:

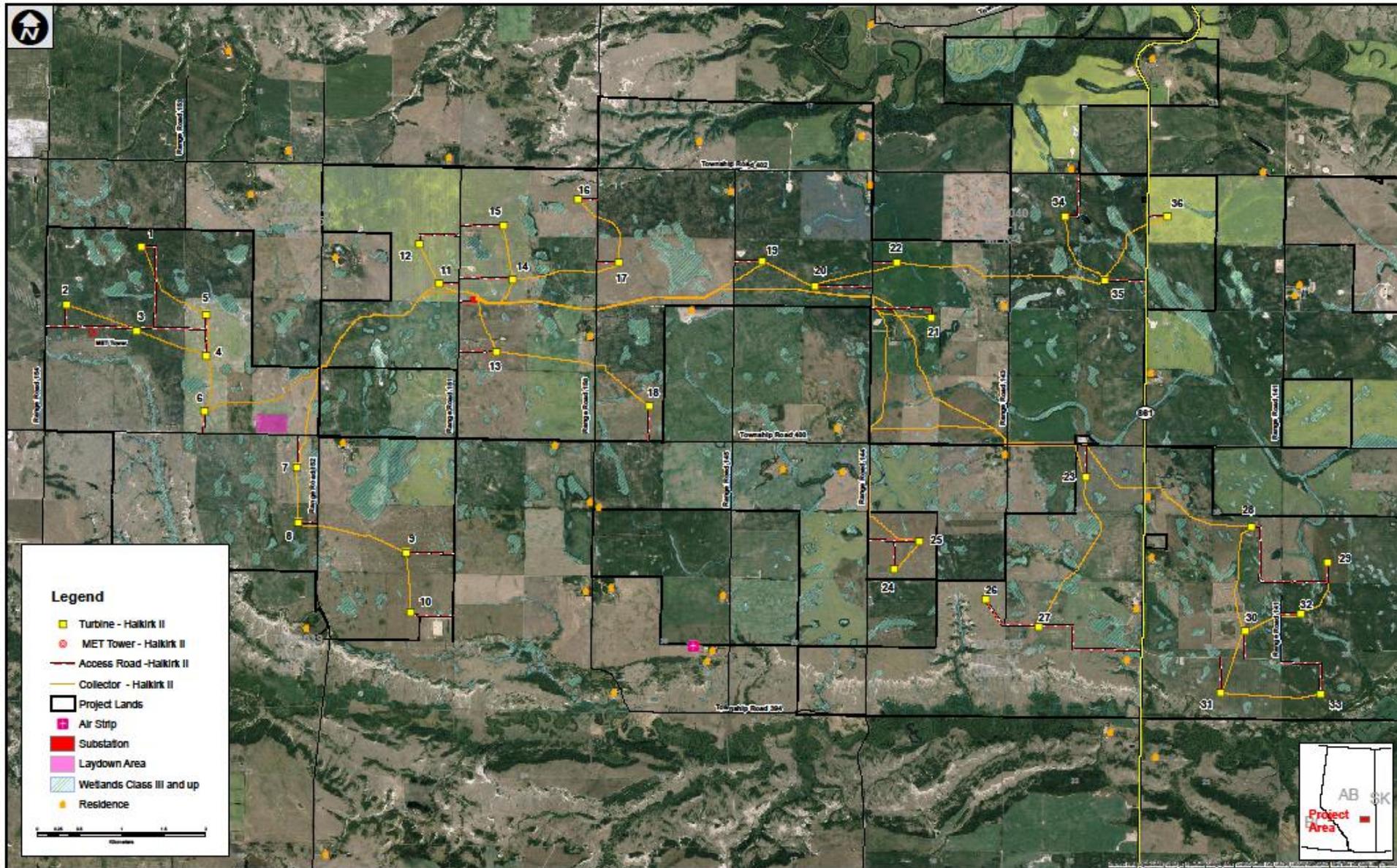
- Will work with local first responders to develop a site-specific emergency response plan for construction and operation of the facility





Halkirk 2 Wind Project overview

- 150 megawatts (MW)
- ~17,000 acres of privately-owned land in Paintearth County.
- Bordered by Township Road 404 to the north and Township Road 394 to the south. Range Road 154 to the west and Range Road 135 to the east.
- 25 to 36 wind turbines (pending final selection of make and model)
- Turbine output ranging from 4.2 to 6 MW each
- Separate regulatory applications for the substation and transmission line
- The project's design layout considers all regulatory requirements and minimizes environmental impacts





High level timelines

- **Late Q2 2022:** submit our amendment application to the Alberta Utilities Commission (AUC)
 - Application will request approval for proposed refinements and a time extension
- **Summer 2023:** begin construction (pending project regulatory approval)
- **Q4 2024:** facility in operation

Aircraft Detection Lighting System (ADLS)

Lighting plan will mitigate visual impacts

- Transport Canada requires wind facilities have flashing red navigation obstruction lights to ensure the safe operation of aircraft.
- Minimum permissible number of navigation lights used, and the duration and synchronization of the flashes kept to a minimum.
- Subject to applicable approvals, install obstruction light mitigation equipment to reduce the effects of turbine lighting on the community.
- ADLS uses radar to detect aircraft within the vicinity of the facility and turns on the navigation lighting **only when** necessary (i.e., if an aircraft is nearby).
- The navigation lights are typically off when there are no aircraft within the vicinity of the facility.



Environmental surveys or studies completed, underway or planned

| Study | Survey Timing | Status |
|----------------------------|---|--|
| Sharp-tailed Grouse Survey | March 15 to May 15 | Completed in 2016, 2018, 2020 and 2021 |
| Raptor Nest Survey | March 15 to July 15 | Completed in 2016, 2018, 2020 and 2021 |
| Breeding Bird Survey | Round 1: May 1 to June 15 Round 2: June 16 to July 15 | Completed in 2016 and updated in 2021 |
| Bat Migration Survey | Spring: May 1-31 (continuous monitoring) Fall: July 15 to October 15 (continuous monitoring) | Completed in 2016 and updated in 2021 |



Environmental surveys or studies completed, underway or planned

| Study | Survey Timing | Status |
|--|---|--|
| Bird Migration Survey | Spring: Early: April 1-20, Mid: April 15 to May 15, Late: May 1-30 Fall: Early: July 15 to August 5, Mid: August 1 to September 1, Late: August 15-September 30 | Completed in 2016 and updated in 2021 |
| Wetland and Land Cover Surveys | June-September | Completed in 2016 and 2017 Updated in September 2021 |
| Listed Plant Species Survey | Early: May-June Late: July-August | Completed in 2016 Will be updated during the summer of 2022 |
| Fish and Fish Habitat Surveys | NA | Completed in November 2021 |
| Potential historical, paleontological and archaeological resource evaluation | May-September | If required, field surveys will be completed in May or June 2022 |

Environmental requirements are detailed in the current Alberta Environment & Parks (AEP) Wildlife Directive for Alberta Wind Energy Projects (2018).

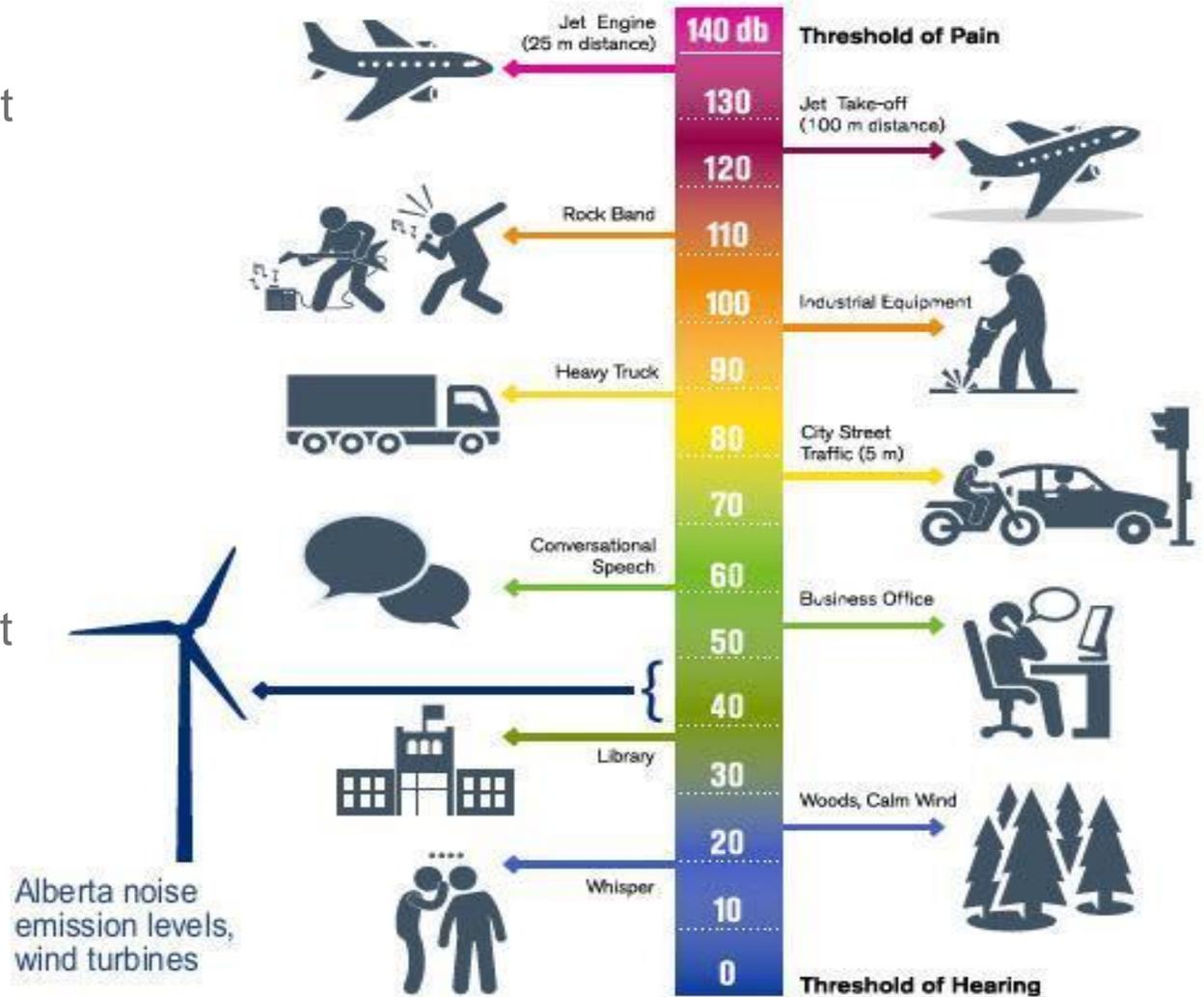
Noise

- Golder is preparing a Noise Impact Assessment (NIA) that updates the NIA that was completed in 2017.
- The updated NIA will be prepared in accordance with *AUC Rule 012 – Noise Control* and will be submitted as part of the amendment application to the AUC completed in 2022.
- The reduction in wind turbines should result in decreased noise and will remain compliant with *Rule 012*.

40 dBA Leq
AT NIGHTTIME

50 dBA Leq
AT DAYTIME

dBA = A-weighted decibel level
Leq = Equivalent continuous sound level





Shadow flicker

- Golder is conducting a shadow flicker assessment that updates the assessment completed in 2017.
- Assessment calculates theoretical maximum and adjusted case shadow flicker scenarios that may be experienced at receptors (dwellings) within the project area.
- Report must predict extent of shadow flicker at receptors within 1.5 km from each turbine where the potential for shadow flicker is possible.
- Mitigation measures will be deployed to reduce impacts caused by shadow flicker on a case-by-case basis.

Project Construction Activities

Subject to approval to proceed, construction activities would include:

- Road construction
- Foundation excavation
- Concrete foundation pouring
- Delivery of wind turbine components
- Wind turbine assembly
- Collector line installation
- Substation construction
- Testing and commissioning
- Construction remediation and site clean up



Community benefits

We are committed to being a good neighbour and supporting the community.

Halkirk 2 will bring:

- ~ **\$56 million** in tax revenue to the County of Paintearth over an approximate 30-year life of the project
- Support local community programs and initiatives.
- **200+ jobs** during construction over 12-14 months and supply chain opportunities for local contractors, suppliers and spinoff benefits including lodging and restaurants.
- **2-5 permanent** positions for operations and maintenance once operational
- Annual lease revenues to participating landowners supplement variable incomes from agriculture



Stakeholder & Indigenous engagement

Fostering understanding and trust

- Our goal: foster understanding and trust, while building a foundation for mutually beneficial relationships
- **Create meaningful opportunities** for dialogue with stakeholders and Indigenous communities
- **Listen and learn from stakeholders** to align our projects and operations with the interests and priorities of our communities
- We look for opportunities to:
 - Share benefits
 - Create connections
 - Minimize impacts
 - Collaborate



Your input is important

Contact us

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Thank you!