



# Windrise Wind Project

April 2019 Newsletter

## About the Project

TransAlta Corporation (TransAlta), through its wholly owned subsidiary Windrise Wind LP is excited to introduce the Windrise Wind Project (the Project), a 207-megawatt (MW) wind development located in the heart of our wind operations in the MD of Willow Creek.

In December 2018, the Government of Alberta announced that TransAlta's Windrise Wind Project was selected as a successful proponent as part of the Alberta Electric System Operator's (AESO) Renewable Electricity Program (REP) Round 3 process.

The wind turbines proposed for the Project represent next generation wind technology. Once constructed the Project will host the most powerful turbine on the market.

TransAlta is currently advancing the Project through permitting and regulatory processes with the goal of seeking all necessary permits and approvals to construct, own, interconnect and operate the wind farm and wind farm substation.

This newsletter will provide stakeholders more in-depth information about our project plans.

## Who is TransAlta?

TransAlta is a power generation company and marketer of wholesale electricity. Beginning as a small, local power company in 1909, TransAlta has transformed over the last century to become an experienced and respected power generator and wholesale marketer of wind, solar, hydroelectric, natural gas, and coal electricity.

Today, we are one of Canada's leading clean energy companies with nearly 110 years of generation experience. With a fleet of 18 wind facilities generating 1,332 MW of clean, renewable power, TransAlta has extensive experience in planning, developing, constructing and operating wind facilities across Canada and the U.S.

Recently, TransAlta completed construction of the 17 MW Kent Hills III wind expansion project located in New Brunswick and is currently constructing two wind projects in the U.S. which represent nearly 120 MW of new wind generation capacity.



# Project Components

The Project is located 29km southwest of Fort Macleod on approximately 11,300 acres of privately-owned land in the MD of Willow Creek. Below is information on the Project's specific components.

**Turbine Technology:** The Project will host 43 Siemens-Gamesa wind turbines. Each turbine will have the capacity to produce 4.8 MW of electricity for a total project nameplate capacity of 207 MW. The nacelle (see below), which contains the turbine generator and gearbox, will be located on top of a tubular steel towers 90m in height. Each turbine blade will be 72.5m in length with a total blade diameter of 145m.

**Underground Collector System and Substation:** Each turbine will connect through a buried underground 34.5kV collector system which will feed into the Project's substation. The Project's substation will be located near the centre of the Project site on the SW ¼ of Sec. 21 Twp. 6 Rge. 26 W4M.

**Transmission Interconnection:** The Project will require the construction of roughly 21km of transmission line which will connect the Project to the Alberta Interconnected Electric System. The transmission line will enable power generated by the wind farm to reach Alberta's electricity grid.

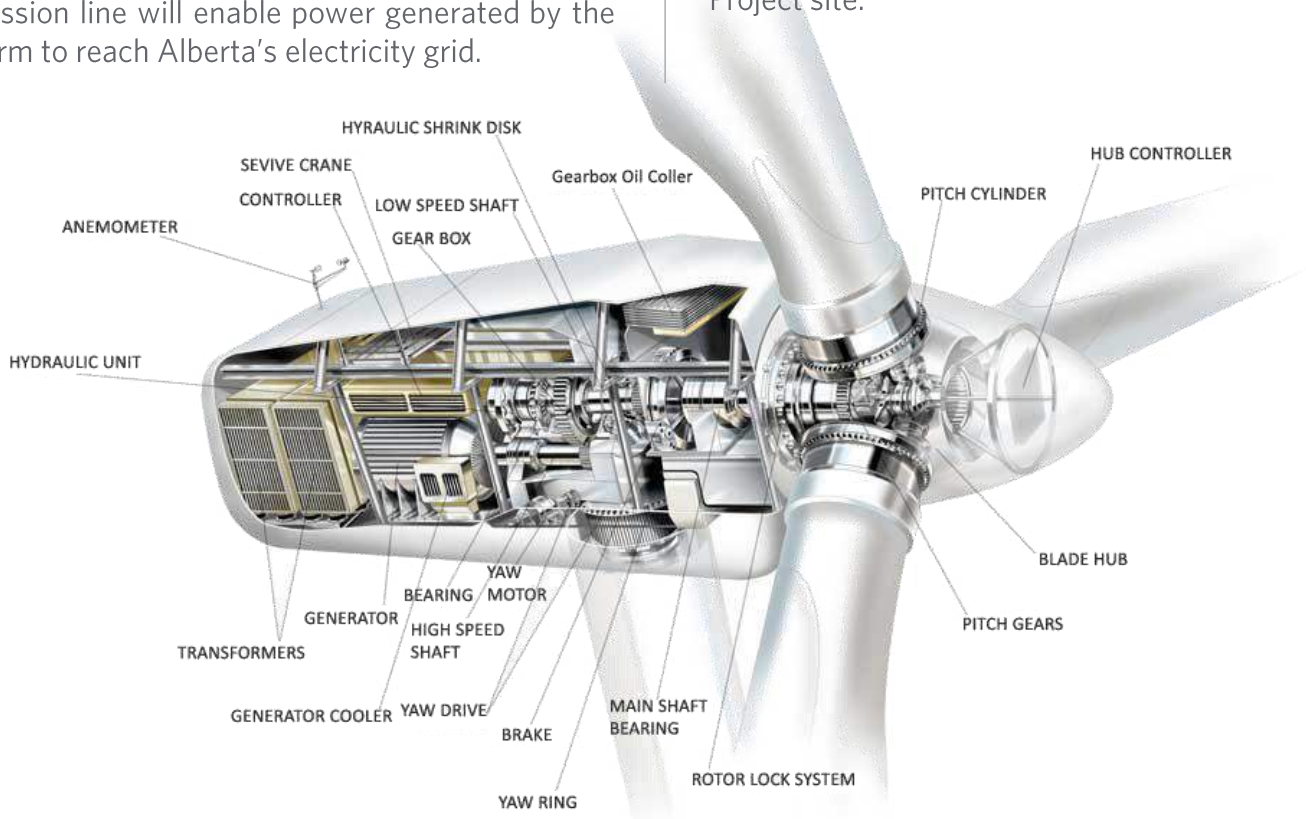
A separate and distinct regulatory, permitting and stakeholder engagement process will take place for the transmission interconnection project. To assist with this, TransAlta has contracted Maskwa Environmental Consulting Ltd. (Maskwa) to undertake work related to environmental evaluation, route selection and public and Indigenous engagement.

Information packages regarding the Project's transmission interconnection will be sent out to those stakeholders over the coming months.

**Meteorological Tower:** TransAlta will install one permanent meteorological tower on-site used for the collection of weather data. The final location will be determined and permitted at a later date.

**Roads and Access Points:** TransAlta will endeavor to use existing roads and access points for accessing turbine locations during construction and operations of the Project. TransAlta will seek approval to use local MD roads and will upgrade those under MD standards to facilitate the delivery of turbine components to site.

We anticipate approximately 20km of new permanent access roads will be built within the Project site.



## Environmental Considerations

A full suite of environmental studies were completed in the Project area throughout 2018. These year-round studies were conducted in accordance with provincial and federal wind guidelines and regulations. Recommendations provided by Alberta Environment and Parks (AEP) biologists have been incorporated into our specific study plan for the Project.

Fieldwork in the following environmental study areas is complete.

**Wildlife:** Birds, bats, amphibians and sensitive species

**Vegetation:** Habitat mapping and listed plant studies

**Wetlands:** Mapping and classification

**Historical Resources:** Archaeological and cultural features

Findings from these environmental studies have been incorporated into our final Project design and layout.



The Ferruginous Hawk is listed as an endangered species in Alberta. These hawks are somewhat confined to using the remaining areas of grassland in southern Alberta for breeding, so it's important to ensure they have a place to nest.

TransAlta's Wind Stewardship Planning and Environmental Reporting (WiSPER) program is designed as a long-term initiative to create and implement environmental sustainability initiatives at our operating wind sites to protect threatened species like the Ferruginous Hawk.

## Did you know...

TransAlta currently operates **208 turbines** from four wind farms and two exploratory wind turbines in the MD of Willow Creek totaling **285 MW** of electricity generation capacity.

TransAlta presently operates all wind farms in the MD of Willow Creek and has been a proud member of the local business community since 2001.

McBride Lake | 75 MW

Blue Trail | 66 MW

Ardenville | 69 MW

Soderglen | 71 MW

Windrise Wind | 207 MW



## AESO Renewable Electricity Program

The AESO plans and operates Alberta's electricity grid and wholesale electricity market safely, reliably and in the public interest of all Albertans. We are a not-for-profit organization with no financial interest or investment of any kind in the power industry.

The REP is intended to encourage the development of large-scale renewable electricity generation to support the Government of Alberta's target of 30 percent renewable electricity by 2030. The AESO is responsible for implementing and administering the program through a series of competitions that will incent the development of renewable electricity generation. For more information, contact: AESO Stakeholder Relations at: (888) 866-2959 or [stakeholder.relations@aeso.ca](mailto:stakeholder.relations@aeso.ca).



## Wind Project Benefits: Supporting Local Communities

Wind projects provide significant social and economic benefits to the local communities where they are hosted. The Windrise Wind Project will:

**Create new employment opportunities** for local trades-people, contractors, and skilled labourers during construction of the wind farm;

**Create long-term employment** for site technicians and maintenance personnel over the operating life of the wind farm;

**Increase purchases of goods and services** which will directly impact local businesses;

**Generate an additional source of tax revenue** for the MD of Willow Creek during the operating life of the wind farm; and

**Provide supplemental income** from annual lease payments to participating project landowners during the life of the wind farm.

“TransAlta takes great pride in supporting the people and communities where we operate. We are committed to supporting initiatives that have a lasting impact in the community.”



## Over a century of experience...

With its beginnings in Alberta over 100 years ago, TransAlta's operations now stretch across Canada, the U.S. and Australia and are a part of everyday life for many people. TransAlta is one of Canada's most experienced builders, owners and operators of wind energy facilities with 18 operating wind farms and 1,332 MW of installed wind capacity.

## Visual Impacts

Wind turbines have been a fixture on the landscape in the MD of Willow Creek since 2001.

As part of project design, visual simulations using specialized software have been created at various locations in and around the Project site. These simulations will provide an accurate depiction of the wind turbines on the landscape and will be displayed at our public Open House on May 9<sup>th</sup>.

TransAlta refers to Transport Canada's *Canadian Aviation Regulations (CARs) Standard 621* for the lighting and marking of wind turbines and wind farms. The wind turbines will be painted an off-white colour which is consistent with TransAlta's existing wind turbines located in the MD of Willow Creek.

Turbine lighting for aviation identification under *CARs Standard 621 states:*

- Two medium-intensity red flashing synchronized lights (one light used as backup) installed on top of the wind turbines surrounding the perimeter of the wind farm at a spacing of 900m apart.
- Three low-intensity red flashing synchronized lights installed at mid-tower height on the wind turbines surrounding the perimeter of the wind farm at a spacing of 900m apart.

TransAlta will submit a proposed lighting plan to Transport Canada prior to the start of construction, which will integrate best industry design practices to minimize visual impact on the landscape.

TransAlta anticipates that only 20-30 of the Project's 43 turbines will be lit as part of the lighting plan.

## Radiocommunications and Radar

Wind turbine generators, like other large structures, may have the potential to disrupt the transmission of electromagnetic signals with the potential to interfere with radiocommunication systems.

As part of project design, TransAlta commissioned an inventory and preliminary impact assessment of radiocommunication and radar systems present in the vicinity of the Project in communication with related stakeholders and in accordance with guidelines developed for industry by the Radio Advisory Board of Canada, the Canadian Wind Energy Association and the Canadian Broadcasting Corporation.

There are a multitude of variables to consider when assessing systems and impacts including land topography, turbine composition, turbine siting, source signal strength, equipment type, etc.

Companies identified as having facilities within the range of our Project were consulted as part of this impact assessment. No interference issues are expected as a result of construction or operations.

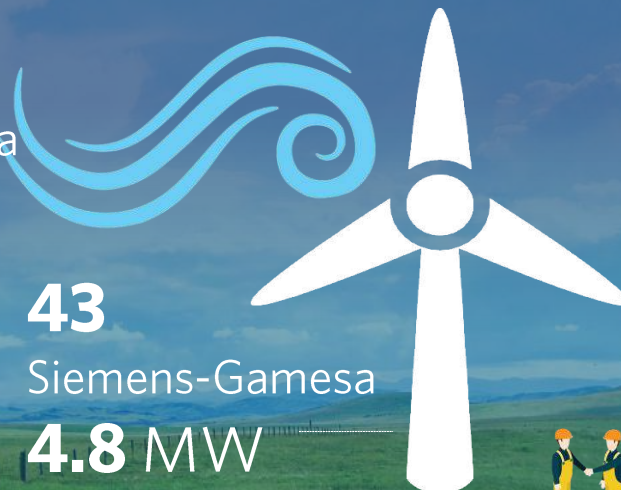


Powering  
**88,000**  
homes in Alberta

**207 MW**  
capacity



**43**  
Siemens-Gamesa  
**4.8 MW**  
turbines



Creating  
**300**  
jobs during  
construction



## Sound

Wind turbines produce sound that can originate from either air flow or mechanical sources:

**Air Flow:** As air passes over and between the wind blades, and when the wind blades pass by the tower

**Mechanical:** Created by equipment components such as the gearbox and generator, located in the wind turbine nacelle

Sound from all wind farm projects must meet stringent requirements regulated by the Alberta Utilities Commission (AUC). These sound requirements are outlined in AUC Rule 012: Noise Control, which states that sound levels from a wind farm, measured cumulatively with noise from other facilities and sources must not exceed the permissible sound level of 40 decibels (dBA) at night outside residences.

For comparison, 40dBA is what you would expect to measure in a quiet office or living room.

As part of project design, a Noise Impact Assessment (NIA) was completed for the Project to demonstrate that the wind farm, including turbines and substation components, and cumulative impacts of other noise sources in the area comply with AUC Rule 012: Noise Control. Sound level maps will be displayed at our public Open House in May.

## Class C2 Adjustment

TransAlta is planning to apply for a Class C2 adjustment in our NIA evaluation in accordance with provisions under AUC Rule 012: Noise Control.

A C2 adjustment will allow TransAlta to better demonstrate compliance with AUC Rule 012: Noise Control and ensure requirements are met for permissible sound levels at a residence, by accounting for existing background sound levels in addition to sound levels produced by the wind turbines.

To obtain the C2 adjustment, TransAlta has conducted wind measurement and sound level analysis in and around the Project area in accordance with AUC Rule 012: Noise Control.

The findings will be reported in our NIA and submitted as part of our AUC facilities application for the Project.

## Permitting & Approval Requirements

Wind projects require multiple permits and approvals from all three levels of government, agencies, regulatory bodies and other stakeholders, throughout the project lifecycle. The permits and approvals required for the Project include:

### Federal

#### Transport Canada

- Aeronautical Obstruction Clearance

#### NavCanada

- Land Use and Air Navigation Services Assessment

### Provincial

#### Alberta Environment and Parks

- Wildlife Referral - Signoff

#### Alberta Culture and Tourism

- Historical Resources Act Clearance

#### Alberta Utilities Commission

- Permit and License to construct, own and operate the wind farm
- Permit and License to construct, own and operate the wind farm substation

#### Alberta Transportation

- Roadside Development Permit

### Municipal

#### MD of Willow Creek

- Development Permit
- Road Use Agreement
- Utility Placement Permit
- Right-of-Way Consent (if necessary)

### Other

#### Utility Facility Owners

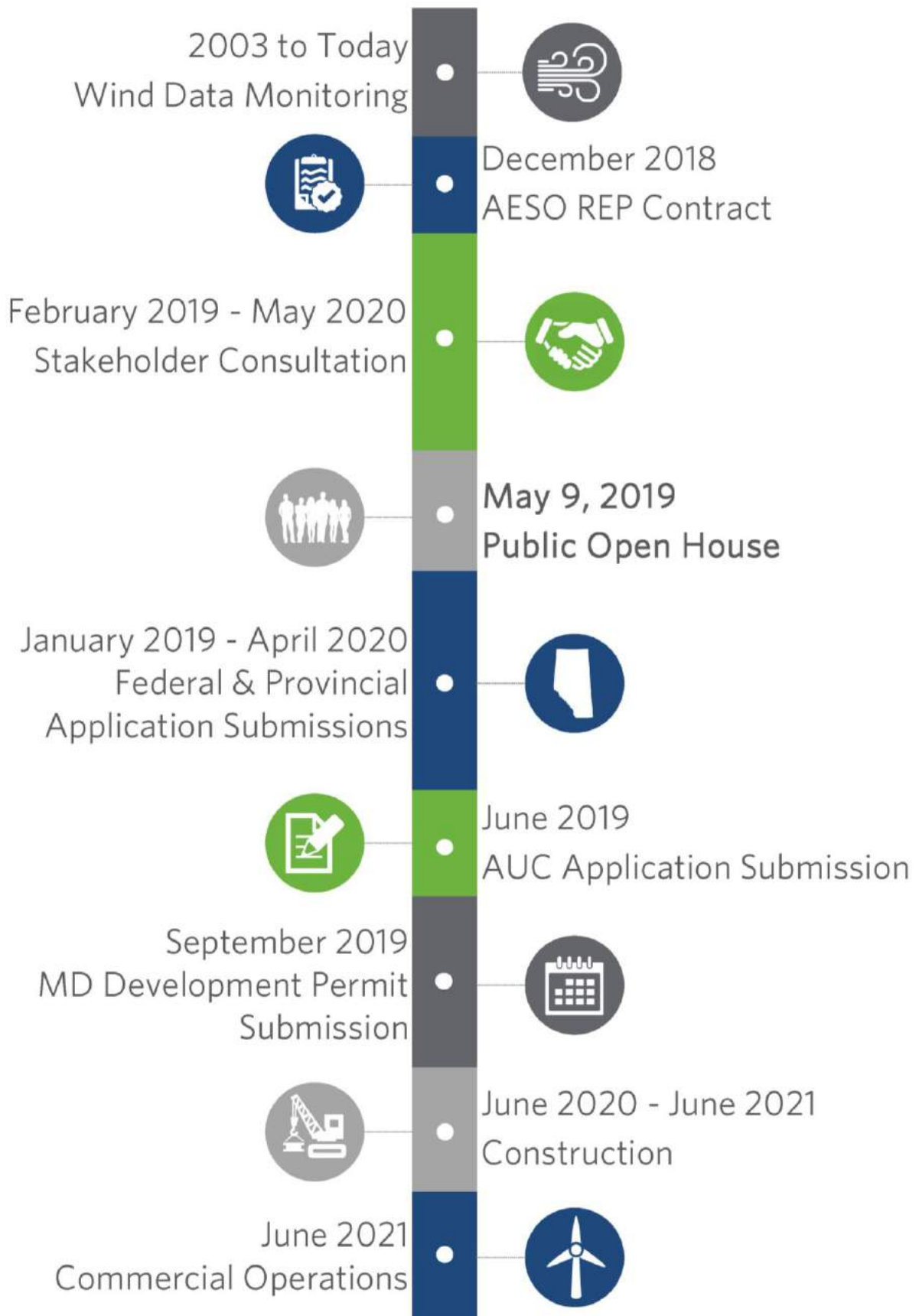
- Crossing Agreement or Right-of-Way Easements

#### RCMP / TV / Satellite / Telecommunications

- Radio comms / radar interference assessment



# Project Timeline



## Next Steps

TransAlta will continue to engage and consult with Indigenous and local communities, landowners, and other stakeholders throughout development of the Project.

As part of our consultation and engagement plan, we are pleased to invite you to a public Open House. This is a great opportunity for you to provide your input and learn more about the Project.

We encourage you to join us to learn more about the Windrise Wind Project.



**Thursday, May 9, 2019**

Doors are open from 5:00 to 8:00 p.m.



**Ardenville Community Hall**

Highway 810 between Township Road 70 & 71  
Southwest of Fort Macleod, AB



**Snacks & light refreshments will be served**

Information collected from the Open House and the overall consultation and engagement process will be compiled and included in TransAlta's application for submission to the AUC to seek a permit and license to construct, own and operate the Windrise Wind Project.

In advance of filing our AUC application, we welcome your involvement in our consultation and engagement process, and encourage you to contact us with any questions, comments or concerns you may have.

## Contact Us

For more information about TransAlta  
or the Windrise Wind Project,  
please contact us:

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