WELCOME TO THE OYEN WIND POWER PROJECT OPEN HOUSE

Renewable Energy Systems (RES) is pleased to welcome you to our community open house for the Oyen Wind Power Project (the Project). Meet the team, learn more about the Project and get answers to your questions!

Please fill out a feedback form before you leave.

WIND

ABOUT RES

OUR VISION

To be a leader in the transition to a future
where everyone has access to affordable zero carbon energy

RES Group Headquarters - Kings Langley (UK)

Renewable Energy Systems (RES) was founded in 1982 in London (UK) and is privately owned by the McAlpine family.

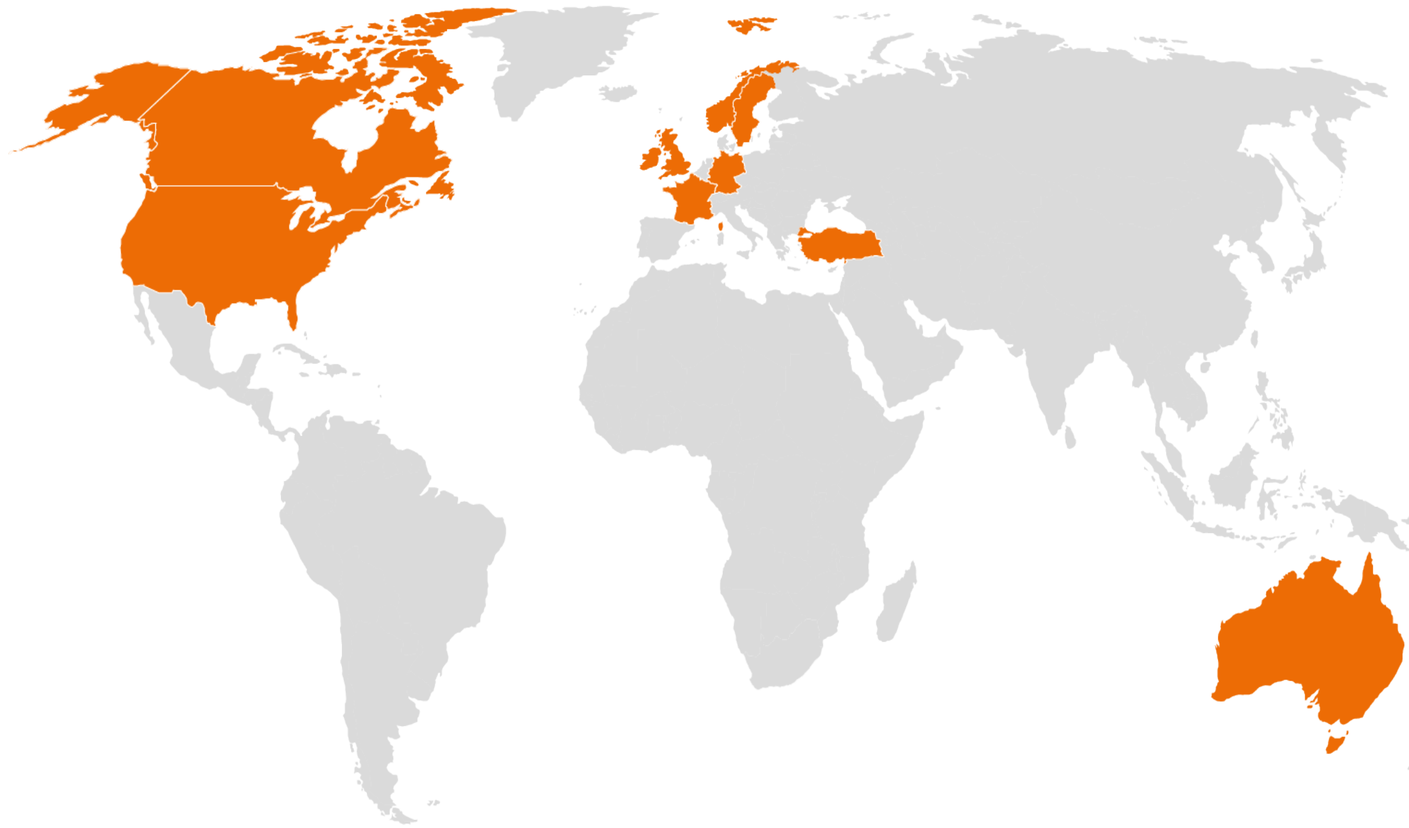
Sir Robert McAlpine began a construction business over 150 years ago. The company is still owned by the family today.

In Canada, RES was founded in 2003 and is headquarted in Montreal.

WIND

RES EXPERIENCE

RES is the world's largest independent renewable energy company. At the forefront of the industry for 40 years, RES has delivered more than 22GW of renewable energy projects across the globe and supports an operational asset portfolio exceeding 9GW worldwide for a large client base. RES employs more than 2,000 people and is active in 11 countries working across onshore and offshore wind, solar, energy storage and transmission and distribution.



23 GW PORTFOLIO

40 YEARS OF EXPERIENCE

9 GW ASSETS

WIND SOLAR STORAGE T&D

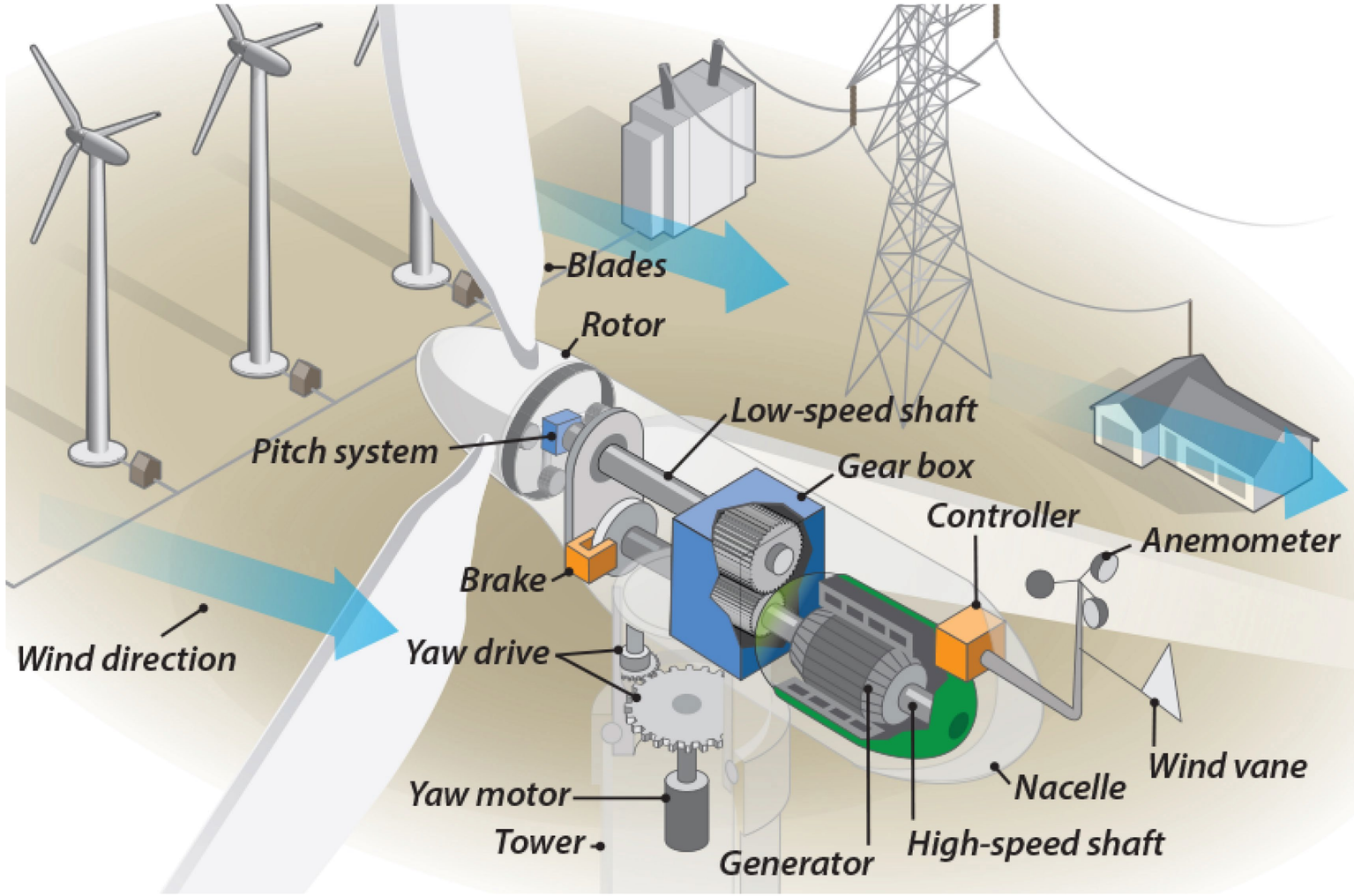
WIND

HOW WIND POWER WORKS

Modern turbines have three main components: the tower, the nacelle (or generator) and the blades.

The blades rotate when the wind blows and are attached to a gearbox in the nacelle, which turns the generator and produces electricity.

Electricity is then converted to a medium voltage AC current, transmitted via underground cables and is collected at a substation before being transmitted by overhead lines to the main electrical grid.



WIND

COMMUNITY BENEFITS

We believe our projects are net positives for the local communities in which we work.

Benefits include:

- ✓ Municipal tax revenues and landowner royalty income throughout the life of the Project
- ✓ Construction and operations jobs and support services during and after construction of the Project
- ✓ Contract opportunities for local businesses
- ✓ Increased local spending on goods and services during the Project's development, construction, and operational phases

WIND

PROJECT DETAILS

The Project is expected to:

· have a total installed capacity of up to 466 MW

· be built in two phases:

- Phase I: 250 MW / 45 Turbines (expected maximum)
- Phase II : 216 MW / 38 Turbines (expected maximum)

· comprise no more than 83 tower locations while proposing additional turbine locations to account for unforeseen constraints

· have turbines with a generation capacity of around 5.7 to 6.2 MW each

· have all collector lines buried

· include a substation, operations and maintenance building and a temporary laydown yard

· include one temporary wind measurement tower, and likely one to two long-term wind measurement towers to assess and monitor wind resource plus additional mid-term wind measurement devices.

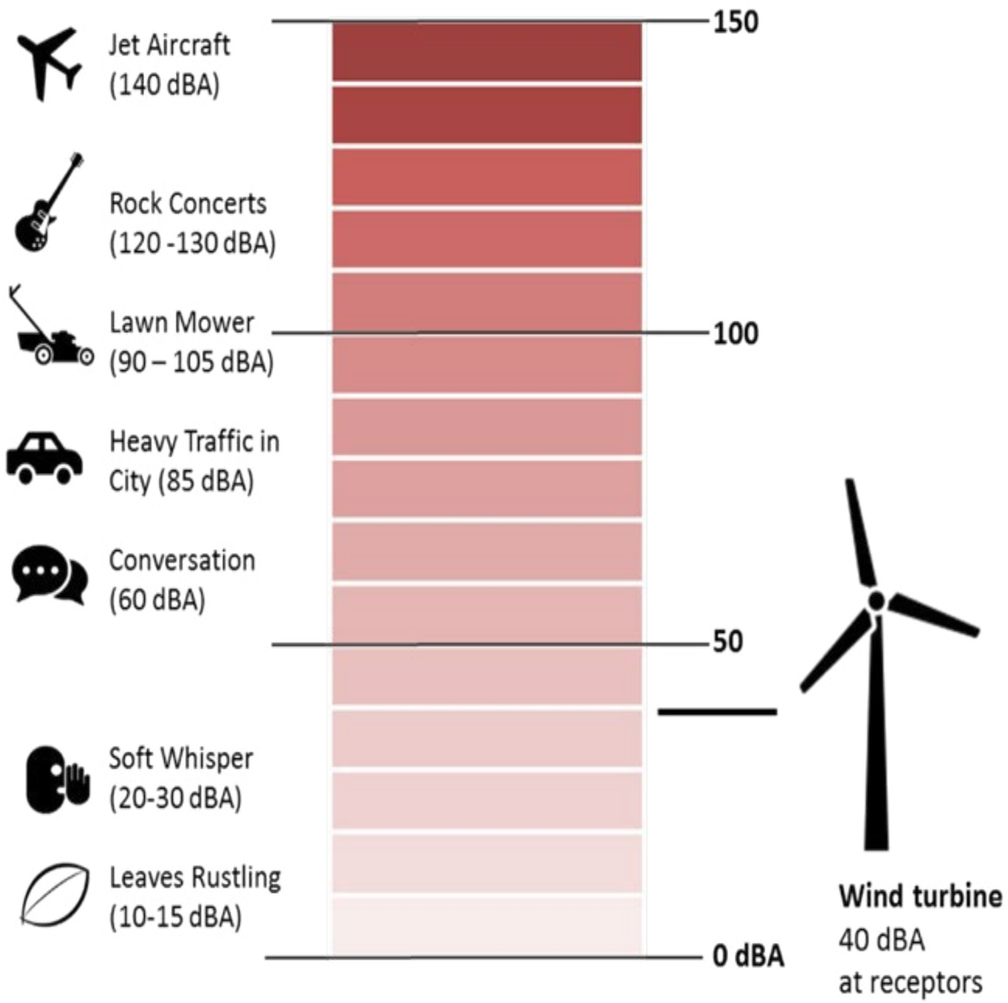
**Although Turbine selection has not yet been made, turbine hub height is typically between 95 m to 120 m and blades can measure up to 85 m long*

WIND

NOISE CONTROL

NOISE IMPACT ASSESSMENT

- All wind energy projects must meet Alberta Utilities Commission (AUC) Rule 012: Noise Control
- A noise assessment will be completed for all residents within 1.5 km of a turbine
- Noise model considers other operational projects and noise sources in the area
- Model will be prepared with ‘worst-case’ assumptions
- Rule 012: Noise Control regulates that turbines are not to exceed 40 dBA at receptors (residences) which is roughly the hum of a refrigerator



WIND

REGULATORY APPROVALS

RES will seek sign-off/approval from the following regulatory agencies and permitting bodies:

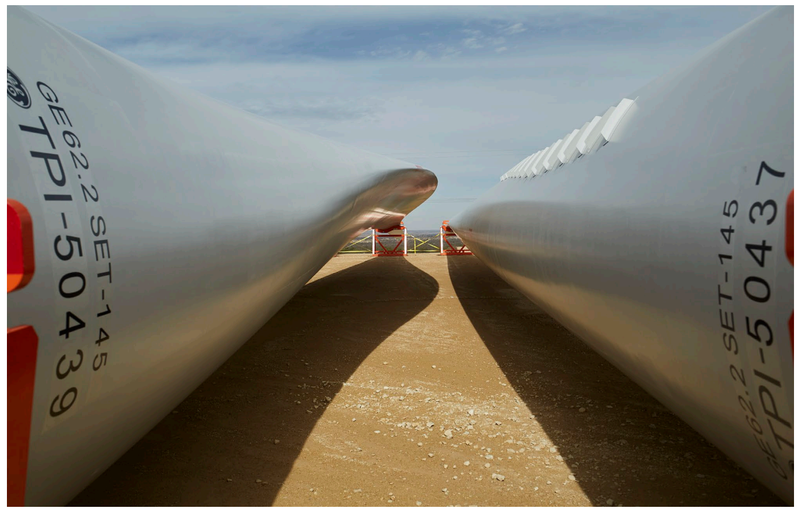
- Alberta Utilities Commission (AUC)
- Alberta Environment and Parks (AEP)
- Alberta Culture and Tourism
- NAV Canada
- Environment and Climate Change Canada
- Alberta Transportation
- Transport Canada
- Special Areas Board

WIND

CONSTRUCTION

Roads

Quarter section lines are followed as much as possible and crop impact is minimized. As there are significant wetlands in the Project area, RES will work with landowners in the road siting to reduce impact to both the environment and farming activities.

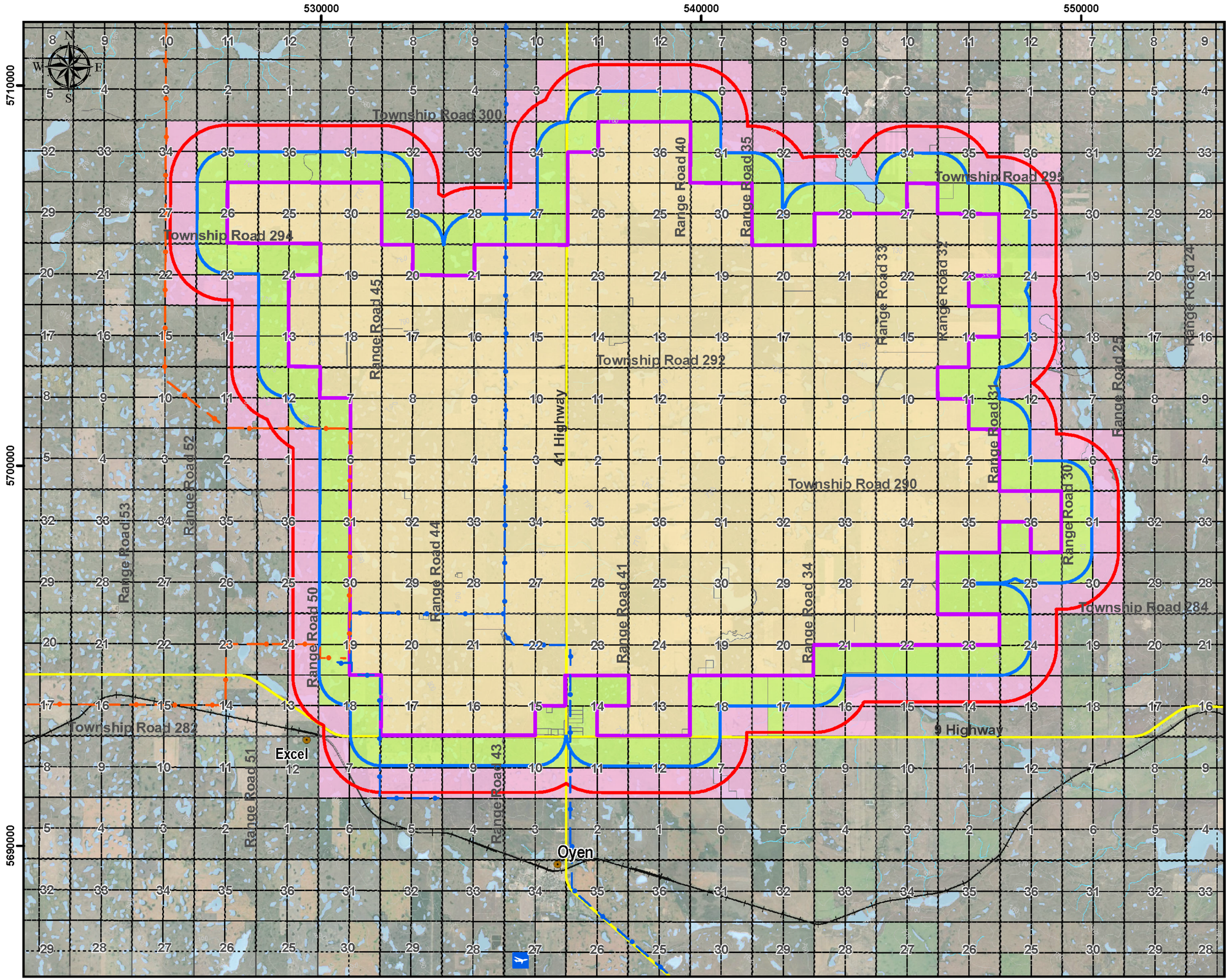


Electrical

Collector lines are planned to be buried underground and transmission lines will follow field boundaries and road right-of-way (ROWs).

Turbine footprint

Excavation of roughly half an acre is needed per turbine, reduced to less than a quarter acre after construction.



OYEN WIND POWER PROJECT
PRELIMINARY PROJECT AREA MAP

LEGEND

- Preliminary Project Area
- QS within Project Area
- QS within 800m Buffer
- QS within 1500m Buffer
- Consultation Area 800m Buffer
- Notification Area 1500m Buffer
- 138 kV Line
- 240 kV Line
- Roads
- Highway
- River & Stream
- Waterbody
- Railway
- Town
- Oyen Municipal Airport
- Quarter Sections
- Sections

Absolute Scale
1:95,000

Coordinate System:
NAD 1983 UTM Zone 12N

0 2 4 Km

RENEWABLE ENERGY SYSTEMS CANADA INC.

5605 avenue de Gaspé, Suite 508
Montreal, QC, H2T 2A4

Data Sources:
CanVec12, Altalis, ArcGIS Online
Date: September 2022

WIND

SITING CONSIDERATIONS

Did you know?

Wind farms are designed to last at least 25 years, but they are likely to last longer and modern turbines require very little maintenance.

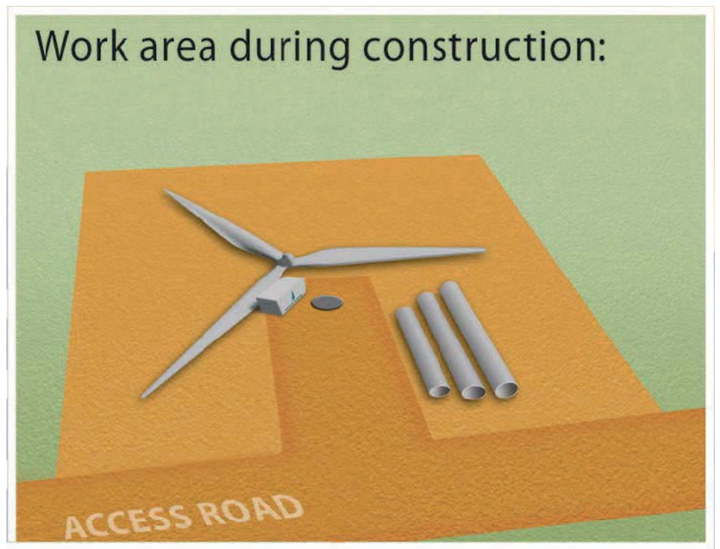
Various factors are considered during Project development including:

- Wind resource
- Electrical infrastructure - transmission and distribution lines
- Environmental constraints - wetlands, native prairie, wildlife
- Noise considerations
- Archaeological and cultural features

- Special Areas land use order guidelines and setbacks
- Community input and other interested stakeholders and agencies
- Transportation infrastructure - highways, roads, railways
- Oil and gas infrastructure - pipelines, facilities, wells

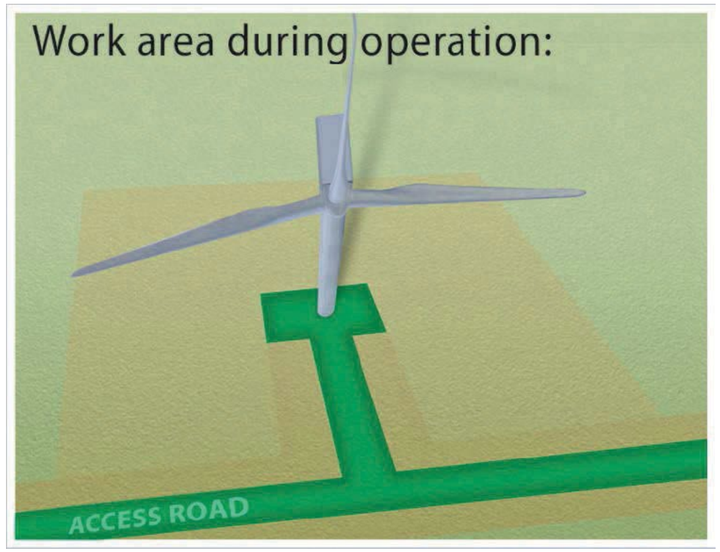
WIND

TURBINES ON FARMLAND



- Wind farms require very little land, generally less than 5 acres per turbine during construction and under 0,2 – 0,5 acres during operations!

- RES aims to maximise energy yield while minimizing impacts on land, the environment and local communities



- Turbines sited in consultation with landowners to minimise impact to farming activities

- Collector cables are mostly, if not all, burried

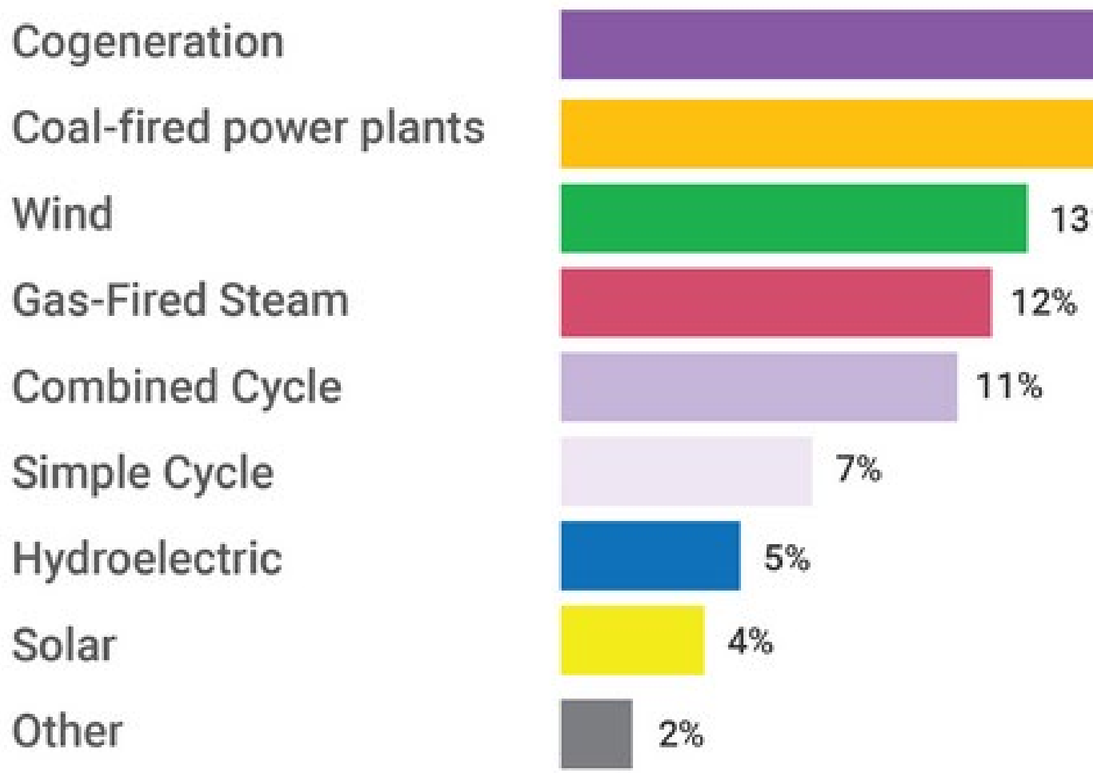
- Access roads for maintenance are narrowed following construction

- Site is remediated to return impacted area to initial state

WIND

ALBERTA'S CURRENT ENERGY MIX

Installed Capacity by fuel source



At least 65%
of Alberta's generation
capacity is
from fossil fuels

Climate Leadership Plan goal is
net zero by 2050

2021 AESO Annual Market Statistics

WIND

PROJECT TIMELINE

2022	Environmental studies conducted
Q3 2022	Participant Involvement Program (PIP) initiated
Q4 2022	First Public Open House
Q1 2023	Environmental assessment submitted to Alberta Environment and Parks (AEP)
Q1 2023	Second Public Open House
Q2 2023	Anticipated response from AEP
Q2 2023	Submit to Alberta Utilities Commission (AUC)
Q4 2023	Anticipated approval from the AUC
Q2 2024	Construction begins
Q4 2025	Target Commercial Operations Date

WIND

STUDIES

RES is conducting wildlife surveys. The Environmental Evaluation has been prepared and will need to receive final sign off from Alberta Environment and Parks (AEP).

UNDERWAY

Wildlife: birds, bats, and amphibians

Wetlands: mapping and classification

Vegetation: habitat mapping and soil surveys

TO BE COMPLETED

Noise: initial impact assessment

Historical Resources: archaeological and cultural features

Shadow Flicker: Assessment

WIND

RES IN YOUR COMMUNITY

RES seeks to be a good corporate citizen in the community and typically supports various fundraising events and special initiatives that benefit the local community

Examples of activities or organisations RES has supported:

Economic development
Local charities
Local sports teams
Local rodeos
Museums and librairies
Agricultural associations
...and many more!

DO YOU HAVE AN IDEA OF WAYS WE CAN SUPPORT YOUR COMMUNITY?
LET US KNOW!

WIND

ENVIRONMENTAL PROFILE

Site Characteristics

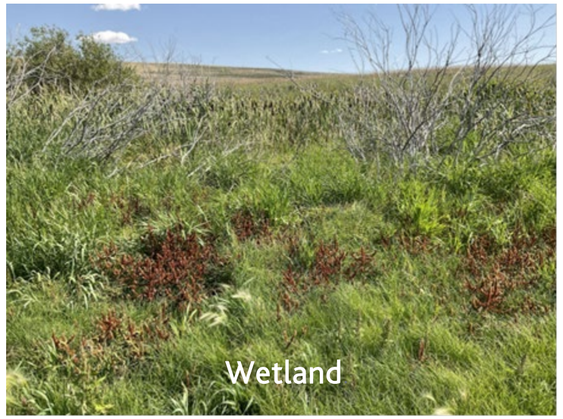
•Most areas in the study are actively cultivated for crops or hay.

•Smaller areas of tame pasture, native pasture, grasslands and wetlands were observed where livestock grazing occurs.

•Infrastructure will be sited away from native landcover (native pasture, grasslands and wetlands) to the greatest possible extent, particular importance is avoiding grasslands and wetlands.

•Rare plants were observed within the Project area, particularly in native habitats – native habitat is being avoided to the greatest possible extent.

•Project will be setback from the coulee system in the northeast.


Wetland


Grassland


This is a RES employee following our environmental safety rules by putting pylons up around a sunbathing snake to ensure the snake is safe.

Fieldwork and Mapping

•Raptor stick nest, sharp-tailed grouse lek, spring avian use, breeding bird survey, spring acoustic bat migration, early and late season rare plants, and wetland mapping surveys have been completed in 2022.

•Fall avian use and acoustic bat migration studies are underway in fall 2022

•RES is committed to timing construction activities outside of sensitive breeding periods

•Additional soil and historical resources studies will be completed once a preliminary layout is determined

•Final mapping of sensitive wildlife and vegetation features will be used to support the avoidance planning for the Project infrastructure.

THANK YOU!

We appreciate you taking the time to join us.
RES would be happy to follow-up with you if you have any other questions about the Project.

Please fill out a feedback form.