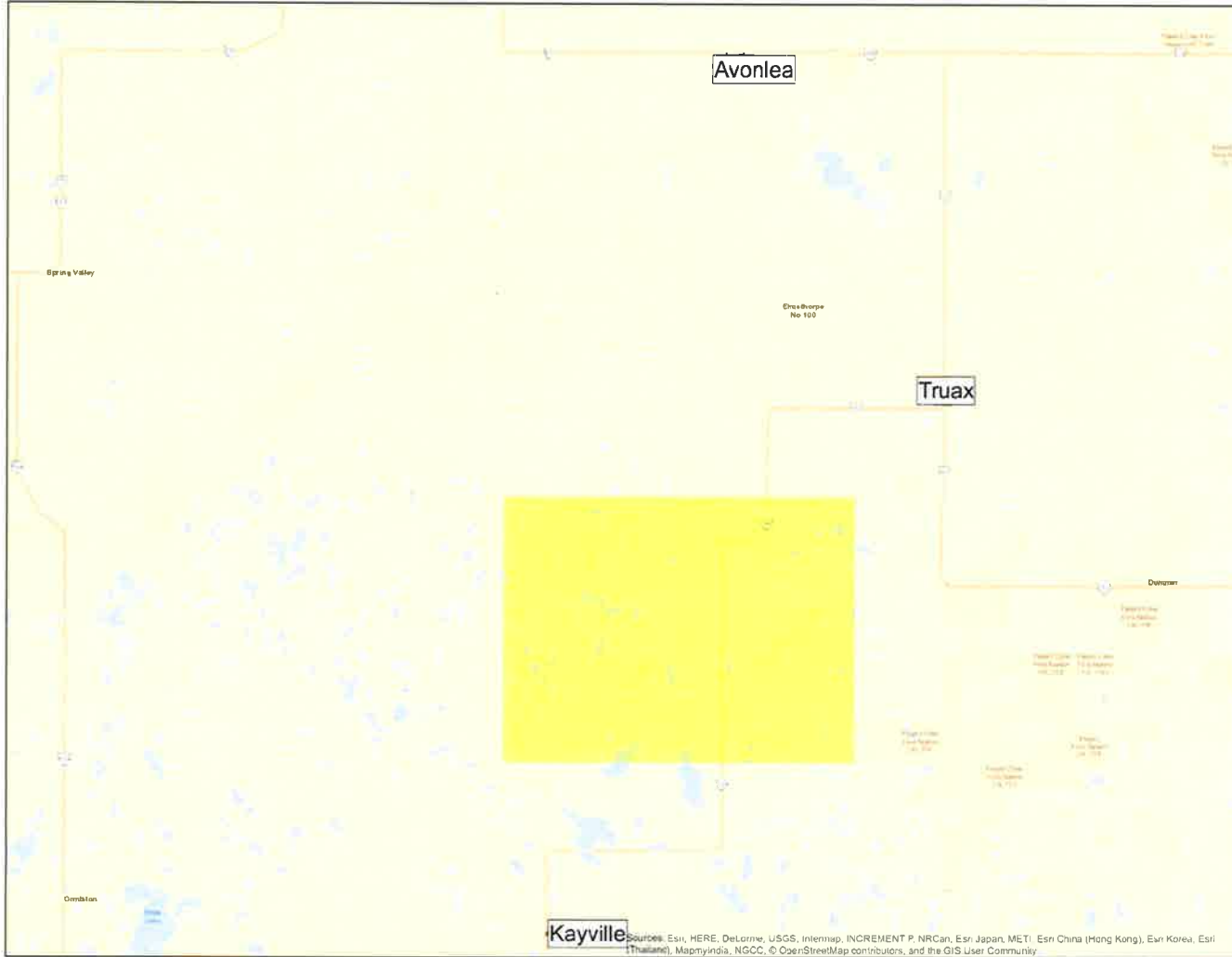


**WELCOME  
ELMSTHORPE WIND POWER PROJECT  
OPEN HOUSE**



# PRELIMINARY AREA OF INTEREST



**Legend**

Elmsthorpe Project Boundary

Content may not reflect  
National Geographic's current  
Map policy. Sources: National

No.	Date	Description
REVISIONS		

0 1,700 3,400 6,800  
Meters

**Algonquin**  
ALGONQUIN POWER Co.

**ELMSTHORPE WIND PROJECT**

TITLE  
**Project Site**

DATUM/PROJECTION: NAD83/UTM ZONE 13N	SCALE: 1:200,000
DRAWN BY: D THOMPSON	DATE: FEB 5 2018
DRAWING No. <b>ELMS - 112</b>	REVISION No. <b>1</b>

Sources: Esri, HERE, DeLorme, USGS, Intermap, INCREMENT P, NRCan, Esri Japan, METI, Esri China (Hong Kong), Esri Korea, Esri  
Thailand), MapmyIndia, NGCC, © OpenStreetMap contributors, and the GIS User Community

# ALGONQUIN POWER CO. NOW LIBERTY POWER

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## Algonquin Power Co. now Liberty Power

We are proud to announce that in 2017, Algonquin Power Co. has rebranded to Liberty Power, marking the next step in our organization's evolution as a rapidly growing non-regulated power generation leader in North America.

This rebrand will position our organization to better leverage operational efficiencies and align our brand with our sister organization "Liberty Utilities."

While our name has changed, we are still committed to the same values and vision that have made us successful since our organization's inception in 1988. We still share the same values, passion for renewable energy, and commitment to the communities that are home to our facilities. Our organization continues to be led by the same group of talented professionals and visionary leaders.

Our organization continues to operate as you have come to expect and no changes to our contact information are occurring at this time.



# ABOUT LIBERTY POWER



- A subsidiary of Algonquin Power & Utilities Corp., Liberty Power (formerly known as Algonquin Power Co. or “APCo”) is a non-regulated generation business that owns or has interests in a portfolio of North American based contracted wind, solar hydroelectric, and natural gas powered generating facilities representing approximately 1.5 GW of installed capacity.
- APUC, has been traded on the Toronto Stock Exchange since 1997 and the New York Stock Exchange since 2016.



## Wind across North America

### Canada

Morse, SK (25 MW)  
Red Lily, SK (26.4 MW)  
St-Damase, QC (24 MW)  
St-Leon I, MB (104 MW)  
St-Leon II, MB (16.5 MW)

### United States

Deerfield, MI (150 MW)  
Minonk, IL (200 MW)  
Odell, MN (200 MW)  
Sandy Ridge, PA (50 MW)  
Senate, TX (150 MW)  
Shady Oaks, IL (109.5 MW)

**Total 1.5 GW**

# SASKPOWER REQUEST FOR PROPOSALS



## Preliminary Procurement Timeline \*

2017 Q1  
Request for  
Qualifications

2018 Q1  
Request for  
Proposal

2018 Q3  
Contract  
Awarded

2021 Q2  
Project  
In-Service  
Target



## Preliminary Project Timeline \*

2017 & 2018  
RFQ & RFQ

2018  
Permitting

2019 & 2020  
Permitting &  
Construction

2021  
Construction &  
Operation

# THE TURBINE SITING PROCESS

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- Setback distances:
  - Municipal By-laws
  - Industry Standards & Practices
  - Provincial Wind Siting Guidelines
  - Sound Levels
  - Safety



- Archeological Investigation

- Environmental Factors

- Visual Impact

- Characteristics of Local Wind

- Prefer Cleared or Open Land and Avoidance of Tall Buildings or Forested Areas



- Landowner Consultation and Considerations

- Avoid Sensitive Areas (wetlands, sensitive wildlife habitat, etc)



# WIND TURBINE SITING FACTORS

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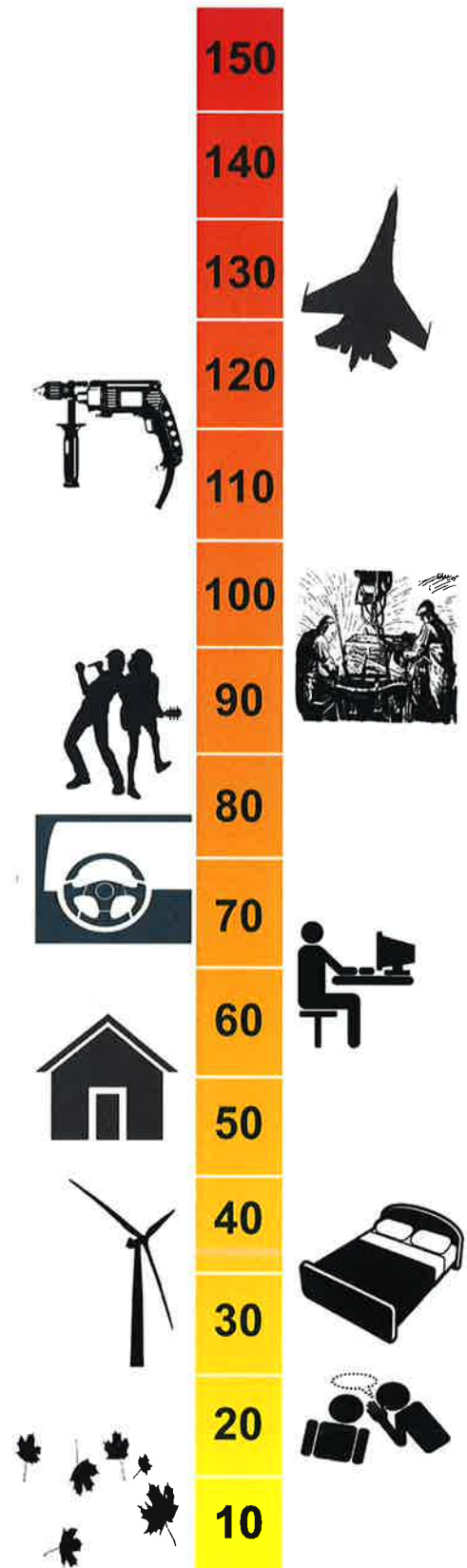
- Wind Data from MET Tower
- Provincial Regulations
  - Turbine Siting Guidelines
- Local Regulations
  - Official Community Plan
  - Zoning By-laws
  - Other Restrictions
- Land Assembly
  - Participating Landowners
- Environmental Factors
  - Wildlife (plants and animals)
  - Wetlands
- Built Environment
  - Road Network
  - Buildings / Residences
- Topography
- Archeological Investigation



# WIND POWER TECHNOLOGY

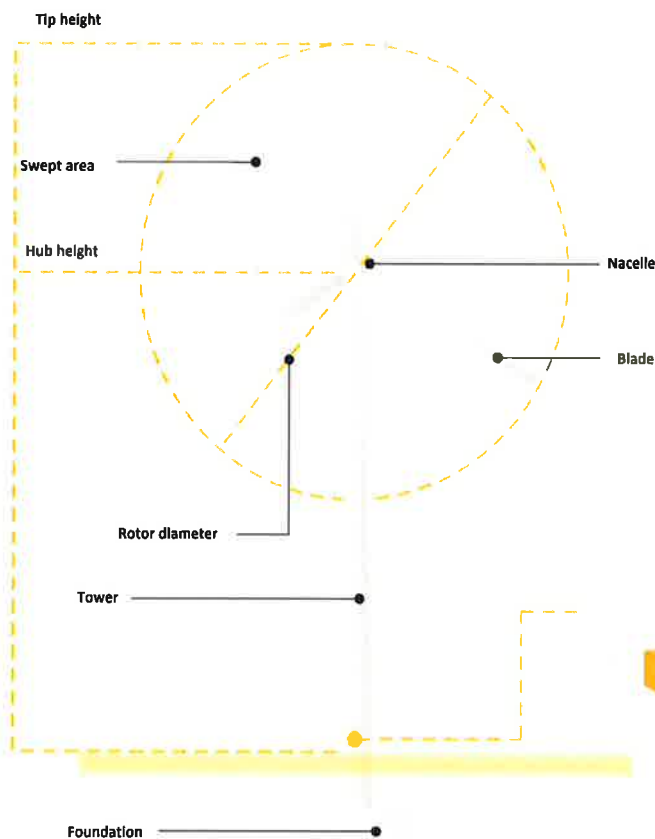
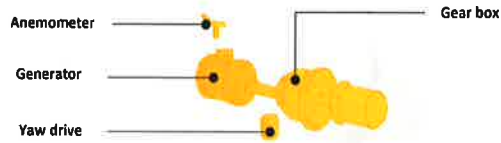


- The efficiency of wind turbines has increased greatly and has made this power source more attractive to utilities
- Wind turbines typically utilized in Canada produce between 1 and 3.5 MW of power
- Continuous technological and siting design improvements reduce environmental impacts
- Most modern wind turbines at a distance of 600 metres generate a maximum noise level of 30 - 40 decibels. This is equivalent to the sound level in a library.



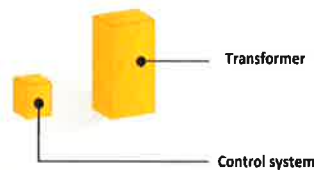


# HOW DOES WIND POWER WORK?



## TURNING WIND INTO ELECTRICITY

Wind power is the fastest growing energy source in the world. Turbines powered by wind are mounted on towers 100 or more feet above the ground, where the wind is faster and less turbulent.



## HOW IT WORKS

(1) When the blades start moving, they spin a shaft that leads to a generator.

(2) The generator consists of conductor, such as a coiled wire, that is surrounded by magnets.

(3) The rotating shaft turns the magnets around the conductor and generates an electrical current.

(4) Sensors cause the top of the turbine to rotate to face into the wind and the blades change their angle to best catch the wind. The blades are flexible and stop spinning if wind is too strong.

# THE ENVIRONMENTAL APPROVAL PROCESS



## Environmental Assessment

Environmental Assessment (EA) is a process used to assess and predict the environmental effects of a proposed project before it is carried out.

In Saskatchewan, the process is formalized through The Environmental Assessment Act.

Ensures that development in Saskatchewan proceeds with suitable environmental safeguards in a manner that is broadly understood by the public.

## Environmental Approval Process



## Environmental Impact Assessment (EIA)



# BENEFITS OF WIND POWER



## Greenhouse Gas Emissions Reduction

Saskatchewan currently has the 2nd highest per capita GHG emissions in Canada\*

~75% of electricity generation in Saskatchewan comes from fossil fuels

Wind Power has one of the lowest lifecycle GHG emissions of any generating technology\*\*

### Cost

Wind is the lowest cost source of new electricity generation\*\*\*

### No Air Pollution

Wind turbines do not emit air pollution while producing electricity

### Water Conservation

Wind turbines do not use any water or release any by-products while producing electricity

### Small Footprint

Minimal acreage required, therefore allowing existing land uses to continue

### Scale

Potential to Power Up to 75,000 homes

\* Lawrence National Centre for Policy and Management (2016)

\*\* National Renewable Energy Laboratory (2013)

\*\*\* Lazard Levelized Cost of Energy Analysis (2016)

# SOCIAL BENEFITS



## LOCAL BENEFITS

Community  
Benefits  
Agreement

Property Tax  
Revenue

Compatible with  
existing  
agricultural  
practices

Spin-off  
benefits to local  
businesses

Revenue to  
local  
landowners

## NATIONAL BENEFITS\*

23 percent  
industry growth  
during 2015

10,500 jobs

\$3 billion in  
investments  
during 2015



\* CANWEA (2016)

# PUBLIC, HEALTH AND SAFETY

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- Traffic Management Plan for safe management of traffic and delivery of materials along public roads
- Limiting access to construction sites to minimize hazards to the public
- Implement:
  - Emergency Response Plan
  - Communications Plan
  - Spill Response Plans
  - Training for construction staff
- Train operations staff and implement operations and maintenance protocols to minimize risks to public health and safety
- Project turbines will be supplied by an established turbine manufacturer



# DECOMMISSIONING THE PROJECT

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- Decommissioning activities would be similar to construction activities
- Sites could be returned to pre-project conditions including removal of infrastructure to below ground level and replacement of topsoil
- Most turbine components are recyclable

