WORKSHOP
DISCUSSION PAPER

Wind Energy in Alberta:

SUSTAINABLE COMMUNITIES, SUSTAINABLE ENVIRONMENT

Local government capacity and wind energy

SUMMARY

Wind energy development projects require significant interaction and coordination between wind companies and municipalities. Effective engagement during the regulatory process and construction permitting process are essential to ensuring projects are built with respect for local values and priorities.

Local government and wind energy facilities

Wind energy projects present significant economic and community building opportunities for local governments in Alberta. This includes municipal districts, counties, towns, and villages (referred to as municipalities or municipal governments). Municipal taxation of wind energy facilities provides local governments a stable, long-term source of revenue. Wind projects, directly and indirectly, generate employment and contracting opportunities for support services that may contribute to local prosperity and community vitality.

While presenting community benefits and economic opportunities, wind energy projects can also create demands on municipal staff workload and other issues that municipal councils need to navigate. During the development and construction stages, wind energy projects can create significant administrative workloads for municipal governments. For example, municipalities may be involved in early project planning and regulatory processes, and will respond to construction plans, traffic management plans, reclamation plans and permit applications. An average 100 megawatt (MW) project with 50 turbines may have over 30 kilometres of access roads, cross multiple bridges, use 40 kilometres of municipal right-of-way areas, and require over 100 municipal permits.

In Alberta, municipalities have the ability to establish bylaws determining wind turbine setback requirements. This means that municipal councils can make decisions on the minimum distances (setback) of wind turbines from residences, roads, public buildings (e.g. schools and churches) and other community resources. Depending on the nature of the project, municipal officials may have to respond to questions and demand for greater engagement from the public.

This paper highlights the role Alberta municipal governments will play and the capacity required with the expected volume of new wind energy developments in the next 10 years. The final section presents questions for further discussion at the workshop.

Municipal involvement in the regulatory process

The Alberta Utilities Commission (AUC) manages the regulatory process for large-scale (greater than five MW) wind energy facilities in Alberta for many matters, including stakeholder input. AUC Rule 007 provides specific opportunities for municipal involvement in the regulatory process. Developers must adhere to several requirements in respect of local governments (normally counties or municipal districts) including:

- Providing details and outcomes of consultation with the municipality;
- Clarifying how the project meets municipal requirements, including setbacks;
- Outline discussions with municipalities to ensure compatibility with municipal services in relation to required transmission lines; and,
- Confirm compatibility with regional land use plans.

It is common for developers to make changes to the design and layout of wind projects based on the results of consultation with landowners and municipalities, or as the result of environmental studies and technical considerations (i.e. wind turbine models). In Alberta, wind developers are also required to submit a decommissioning plan specific to their project, which covers some, or all, of the following:

- Equipment and infrastructure that would be dismantled;
- Restoration of municipal rights of way, where applicable;
- Restoration of access roads, where applicable;
- Plans for soil remediation, including work to de-compact soil where appropriate (i.e., agricultural areas);
- Removal of turbines and turbine foundations (often the top one meter of concrete); and,
- General environmental remediation work during decommissioning activities.

While the decommissioning report is a requirement, many wind energy companies point to other options, such as repowering wind facilities or refurbishing equipment, when the initial operational life has expired, as opposed to a full decommissioning.

Local permitting (pre-construction)

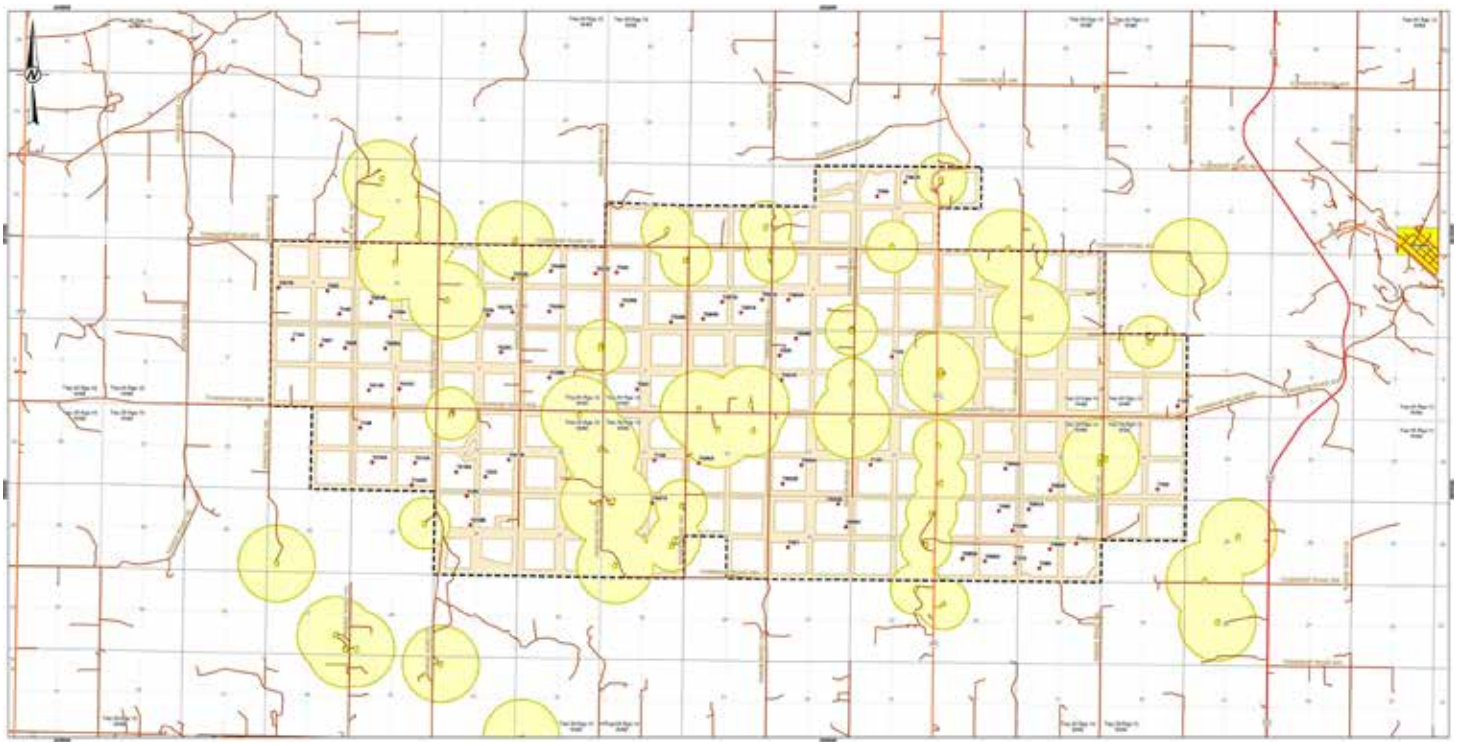
A typical wind energy facility will require the following permits: 1) road use permit, 2) access road entrance permit, 3) authorization to work in municipal right-of-way; 4) development permit for each turbine foundation; 5) building permits for the Operations Centre and substation; 6) certificate of completion.

For local permitting of construction activities, developers and municipalities work closely together during the permitting process. Municipalities look for permit applications to be thorough with sufficient back-up or supporting material. Time is often required for municipal staff to review large volumes of complex material. Companies may be challenged by scheduling needs and look to manage the overall cost of the permitting process. Permitting costs, administrative capacity, staff experience and technical background will vary between municipalities.

Wind developers whose project area spans two municipalities (counties or MDs) may face additional complexities, as there will be a requirement for permits from both jurisdictions. Conversely, nearby town and village governments will not have control over the permitting process (but may be near wind projects) and so may present their interests to developers outside the permitting process. Both situations require a significant commitment to engagement and coordination by municipalities and developers.

Municipal Constraints

The image shows the required setbacks based on municipal requirements of 500 metres from a participating residence and 750 meters from a non-participating residence. Not shown here are additional constraints on turbine siting that may be present from environmental features, such as wetlands and sensitive habitats.



Applicable bylaws and community plans

Municipalities in Alberta have the authority to determine wind turbine setbacks and formalize these in bylaws. These bylaws may cover some, or all, of the following elements:

- Municipal roadways;
- Property lines of participating landowners (those with project infrastructure on their land) and non-participating landowners (those without infrastructure on their land or development agreements);
- Dwellings on lands owned by participating and non-participating landowners; and,
- Sites of potential residence locations.

These land use bylaws are one of the critical elements for developers in planning their wind projects, as they will have significant impacts on the siting (i.e. placement) of turbines. Siting decisions are complex as these are based on the location of the wind resource, but also include additional factors such as landowner interests, environmental constraints, and proximity to other turbines.

The approach in these types of bylaws in Alberta vary widely. For example, some municipalities will have bylaws establishing specific setbacks, while others refer to the provincial regulatory policies on noise from wind turbines, and some have no specific regulation on siting.

At all stages of the development cycle, wind developers must be aware of and operate in compliance with local zoning requirements covered in municipal development plans or land use bylaws. Municipalities update and review these plans as determined by Council, and these processes include community input. Higher level regional plans, for example the South Saskatchewan Regional Plan, may also influence development and conservation values.

Workers undertaking the cement pour on a turbine foundation. A single foundation may include 44 tonnes of rebar and require 40 truckloads of cement.

Construction and the municipality

Construction represents the most active phase of a wind energy project, in terms of on-the-ground personnel, equipment and overall activity. For example, the construction of a 100 MW wind facility may involve (approximately):

- Over 200 workers on site at peak;
- 600 truckloads of turbine components;
- 2,000 cement truckloads for turbine foundations;
- 100 km of electrical collector line systems trenched into municipal road allowances;
- 30 km of new access roads created;
- Construction of a central operations and maintenance facility; and,
- Construction of a central high voltage electrical substation.

> The entire construction process may take place over 12-18 months.

This activity has an impact on municipal infrastructure, particularly roads (paved or gravel), bridges and ditches. Municipal staff seek commitments from wind project developers to repair construction damage promptly and thoroughly. These commitments are typically contained in a Road User Agreement (RUA) that outlines the parameters for developer use of municipal infrastructure, as well as remedial action at the conclusion of construction. Areas covered under an RUA may include:

- Clear commitment to repair construction related damage upon completion of the construction process;
- Process for documenting the condition of roads, bridges and culverts prior to the start of construction and at the end of construction;
- Process for confirming construction damage and how damage will be repaired (developer to hire contractor; financial payment to municipality, etc.);
- Identification of specific roads, sections of roads, intersections, bridges or signage requiring modifications for equipment delivery;
- Agreement on how to deal with seasonal "road bans" during the construction periods;
- Identification and agreement of heavy haul corridors within the project area;
- Routing for any new infrastructure to be installed in road allowances (underground power lines, junction boxes, communication boxes) and how the infrastructure will be protected, and any associated required installation standards;
- Coordination of any currently planned municipal infrastructure projects during the construction period or within the foreseeable future after the construction period;
- Warranty of any repair work performed; and,
- Tree replacements.

During both construction and operations, municipal emergency services (i.e. police, fire, ambulance) may also be called upon by wind development companies and on-site staff.

Community engagement

Municipal government is often the first point-of-contact for residents when they learn of a large development in their community. Councillors and staff may become focal points for residents seeking information or actively working to influence the decision-making around permitting and zoning. Questions commonly asked by residents about wind developments include: changes to land-use, property value impacts, revenue possibilities, job creation potential, noise, health concerns, visual impacts, surface disturbance and impacts on local species.

Local governments may find themselves involved in matters that they neither anticipated nor are within the municipality's jurisdiction. For example, municipal officials may find themselves asked to evaluate wind turbine sound levels in relation to possible annoyance issues, or to support/conduct studies on health and other topics.

Timely and effective resolution of additional concerns to residents often requires direct engagement with the project developer. For example, concerns over surface disturbance, invasive plants, wildlife impacts, and traffic impacts (construction) may be addressed during the developer's project planning activities. Efforts to build developer awareness of the local contractor base are best done through on-going dialogue with the developer. This may involve economic development staff as well as individual businesses or contractors. Project developers and their prime contractors may hold specific events ('contractor/job fairs') to meet potential suppliers and members of the local workforce.

Questions for consideration

The following questions are proposed for further discussion:

Municipal capacity

- In terms of staff and municipal resources, what are the needs of counties and municipal districts relating to new wind projects, particularly in cases where certain municipalities will see multiple projects?
- What can developers and municipalities do to establish a good working relationship prior to the start of construction?
- What steps can be taken can take to address limited municipal capacity and resources (where this exists)? Who are the best entities to take those steps?

Consultation and engagement

- What can municipalities do to ensure their input is incorporated into wind project planning during the regulatory approval process?
- Are there opportunities for municipal governments and developers to work together to engage the community?
- What are the best practices for engaging the community?

Local permitting, bylaws and setbacks

- What are the best practices for permitting processes to ensure efficiency and effectiveness?
- What is the experience of municipal Councillors and staff who have developed bylaws regarding local setback regulations?
- Is there a role for the provincial government in these processes?

Infrastructure and post-construction reclamation

- Are there best practices in terms of Road Use Agreement development and execution?
- How can post-construction reclamation work be made more efficient and effective?

APRIL 2017

FOR MORE INFORMATION:

This paper is one in a series prepared for **Wind Energy in Alberta: Sustainable Communities, Sustainable Environment** initiative, a project to gain input from stakeholders on responsible growth of this renewable resource in the province. This series includes the following papers: Benefits to local economies; Communities, neighbours and wind energy facilities; Environmental benefits and mitigation of wildlife impacts and Local government capacity and wind energy.

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