Introduction

Wind farm development is increasing around the world as a greener means of energy production. With this have come questions around potential health effects associated with wind farms. Although noise is commonly cited as a public concern, there is a broad and non-uniform array of other health concerns that may vary depending on social and environmental conditions in the area in which the wind farm is situated. In this poster, we identify health-related issues that have been identified by different stakeholder groups in an impact assessment underway on a proposed wind farm in southeastern Alberta, Canada.

Project details

The wind energy project is a proposed 775 MW project anticipated for southeastern Alberta, Canada. If this project were built today, it would be one of the largest wind energy projects in the world, consisting of between 259 and 379 turbines spread over approximately 90,000 acres. The project is located in a rural agricultural area comprised of small towns of 500 to 1,900 people.

An integrated assessment is currently underway for this project; the study’s anticipated completion date is March 2011.

Methods

As part of the impact assessment, three groups were consulted about perceived health issues. These included:

a) Community residents including affected landowners and other local residents;

b) Municipal stakeholders (economic development officer, public works, police, and the public school board);

c) Health and social services (hospital administrator, physicians, public health nurse, pharmacist, emergency services coordinator, family and community social services).

Issues identified by these groups were compared to those identified from a review of the literature (see references). Finally, these issues were supplemented by the technical knowledge of the HIA consultants.

Contextual Factors

Some of the contextual factors that we believe influence local population perceptions of the potential health effects of this project are:

• Density: Southern Alberta has a very low residential density in its rural areas; individual turbines and construction activity staging sites have large buffers and few directly affected homes.

• Land use: Land is often viewed primarily as a commodity or revenue generator, as opposed to a visual or cultural resource.

• Remote ownership: Farmers often have their primary residence in town, and do not necessarily live on the lands they lease out for turbines.

• Prior framework for resource leasing: There is a long-standing history in Alberta of rural landowners leasing their lands for resource development, such as for oil and gas development or subsurface mineral rights.

Conclusions

Several issues that were not found in the literature were identified by local stakeholders as issues of local importance. This difference illustrates that context and location may determine which issues should be examined. It also reinforces the importance of stakeholder consultation in HIA.

References


Results

The following issues were identified to be of importance:

<table>
<thead>
<tr>
<th>Construction phase</th>
<th>Operations phase</th>
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</thead>
<tbody>
<tr>
<td>Issues identified from the literature</td>
<td>• Injuries • Transient workforce • Housing • Economic impacts • Traffic safety • Shadow flicker • Noise • Ice throw • Turbine malfunction / blade throw • EMF • Traffic safety</td>
</tr>
<tr>
<td>Concerns of community residents</td>
<td>• Road conditions • Jobs • Noise • Visual impact • Land use restrictions • Jobs • Electromagnetic fields (EMF)</td>
</tr>
<tr>
<td>Concerns of municipal stakeholders</td>
<td>• Housing • Traffic safety • Economic benefit • Housing • Economic benefit</td>
</tr>
<tr>
<td>Concerns of health and social services</td>
<td>• Child care availability • Housing • Housing</td>
</tr>
<tr>
<td>Additional issues identified by HIA consultants</td>
<td>• Sexually transmitted infections • West Nile Virus • West Nile Virus</td>
</tr>
</tbody>
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