

## **Kent Hills 3: Kent Hills Wind Farm Expansion Phase 3**

EIA Registration of a Proposed  
5 Turbine (17 MW) Expansion of  
the Existing Kent Hills Wind Farm,  
New Brunswick



Prepared for:  
TransAlta Corporation  
110 - 12th Avenue SW  
Calgary, AB T2P 2M1

Prepared by:  
Stantec Consulting Ltd.  
130 Somerset St  
Saint John, NB E2K 2X4

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# Executive Summary

## Introduction

TransAlta Corporation dba Canadian Hydro Developers Inc. (TransAlta) operates a 50 turbine, 150 MW Kent Hills wind farm facility in the southeastern section of Elgin Parish in Albert County, New Brunswick. The first phase (Kent Hills 1) was constructed in 2007 and commissioned on December 31, 2008. The facility was later expanded, and commissioned December 31, 2010 (Kent Hills 2). Kent Hills 1 was approved in fall of 2007 under the New Brunswick *Environmental Impact Assessment (EIA) Regulation - Clean Environment Act* (EIA file number 4561-3-1128). Kent Hills 2 was later approved in late 2009 under the EIA file number 4561-3-1238. Collectively, both phases are referred to as the Kent Hills Wind Farm. For this Registration, TransAlta wishes to expand the facility by five turbines for an additional 17.25 MW of capacity (Kent Hills 3 Wind Project; the "Project"). While approval for nine potential turbine locations is sought, only five sites are proposed to be used, based on wind resource, environmental, socio-economic, and geotechnical constraints.

## Project Description

### **Project Components and Structures**

The Project includes five turbines and associated infrastructure, with nine locations under consideration, including four alternate locations and associated access roads. The proposed Vestas V126 turbines are larger than the existing turbines (Vestas V90) and capable of producing 3.45 MW each, compared to the 3 MW capacity of each of the existing turbines. Expansion of the substation is not required. The following ancillary facilities are also considered part of the Project:

- 34.5 kV power lines (to link the wind turbines to the existing electrical collection system);
- New and upgraded access roads; and,
- Temporary staging areas for the storage of equipment and assembly of wind turbines.

### **Project Activities**

The development of the proposed Project will include several phases, including site preparation and construction, operations and maintenance, and decommissioning. Activities within these phases will include:

- Clearing
- Topsoil stripping and salvage
- Grading
- Road construction/modification
- Ploughing or trenching for underground power lines
- Pole placement for overhead cables

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- Installation of 34.5 kV collection system
- Foundation construction
- Turbine delivery
- Equipment lay-down and turbine assembly
- Turbine commissioning
- Clean-up and reclamation
- Inspection and maintenance
- Equipment disassembly and removal during site decommissioning

While not a phase of Project development, potential accidents and malfunctions can occur during any Project phase. TransAlta has developed environmental management, worker health and safety, emergency response and environmental protection plans to handle accidents or malfunctions that may occur.

#### **Construction Schedule**

TransAlta's proposed construction schedule for the Project is presented on Table ES-1. The life span of the proposed Project will exceed 25 years; however, the contract with NB Power is for 25 years, and the Crown land lease will be for 30 years. Decommissioning activities will last roughly the same amount of time as comparable construction activities.

**Table ES-1 Construction Schedule**

| <b>Activity</b>  | <b>Timing</b>    |
|--|------------------|
| Clearing   | April 2018       |
| Topsoil stripping and salvage, and grading                 | May 2018         |
| Development of access roads                                | May 2018         |
| Foundation work  | May/June 2018    |
| Construction of underground and overhead collection system | June/July 2018   |
| Turbine delivery   | July 2018        |
| Turbine assembly   | July/August 2018 |
| Turbine commissioning                                      | August 2018      |
| In-service   | September 2018   |

#### **Environmental Management Strategy**

TransAlta is committed to ensuring that the construction, operation, and decommissioning of the proposed Kent Hills Wind Farm are conducted in an environmentally responsible manner. TransAlta will implement a life cycle environmental management strategy to facilitate the implementation of the recommended mitigation measures for the proposed wind farm according to TransAlta's corporate sustainable development framework. To accomplish this objective, the following initiatives will be addressed: integration with the corporate environmental management framework; compliance with worker health and safety rules; emergency response planning; environmental protection planning; and environmental monitoring.



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### Public Consultation

A public consultation plan was created to identify appropriate consultation activities with government, non-governmental organizations and the public.

The consultation activities for the Kent Hills Wind Farm included a public open houses in Lower Turtle Creek in June 2017 and communication with agencies, interest groups and other interested parties during the course of the study.

### First Nations Engagement

TransAlta is working with the Aboriginal Affairs Secretariat (AAS) to engage with MTI (Mi'gmawe'l Tplu'taqnn Inc), an organization that represents the First Nations that TransAlta had engaged with during previous phases of the project: Fort Folly, Buctouche, and Elsipogtog. To date, a representative of TransAlta's Indigenous Relations Team has met with members of the AAS to review the newly developed Duty to Consult Policy; the AAS has sent Project information packages to MTI; and TransAlta has engaged directly with MTI, as well as with Fort Folly First Nation, to renew the relationship established during their involvement in previous phases of the Project. TransAlta's intentions are to continue engaging with MTI and Fort Folly to a level that meets corporate protocols as well as AAS requirements.

### Impact Assessment

Valued components (VCs) selected for assessment include the following and are consistent with VCs assessed for the Kent Hills 1 and Kent Hills 2 Wind Farm EIA registrations:

- Soil
- Aquatic Environment (including fish and fish habitat and water quality)
- Birds and Other Wildlife
- Terrestrial Vegetation
- Wetlands
- Heritage Resources
- Land Use (including Recreation and Tourism)
- Visual Aesthetics
- Noise
- Health and Safety

No significant residual environmental effects of the Kent Hills Wind Farm are likely, considering the existing conditions of the Project site, the design of the Project, and mitigation measures proposed to be implemented as part of the Project. This conclusion, is based, in part, on the environmental record of the construction and operation of the two previous phases of the Kent Hills Wind Farm.

A summary of the environmental effects and mitigation measures for this Project is presented in Section 5.7.

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### **Follow-up Measures**

The site Environmental Management Plan and corresponding Environmental Protection, Monitoring, and Contingency Plans will be updated to address potential issues and concerns. Several follow up studies will be conducted in fall of 2017 in support of the assessment based on previous studies in the Wind Farm Study Area. Environmental monitoring programs proposed for the Kent Hills 3 Wind Project include breeding bird surveys, and bird and bat mortality monitoring.

## **Abbreviations**

|          |  |
|----------|--|
| AAS      | Aboriginal Affairs Secretariat                               |
| AC CDC   | Atlantic Canada Conservation Data Centre                     |
| AFRP     | Archaeological Field Research Permit                         |
| AGL      | Above Ground Level   |
| AIA      | Archaeological Impact Assessment                             |
| ARD      | Acid Rock Drainage   |
| ASB      | Archaeological Services Branch                               |
| BOP      | Balance of Plant   |
| CAAQS    | Canadian Ambient Air Quality Standards                       |
| COSEWIC  | Committee on the Status of Wildlife in Canada                |
| CPA      | Community Planning Act                                       |
| CRA      | commercial, recreational and Aboriginal                      |
| CRHP     | Canadian Register of Historic Places                         |
| CWS      | Canadian Wildlife Service                                    |
| EA       | Environmental Assessment                                     |
| ECCC     | Environment and Climate Change Canada                        |
| EHS MS   | Environment, Health and Safety Management                    |
| EIA      | Environmental Impact Assessment Regulation                   |
| EMFs     | Electromagnetic Fields                                       |
| EMP      | Environmental Management Plan                                |
| EPP      | Environmental Protection Plan                                |
| ESA      | Environmentally Significant Area                             |
| GCDWQ    | Guidelines for Canadian Drinking Water Quality               |
| GHG      | Greenhouse Gas   |
| GMDPC    | Greater Moncton District Planning Commission                 |
| MARI     | Maritime Archaeological Resource Inventory                   |
| MW       | Megawatt   |
| NBATVF   | New Brunswick All-Terrain Vehicle Federation                 |
| NBDELG   | New Brunswick Department of Environment and Local Government |
| NBDERD   | New Brunswick Department of Energy and Resource Development  |
| NBDTHC   | New Brunswick Department of Tourism, Heritage and Culture    |
| NBFSC    | New Brunswick Federation of Snowmobile Clubs                 |
| NBRHP    | New Brunswick Register of Historic Places                    |
| NBTFHF   | New Brunswick Trappers & Fur Harvesters Federation           |
| NB Power | NB Power Corporation   |



### KENT HILLS 3: KENT HILLS WIND FARM EXPANSION PHASE 3

|           |  |
|-----------|--|
| NGOs      | Non-Governmental Organizations                           |
| NERC      | North American Electric Reliability Corporation          |
| NWCC      | National Wind Coordinating Collaborative                 |
| OEMP      | Operations Environment Management Plan                   |
| OWLS      | NBDELG Online Well Logs System                           |
| PAR       | Progressive Aboriginal Relations                         |
| PDA       | Project Development Area                                 |
| PIF       | Partners in Fight  |
| PNA       | Protected Natural Area                                   |
| POL       | Petroleum, Oils and Lubricants                           |
| PPE       | Personal Protective Equipment                            |
| RSA       | Regional Study Area                                      |
| SARA      | Species at Risk Act                                      |
| SCADA     | Supervisory Control And Data Acquisition                 |
| SENBSA    | Southeast New Brunswick Snowmobile Association           |
| SNB       | Service New Brunswick                                    |
| SOCC      | Species of Conservation Concern                          |
| TransAlta | TransAlta Corporation dba Canadian Hydro Developers Inc. |
| TRC       | Technical Review Committee                               |
| UL        | Underwriters Laboratories of Canada                      |
| VCs       | Valued Components  |
| WAWA      | Watercourse and Wetland Alteration                       |
| WESP-AC   | Wetland Ecological Services Protocol – Atlantic Canada   |
| WFSa      | Wind Farm Study Area                                     |
| WNS       | White Nose Syndrome                                      |