

EMISSION REDUCTION/REMOVAL  
PROJECT DOCUMENT

KETTLES HILL WIND ENERGY PROJECT

(ADDENDUM)

BASELINE EMISSIONS MANAGEMENT INC.

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# KETTLES HILL WIND ENERGY PROJECT

## 1. Project Description

### 1.1 Overview

The Kettles Hill wind energy project is being completed near Pincher Creek, Alberta. This project began with the installation of five 1.8 MW wind turbines in early 2006, to be followed up by an additional thirty 1.8 MW wind turbines to be installed by the end of 2006. Emission reductions are created through the provision of emissions free power to the Alberta power grid, offsetting the need for coal and natural gas electricity generating capacity. This results indirect emission reductions of carbon dioxide, methane and nitrous oxide which would otherwise have resulted from the electricity generation.

The Kettles Hill wind energy project is EcoLogo certified under the Environmental Choice Program from Environment Canada. The certification is held in good standing under Kettles Hill Wind Energy Inc. EcoLogo certification provides the mechanism for creating one renewable energy certificate (REC) for each megawatt-hour of renewable energy produced at the renewable energy facility.

These emission reductions are surplus to those transferred to Environment Canada from this project under the PERRL program.

### 1.2 Description

This project includes a two phased implementation of a wind energy system at the Kettles Hill site. In the first phase, 5 - 1.8 MW wind turbines were installed in March 2006. Thirty additional 1.8 MW turbines were installed in late 2006. The project is connected to the Alberta provincial power grid.

### 1.3 Exclusivity

The emission reductions associated with the Kettles Hill Wind Energy Project are exclusively registered in the Canadian GHG Reductions Registry<sup>®</sup>.

These emission reductions are surplus to those transferred to Environment Canada from this project under the PERRL program<sup>1</sup>.

## 1.4 Project Contact Information

Contact information for this project is:

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## 2. Project Analysis

The project boundaries include site of the Kettles Hill Wind Energy Project. Electricity metering and connectivity to the Alberta provincial power grid occurs at the project boundary. Electricity produced as part of the project is generated at a zero-emissions level from wind and is used to offset generation from fossil fuel sources linked to the same grid. The quantification of the electricity produced at the facility is governed under the terms of the EcoLogo certification of the site under the Environmental Choice Program.

The baseline condition is the generation of energy to supply the Alberta provincial power grid. The effective emissions rate per MWh of electricity has been set under the guidance documents for the Alberta Offset System. To calculate the emission reduction offsets for the 2007 calendar year, the applicable Environment Canada emissions intensity for Alberta was 0.882 tonnes / MWh. This average grid emissions intensity is drawn from Annex 9 of National Inventory Report, 1990-2005 - Greenhouse Gas Sources and Sinks in Canada published in April 2007. In this case, the emissions intensity factor would then be 0.882 less the 12% emission intensity reduction target for Alberta, or 0.776 tonnes / MWh. This emissions rate accounts for the carbon dioxide, methane and nitrous oxide emissions.

Calculation of the project impact relies on the application of the following formula:

$$\text{Emission Reductions} = \sum \text{Electricity Produced}_{\text{Year X}} * \text{Emissions Factor}$$

<sup>1</sup> Environment Canada PERRL Program, [www.ec.gc.ca/perrl](http://www.ec.gc.ca/perrl)

Where:

$\sum$ Electricity Produced<sub>Year X</sub> = Sum of electricity produced in the given year as measure following the requirements of the EcoLogo certification for renewable wind energy projects under the Environmental Choice Program in MWh.

Emissions Factor = 0.776 tonnes of CO<sub>2</sub>e per MWh as per Alberta Offset System guidance documents (Summer 2007).

The calculation methodology recognizes consistency and relevance by tying in to other certification programs relevant to the generation of renewable energy from wind. Applying the emissions factor from the Alberta Offset System is reasonable as this represents the same emission factors being applied to emission offsets generated for regulatory compliance. By drawing upon the results of the Environmental Choice Program assessment of the quantity of electricity produced during the year, there is an assurance of accuracy, completeness, and transparency.

Emissions associated with the construction and assembly of the equipment at the facility are not considered as these have been shown in other work completed for Natural Resources Canada to be immaterial.

### 3. Validation of Methodology

The emission reductions created under the Kettles Hill Wind Energy Project were validated as per the EcoLogo certification of the project completed under the Environmental Choice Program administered by Environment Canada. The quantity of renewable energy credits is certified under the Environmental Choice Program; which are subsequently converted to emission reduction credits as per the Environmental Choice Programs emission factor.

### 4. Other Information

The EcoLogo certification of the Kettles Hill Wind Energy Project can be verified on the Environmental Choice Program website:

These emission reductions are surplus to those transferred to Environment Canada from this project under the PERRL program.

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<sup>2</sup> Environmental Choice Program,  
[http://www.environmentalchoice.com/English/ECP\\_Footer/About\\_the\\_Program/Companies/K/Kettles\\_Hill\\_Wind\\_Energy\\_Inc](http://www.environmentalchoice.com/English/ECP_Footer/About_the_Program/Companies/K/Kettles_Hill_Wind_Energy_Inc).