goGreen Saskatchewan

Ministry of Environment

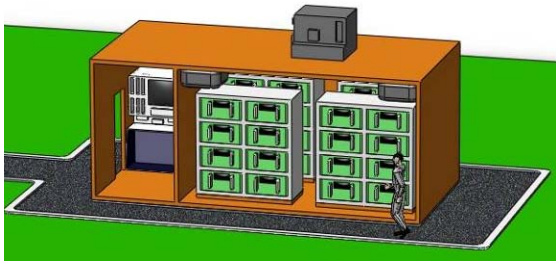
High Wind and Storage Project

Background

There is strong support throughout the province for the development of renewable energy sources, such as wind energy, because they contribute to the reduction of greenhouse gas (GHG) emissions from carbon-based energy. However, the intermittent nature of wind has limited the adoption of this energy resource. Therefore, research is being conducted to develop energy storage technology options for wind power. These technologies are currently in the developmental stage.

Project Summary

The Government of Saskatchewan is providing Go Green funding for a multi-year agreement with the Saskatchewan Research Council (SRC) to develop and demonstrate new wind turbine and energy storage technology. This investment will enhance Saskatchewan's role in renewable power technology development. The project will harness wind energy at heights in the range of 70 to 80 metres above ground (turbines at SaskPower's existing wind farms are at maximum heights of 65 metres). The greater height provides the opportunity to capture energy from wind that is stronger and more consistent. The potential benefits of high-level wind combined with the ability to store the energy and use it during low wind situations may significantly increase Saskatchewan's capacity to use wind resources. This initiative has the potential to resolve the variability of the wind resource in an efficient and cost-effective manner. If successful, wind energy storage technology is expected to be cost competitive with clean coal or clean natural gas technology. Once proven, these technologies can be replicated in future wind farms. The project will take place on land owned by the Cowessess First Nation.



Artist's rendering of the proposed storage unit

Expected Outcomes

- GHG Reduction: 1,800 tonnes per year
- Advancement in wind-storage technology

Other Partners Involved in the Project

Saskatchewan Research Council
Natural Resources Canada's Clean Energy Fund
Cowessess First Nation
Indian and Northern Affairs Canada

Estimated Timeline

Project launch: Spring 2010
Project conclusion: Summer 2014

Funding

The Go Green Fund has committed $1,394,000 to the project.