



**SPRING 2021 • NEWSLETTER**

*Image shows generic wind turbines, not the Siemens 5.0 MW turbine.*

## INTRODUCTION

Stirling Renewable Energy LP (SREL) would like to thank you for your continued support and interest in the Stirling Wind Project (SWP). We hope everyone has been staying safe and healthy throughout the COVID-19 pandemic. We greatly value our relationship with the local community, and we are committed to ongoing engagement and consultation with all stakeholders.

You are receiving this newsletter because you live or own land near the SWP and we want to provide you with a project update. This newsletter provides details of the changes made to the SWP, including selecting a new turbine model, an updated layout, phased construction of the project, and changes the Alberta Electric System Operator (AESO) made to the Renewable Electricity Support Agreements (RESA) to address COVID-19 impacts.

## PROJECT UPDATES

Over the past year, SREL has been working through the impacts of the COVID-19 pandemic on the SWP. The COVID-19 pandemic has affected global supply chains, financial markets, construction practices, communities and general development activities. SREL has been working hard to ensure that SWP can be built safely over the next few years.

The SWP received an Alberta Utilities Commission (AUC) approval for the 113 MW wind power plant, and a permit and licence for the substation in April 2019. Currently, a Letter of Enquiry (LOE) to the AUC is being prepared for the SWP to address the recent changes made to the project. We have selected a new turbine manufacturer and model and split the project into two phases. SREL is targeting to start construction of the SWP as early as Q2 2022 and the SWP is expected to be operating by Q4 2023 (see schedule on Page 3). The SWP is being split into two phases. The first phase (SWP I) will develop 23 turbines and the second phase (SWP II) will develop 5 turbines. The turbine locations for both phases remain within 50 metres of the currently approved project. The nameplate capacity of the SWP will be 113 MW and the SWP II will be up to 26 MW. More details on the SWP II are provided on Page 2.

## IN THIS NEWSLETTER, YOU WILL FIND INFORMATION ON:

- PROJECT UPDATE
- LAYOUT UPDATE
- NEW PROJECT PHASE
- UPDATED SCHEDULES
- TURBINE MODEL CHANGE
- LOCAL BENEFITS
- PUBLIC CONSULTATION
- ORGANIZATIONAL CHANGE
- COMMUNITY DEVELOPMENT FUND



# STIRLING WIND PROJECT PHASES

Because of the turbine model change (see below), the larger nameplate capacity of the Siemens turbine means that fewer turbines are required to meet the 113 MW for the SWP. As a result, 5 of the SWP turbines will be built as a second phase (SWP II) to the project (up to 26 MW). While the total combined nameplate capacity of the SWP and SWP II will be higher, the two projects combined will have the same number of turbines (28) currently approved by the AUC for the SWP. The LOE that will be submitted to the AUC for the turbine technology change and small layout changes will address both phases together.

The SWP II is currently proceeding through the AESO interconnection process, which will determine the feasibility and final generation capacity of the project. SRELP will be updating the AEP with details of the SWP II shortly and plans to amend the existing AUC power plant approval for SWP to split out the SWP II in Q2 2021. Additional information will be provided in the future as the SWP II develops. The Map insert attached shows the cumulative noise and results of the shadow flicker assessment for the SWP and SWP II. The cumulative noise level of the SWP and SWP II with the Siemens turbines will be equal to or less than the noise level of the previous layout using the 28 Goldwind turbines.

## TURBINE MODEL CHANGE

We have updated the turbine manufacturer and model to improve the financial competitiveness of the project. The SWP and SWP II will be switching to the Siemens 5.0 MW turbines from the Goldwind 4.X MW turbines. The Siemens 5.0 MW turbines can operate up to 5.2 MW under certain conditions. The new Siemens turbines have a lower hub height, a smaller rotor diameter but a larger turbine nameplate than the Goldwind turbines; thus fewer turbines are required for the SWP, which allows for the remaining turbines to become SWP II. The rotational, cut-in and cut-out speed of the new Siemens turbines are also slightly faster than the previous Goldwind turbines. The table below compares the previously approved turbine model to the new turbine model.

We have completed noise modelling assuming the loudest conditions and the SWP and SWP II will comply with *AUC Rule 012: Noise Control*. We have also provided the updated sound contours for the SWP and SWP II using the Siemens 5.0 MW turbines (see Map inserts). Additional details on the results of noise modeling for each residence within 1.5 kilometres of the project are available upon request.

COMPONENT	PREVIOUS TURBINE	NEW TURBINE		CHANGES
	GOLDWIND 4.X MW	SIEMENS 5.0 MW		
Project Name	SWP	SWP	SWP II	AUC approved SWP split into two phases
Project Nameplate Capacity	113 MW	<b>113 MW</b>	<b>up to 26 MW</b>	No change in SWP nameplate capacity
Turbine Nameplate Capacity	4.035 MW	<b>5.0-5.2 MW</b>	<b>5.0-5.2 MW</b>	Increase in turbine capacity
Number of Turbines	28	<b>23</b>	<b>5</b>	Same number of turbines over two phases
Tower Hub Height	110 m	<b>95.5 m</b>	<b>95.5 m</b>	Reduction in tower height
Rotor Diameter	155 m	<b>145 m</b>	<b>145 m</b>	Decrease in rotor diameter
Rotational Speed	6-10 rpm	<b>6-13 rpm</b>	<b>6-13 rpm</b>	Increase in rotational speed
Cut-In Wind Speed*	2.5 m/s	<b>3 m/s</b>	<b>3 m/s</b>	Increase in cut-in speed
Cut-Out Wind Speed**	26 m/s	<b>28 m/s</b>	<b>28 m/s</b>	Increase in cut-out speed

Table 1: Comparison of Turbine Make and Model

\* Cut-in wind speed is the minimum wind speed where the turbine blades begin to rotate.

\*\*Cut-out speed is the speed that the turbine blades are brought to rest to avoid damage from high winds.

# LAYOUT UPDATE

Since the last newsletter in July 2019, the SWP layout has been modified slightly as a result of the new turbine model and results of sensitive amphibian surveys. The layout has been divided into two phases (SWP and SWP II) and the turbines have been renumbered to be sequential. The footprint of the substation has increased from 60 m by 35 m to 85 m by 40 m. Some collector lines have shifted slightly in proximity to wetlands based on the results of sensitive amphibian surveys.

The updated project layout, including the results of a shadow flicker assessment, is shown in the insert. Visual simulations for the new layout and turbine technology will be posted on the SWP website shortly: [www.stirlingwind.com](http://www.stirlingwind.com). Previous layouts, newsletter and visual simulations are also available on the project website.

## SWP SCHEDULE

(23 TURBINES - 113 MW)

TIMELINE	PROJECT MILESTONE
<b>Q2 2021</b>	—•— Submit amendment to the AUC
<b>Q3 2021</b>	—•— Anticipated AUC approval
<b>Q3 2021</b>	—•— Continue detailed engineering and procurement
<b>Q2 2022</b>	—•— Construction start
<b>Q4 2023</b>	—•— Anticipated commercial operation

## SWP II SCHEDULE

(5 TURBINES - UP TO 26 MW)

TIMELINE	PROJECT MILESTONE
<b>Q2 2021</b>	—•— Submit amendment to the AUC
<b>Q3 2021</b>	—•— Anticipated AUC approval
<b>Q4 2021</b>	—•— Detailed engineering and procurement
<b>Q2 2023</b>	—•— Construction start
<b>Q4 2023</b>	—•— Anticipated commercial operation



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## LOCAL BENEFITS

The SWP and SWP II will benefit the local community in a variety of ways, including the following:

- Creating up to 200 construction and 5-15 permanent local jobs in operations and maintenance
- Contract opportunities during construction in excavation and civil works, aggregate supply, etc.
- Contract opportunities for local businesses in snow clearing, road maintenance, fencing and reclamation etc.
- Increased local spending on goods and services during the development, construction, and operational phases
- Increasing County tax revenues
- Providing additional revenue streams for participating landowners via lease and royalty payments
- Provide funding for the surrounding community through a Community Development Fund

# PUBLIC CONSULTATION AND PROVIDING YOUR INPUT

The SWP and the SWP II have been designed to minimize potential negative effects on the environment and the community. SRELP will continue to consult with local landowners and stakeholders in a way that respects community members' needs. We will continue to engage occupants, residents and landowners within 800 metres of the SWP and the SWP II to gather input through one-on-one consultation. If you live beyond 800 metres from the SWP the SWP II and would like to request a one-on-one consultation, please contact us.

During the one-on-one consultation process, we will document the information you provide and attempt to address the questions or concerns you may have about the SWP and the SWP II. Our contact information is provided below.

## ORGANIZATIONAL CHANGE

SRELP has made some organizational changes since Q4 2019. Potentia Renewables Inc. purchased Greengate Power Corporation's ownership in the SWP. SRELP is now owned by Potentia Renewables Inc. and Paul First Nation Renewable Energy Limited Partnership. The Paul First Nation Renewable Energy Limited Partnership have a minority stake in the SWP while Potentia Renewables Inc. continues to have a majority ownership of SWP. SWP II will be owned by a subsidiary of Potentia Renewables Inc. and its affiliates.



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## COMMUNITY DEVELOPMENT FUND

SRELP will be setting up a Community Development Fund (CDF) prior to beginning construction at the SWP. The CDF will provide the local community with a funding commitment of up to \$25,000 each year upon the project becoming operational. More details on this CDF will be provided in future updates.

## CONTACT US

For more information about Potentia Renewables Inc. and the projects, please visit: [www.stirlingwind.com](http://www.stirlingwind.com)

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