

Construction Update

TransAlta has started construction activities associated with the main laydown area, substation and civil works for county road upgrades and new turbine access roads in October 2021.

The remaining construction activities will commence in the spring of 2022, with full site construction mobilization for all trades occurring at the beginning of April 2022.

Construction is planned to be complete in the second half of 2022. Final reclamation will occur in the spring of 2023.

Project Layout

An updated project layout map has been included in this package which outlines the location of all facilities related to the Project.



Project Components

The Garden Plain Wind Project is located on approximately 14,000 acres of privately owned land straddling Paintearth County and Special Area No. 2 intersected north/south by provincial Highway 36. The Project's construction infrastructure includes a substation and laydown & construction area, with an Operations & Maintenance building in Hanna. The Garden Plain Project will have a nameplate capacity of 130 MW.

Turbine Technology. The Garden Plain Wind Project consists of 26 Siemens Gamesa wind turbines for a nameplate capacity of 130 MW. Each turbine has a nameplate capacity of 5.00 MW. The turbines are located on towers 102.5 meters in height with a total rotor diameter of 145 meters.

Collector System, Substation and Interconnection. Turbines will be electrically connected through a buried underground 34.5kV system that will be approximately 42 km in total length.

A collector substation will be located on the SW 5-35-13 W4M. The substation will meet all provincially regulated safety and protection protocols.

The project will interconnect through the existing 9L59 (from Tinchebray 972S to Anderson 801S) via the 240kV line approximately 200 meters away.

Meteorological Tower. The project will utilize one permanent met tower as an independent source to collect wind speed and weather data used in wind farm operations. The met mast will be located near turbine A2.

Roads & Access Points. Wherever possible, TransAlta has endeavored to use existing access roads and access points. There will be approximately 12 km of new access roads built within the project area.



Environmental

Comprehensive year-round environmental studies have been conducted in accordance with provincial and federal wind guidelines and/or regulations. Recommendations provided to TransAlta by Alberta Environment and Parks personnel have been incorporated into our study design and Project siting.

Radiocommunication and Radar Systems

Wind turbine generators, like other large structures, may have the potential to disrupt the transmission of electromagnetic signals and thereby interfere with radiocommunication systems.

As one of our predevelopment studies, TransAlta commissioned an inventory and preliminary impact assessment of radiocommunication and radar systems present in the vicinity of the Garden Plain Wind Project in accordance with guidelines developed for industry by the Radio Advisory Board of Canada, the Canadian Wind Energy Association and the Canadian Broadcasting Corporation.

There are a multitude of variables to consider when assessing systems and impacts including topography, turbine composition, turbine siting, source signal strength, equipment type and much more. This study has also been completed prior to construction.

Permitting

All major permits and approvals to construct the Project have been secured. All remaining pre-construction permits / agreements will be secured in Q4 2021.

Noise Impact Assessment

Wind energy projects must meet the AUC regulatory requirements ensuring that sound levels of 40 dBA (night time) are not exceeded at all residences within and adjacent to the wind farm.

A Noise Impact Assessment (“NIA”) was completed to evaluate expected sound levels at all receptors as per AUC guidelines. The noise models considered sound expected to be generated from the wind farm, as well as other noise sources in the area. The Project was designed to meet these standards and evaluation criteria and comply with the AUC’s Rule 12: Noise Control.



Site Overview

	Total
Project Capacity	130 MW
Turbine Capacity	5.00 MW
Number of Turbines:	26
Tower Height	102.5 m (hub height)
Rotor Diameter	145 m
New Access Roads	12 km
Collector System	42 km
Permanent Met Towers	one
Laydown Areas	Small laydown areas will be established at each turbine location during construction and then reclaimed
Temporary Concrete Batch Plant	A temporary batch plant will be set up centrally for the wind turbine foundation. This would be undertaken by a contractor under separate permit and license
Substation	One collector substation located centrally to the project
Electrical Collection System	Underground electrical lines will connect all the turbines into the substation
Operations and Maintenance Building	One Operations and Maintenance building will serve the Project, located in Hanna
Transmission Line	Approximately 200 m of new transmission line will interconnect the Project via a T-tap configuration into an existing transmission line, crossing Project site. The line and interconnection facilities are designed and constructed by ATCO Electric Ltd.

Next Steps

Construction will be complete in the second half of 2022 with full site restoration in 2023.

To learn more about the project please visit our website or contact us directly.

For more information about TransAlta or the Garden Plain Wind Project, please visit:

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