SunHills Solar Project Newsletter

Introduction

TransAlta Corporation ("TransAlta") is proposing to construct the 130-megawatt (MW) SunHills Solar Project ("SunHills" or "the Project"), located over one kilometre from the south side of Wabamun Lake, on lands included within the Highvale Mine site in Parkland County. The mine closed in 2021 and is currently being reclaimed. Once the Project is operational, it is expected to generate approximately 247 gigawatt hours of electricity in the first year.

This Project is comprised of two sites on TransAlta-Owned land that part of the Highvale Mine. The two sites are former coal pits (Pit 04 and Pit 06). Combined, the two sites will cover an area of approximately 465 hectares (1150 acres). The Highvale Mine ceased operations in 2021 and is currently undergoing decommissioning and reclamation. A portion of the Pit 04 site is shown above.

Why Solar Power?

SunHills will generate solar power on lands formerly mined for coal. The Project demonstrates TransAlta's commitment to advancing the energy transition thoughtfully by repurposing existing assets and infrastructure to develop new sources of clean power.

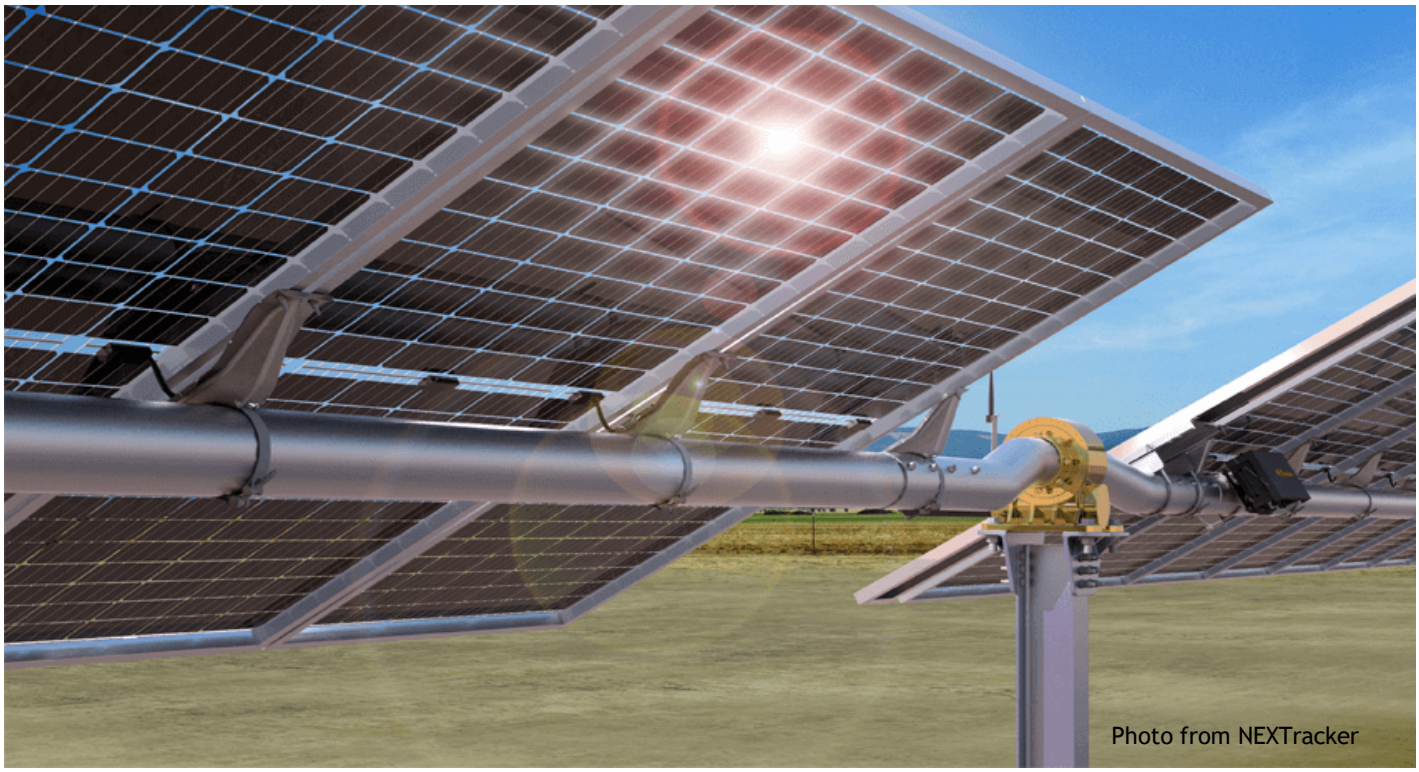
How Does It Work?

Photovoltaic (PV) panels are typically made of semiconducting silicon wafers. When photons (light) from the sun collide with the material in the modules, electrons are dislodged. Those free electrons flow into conductors within the panels and into the collector system through the substation and into the grid to be delivered to Albertans as high-quality electricity.

About TransAlta

TransAlta owns, operates and develops a diverse fleet of electrical power generation assets in Canada, the United States and Australia with a focus on long-term shareholder value. TransAlta provides municipalities, medium and large industries, businesses and utility customers with clean, affordable, energy efficient and reliable power. Today, TransAlta is one of Canada's largest producers of wind power and Alberta's largest producer of hydro-electric power. For over 111 years, TransAlta has been a responsible operator and a proud member of the communities where we operate and where our employees work and live. TransAlta aligns its corporate goals with the UN Sustainable Development Goals and its climate change strategy with CDP (formerly Climate Disclosure Project) and the Task Force on Climate-related Financial Disclosures ("TCFD") recommendations. TransAlta has been recognized by CDP with an 'A- 'rating. TransAlta has achieved a 61 per cent reduction in GHG emissions since 2015.

Project Map – subject to change



Although TransAlta is still determining equipment and vendors to be used, the project will use bifacial panels mounted on single axis trackers (SAT). Typical SAT system shown above.

Proposed Onsite Equipment

TransAlta's aim is to construct a state-of-the-art facility that uses industry-leading technology focused on safety, reliability, and performance. The design for the Project will use bifacial panels (also known as modules), mounted on single axis trackers. TransAlta is assessing vendors and equipment for the Project, including solar panel modules, inverters, and tracker manufacturers to assist with the design, permitting and construction of the Project.

Other infrastructure includes inverters, fencing, access roads, an underground electrical collection system, switchgear, automation and controls, and overhead connections to an existing substation (Marion 21S) which will be upgraded with a new transformer and other associated equipment as required.

Bifacial solar panels absorb light on both sides. The side facing the sun generates the bulk of the electricity, but the opposite side also collects ambient light, especially in the winter when sunlight reflects off the snow on the ground. Bifacial modules produce more power per module and are more efficient than mono-facial modules, resulting in less land required for equal or greater power generation.

Single axis trackers follow the sun all day long, keeping the panels perpendicular to the sun for maximum efficiency. After the sun goes down the trackers reset to face east, ready to catch the sun the next day.

Connection to the Alberta Interconnected Electric System

TransAlta is working with the Transmission Facility Owner AltaLink and the Alberta Electric System Operator ("AESO") to connect the Project to the Alberta Interconnected Electric System ("AIES" or "grid") through the existing Marion 21S substation. Once a connection solution is determined it will be shared with the public for feedback. No new transmission lines are required to connect the Project, however, upgrades to the existing substation infrastructure will be necessary.

Existing AltaLink Substation Marion 21S Substation

Project Construction

Should the Project receive AUC approval, construction is expected to run between Q3 2024 to Q1 2025, with commissioning and commercial operation milestones anticipated for the first quarter of 2025. The Project is expected to employ approximately 160 workers during the peak construction period.

Environmental Assessments

The following field surveys were completed from the fall of 2021 to the spring of 2022 per Wildlife Directive for Alberta Solar Energy Projects:

- Amphibian surveys
- Aerial ungulate survey
- Breeding bird surveys
- Diurnal raptor surveys
- Habitat mapping
- Nocturnal owl surveys
- Raptors nest surveys
- Spring and fall migrating bird surveys

The results of these assessments indicate that no species designated as a "species-at-risk" under the *Wildlife Act and Environment Protection and Enhancement Act* ("EPEA") are likely to be impacted by the Project. The Project does not require the use of water, and there will be no impact to river flows, fish or fish habitat. The Project will also not impact any w e t l and s because there are no wetlands in the project area. As part of the mine reclamation process all water drains into unnamed end-pit lakes south of the solar project areas.

Comprehensive environmental studies including wildlife studies, vegetation studies, wetlands delineation, and habitat mapping have been conducted for the Highvale mine over many decades. The combined results of these studies, as well as the results of the studies listed above, were compiled into a report and submitted to Alberta Environment and Protected Areas ("AEPA") in the second quarter of 2022. The ("AEPA") issued a Renewable Energy Wildlife Referral Report on September 26, 2022, following their review, confirming an overall risk rating of "low" to wildlife and wildlife habitat, based on Project siting on an existing open pit mine, limited wildlife habitat value, and commitments made by TransAlta to mitigate and monitor wildlife impacts.

Historical Resources

TransAlta will seek confirmation from the Historic Resource Management Branch of Alberta Ministry of Culture and will conduct a Historical Resource Impact Assessment if deemed necessary under the *Historical Resources Act*.

Noise Impact Assessment

A Noise Impact Assessment ("NIA") will be conducted in January of 2023. The NIA evaluates the potential noise impacts taking into consideration existing and proposed infrastructure in the area. The Project has a low noise profile, and the NIA is expected to confirm that the Project will meet the permissible sound levels per the Alberta Utilities Commission ("AUC") *Rule 012: Noise Control.* A copy of the NIA will be submitted as part of the AUC application.

Glare Assessment

A Solar Glare Hazard Analysis ("SGHA") was completed in Q4 2022 in compliance with *AUC Rule 007: Applications for Power Plants, Substations, Transmission Lines, Industrial System Designations, Hydro Developments and Gas Utility Pipelines*. The SGHA assessed the potential for glare impacts on all residences, roads, and railways within 800m of the Project boundary. There are no known active aerodromes within 4km of the Project boundary. As such, no aerodromes were included in the SGHA. The full SGHA report will be included in the application to the AUC.

Regulatory Requirements

TransAlta is preparing to file its application to the AUC in Q1, 2023 in accordance with AUC's Rule 007 Prior to filing the AUC application, TransAlta will engage with Indigenous groups and local stakeholders and will incorporate feedback into its Participant Involvement Program ("PIP") as per the AUC's Rule 007 PIP requirements. Any additional questions or concerns related to the Project continue to be collected via email at: **Sunhills_Solar@transalta.com.**

We recommend a review of the AUC brochure – ***Participating in the AUC's independent review process***, which provides an overview of the application process.

For additional information we invite you to visit the AUC's website at: **www.auc.ab.ca**
If you have questions regarding the AUC's process, please contact the AUC at: **310-4282** (in Alberta) or **1-833-511-4282** (outside Alberta) or by email at: **info@auc.ab.ca**

Preliminary Project Schedule (Subject to Change)

	2021	2022	2023	2024
Environmental assessments	Q3, Q4	Q1		
Stakeholder & Indigenous engagement			Q1	
AUC application submission			Q1	
Approvals & permits			Q2, Q3	
Project construction				Q2, Q4
Project commissioning				Q1 2025

Emergency Response

TransAlta maintains detailed emergency response guides for all of its generation facilities. These plans provide detailed actions for TransAlta personnel to take in the event of a medical emergency, a dam breach or flooding, fire and evacuation, an environmental spill and security incidents. TransAlta also maintains emergency response preparedness plans and shares these plans with Indigenous groups, municipalities and other stakeholders.

TransAlta will develop a site-specific Emergency Response Plan ("ERP") for the construction and operation of the Project. Site-specific risks will be identified, and appropriate site monitoring and communication protocols will be put into place. The project's emergency response plan will be developed in consultation with local responders, local authorities, Indigenous groups, municipalities and other stakeholders.

TransAlta will review the existing ERP for the Highvale Mine site and adjust as required to suit the Project. Emergency response training sessions will be provided for local authorities (Parkland County), Indigenous groups and other stakeholders as necessary. TransAlta is committed to working with stakeholders in developing of the ERP and will file with the AUC upon completion.

Local Community Benefits

During construction, the Project will generate opportunities for both local individuals and businesses, creating up to 160 full-time jobs during construction. The Project will also generate significant property tax revenue for the County, resulting in financial benefits to the broader community.

We Want to Hear from You

If you have any questions, comments, or concerns about the SunHills Solar Project, there are several ways to get in touch with us:

1. **EMAIL** us at **Sunhills_Solar@transalta.com**
2. **PHONE** our dedicated, toll-free project line at **1-877-636-7822**
3. Attend our **OPEN HOUSE** on February 15, 2023, from 3:00 -7:00 pm at SunHills Mine Office (Address: 4419B Sundance Road, Seba Beach, AB T0E 2B0.

For more information on the Project, please visit our website at: https://transalta.com/about-us/our-operations/projects-in-development/sunhills-solar-project/

Frequently Asked Questions

1. ***Why did TransAlta choose the Highvale Mine site for the location of the SunHills Solar Project?***

   TransAlta took into consideration several criteria when evaluating different sites within Alberta such as environmental impacts, flooding risks and other hazards, transmission capacity, terrain, and land availability. The mine site suited these criteria well. Locating the project on the mine site also avoids taking any valuable agricultural lands out of service (most industrial scale solar facilities are built on farmland).

2. ***Will the Project create any greenhouse gas emissions during operations?***

   Normal operation of the solar facility will not result in any emissions.

3. ***What is the expected operating life of the Project?***

   The expected operating life of the Project is approximately 35 years. At the end of its useful life, the equipment will be disposed of or recycled in a safe manner in accordance with Alberta's Conservation and Reclamation Directive for Renewable Energy Operations and, where applicable, the manufacturer's recycling programs. The area used for solar will be reclaimed in a similar manner as the remaining Highvale Mine.

4. ***What noise impacts are anticipated with the facility?***

   Under all operating conditions, the Project is expected to be below the AUC's Rule 012 permissible sound levels. While TransAlta has not yet selected the tracker vendor, in general, solar tracker systems have a low noise profile. A copy of the NIA will be included as part of the AUC application.

5. ***How will TransAlta maintain a safe solar power facility?***

   Safety is a key consideration both in determining the type of equipment, the placement of the arrays and related equipment, and our emergency response plans, and throughout the construction and operation of the facility. TransAlta will prepare emergency response plans for the solar generation facility and will work with local first responders to provide them with information and training on how to respond in the unlikely event of a fire or other emergency. Multiple layers of mitigation will also be included in the project design and operational procedures. For example, anyone working at or visiting the site will be required to wear Personal Protective Equipment ("PPE") as they would in other areas of the mine site. They will be required to undergo safety training before going onsite.

6. ***What type of foundation will the Project be built upon?***

   Foundations for solar arrays are typically helical piers or driven steel; soil conditions may require ballast at some locations. Geotechnical studies will be conducted to provide best design options.

7. ***How many workers will be on site during the construction period?***

   TransAlta anticipates there will be approximately 160 workers on site during the peak construction period of the Project.

8. ***What type of equipment will be onsite during construction?***

   Typical equipment anticipated during construction may include flat-bed trucks, skid steers, forklifts, excavators, bull dozers, compaction machines, pile drivers, concrete trucks, and cranes. Size and quantity of the equipment may vary depending on the type of soil conditions.

9. ***How will this project impact my land value?***

   As TransAlta is using existing lands within the Highvale mine site, no impact to property values as a result of the project is expected.

10. ***What kind of traffic impacts will there be for landowners attempting to access their properties during project construction? What routes with be used to haul equipment and materials to site?***

    Throughout construction, traffic to the site will increase with heavy trucks delivering equipment and materials, and construction workers arriving and leaving. TransAlta will work with local stakeholders to determine the best routes and methods to manage any traffic issues caused by the temporary increase in volume.