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saturnpower

Springbrook Solar Project

Frequently Asked Questions

What type of project will be constructed?

The Springbrook Solar Project (the Project) is a distribution connected ground mount solar photovoltaic facility which will have a generation capacity of up to 20 MW AC. The Project will utilize Single Axis Tracker panels with Bi-Facial solar PV modules that are no higher than 2.7 m.

Where will the Springbrook Solar Project be located?

The Project is located in Red Deer County, southwest of Red Deer, Alberta, and adjacent to the Red Deer Regional Airport approximately 1.8 km from the settlement of Springbrook.

The Project is proposed in two areas:

Area 1: The majority of the land hosting the Project is owned by the Red Deer Regional Airport (the Airport) which is in turn partially owned by Red Deer County. The land, approximately 70 acres, is zoned as Business Service Airport (BSA), in which a portion is currently being utilized for agricultural purposes.

Area 2: Approximately 30 acres of private land, zoned as Agricultural (AG), will host the remaining Project footprint and is currently being utilized for farming purposes.

What equipment will the Springbrook Solar Project require?

The Project will require approximately 46,000 Bi-Facial solar PV modules, 80 inverters, and 8 transformers all enclosed in 4.4 km of perimeter fencing that will be at least 2.1 m in height.

What security measures will be in place?

A chainlink fence, that will be at least 2.1 m in height, will be installed surrounding the entirety of the Project area. Additionally, the fence will be topped with barbed wire and a minimum of one security camera will be utilized to monitor and surveillance the Project area.

All main equipment and the substation will be further individually locked and secured, and signage will be placed in select areas warning of restricted area.

The Project site will be regularly visited by the local Operation and Maintenance Team and will be accessed by authorized personnel only.

How was the Springbrook Solar Project site location selected?

There is great consideration put into deciding on the location of a solar project, driven primarily by four main factors:

1. Availability of good and predictable solar irradiance (i.e., sunny days)
2. Ability to connect to the utility's local grid
3. Available and compatible land
4. The absence of sensitive natural heritage and cultural heritage areas

The Springbrook Solar Project location was proposed in the area south of Red Deer as it satisfies these four critical drivers while also making use of land owned by the Red Deer Regional Airport that can otherwise not be developed for more traditional uses. The Project site has been selected in an unserviceable area of the Red Deer Regional Airport that is well outside of future long term business development plans of the Airport and is adequately setback from runway operations to ensure safe operations. Saturn saw the Project as being a valuable and compatible use of the land adjacent to the operating runway and the other commercial and industrial facilities at the Airport property.

Both Red Deer County and the Red Deer Regional Airport have been our partners and true advocates of the Springbrook Solar Project from the very beginning and have helped influence the siting to generate stable lease revenue and support the financial stability of the Airport and support the overall future of aviation in Central Alberta.

Will the Springbrook Solar Project produce glare impacts?

The Glint and Glare Analysis was recently updated in accordance with the 2021 regulatory changes dictated by the AUC Rule 007.

Solar PV modules are engineered and designed to absorb light and the amount of reflection is often compared to that of a body of water. An experienced third-party consultant was engaged to evaluate the area within 4 km of the Project for aerodromes and within 800 m for any other receptors. The assessment considered the following receptors near the Project:

- Fifteen dwellings or groups of dwellings near the Project;
- Three local roads;
- Four flight paths approaching the Red Deer Regional Airport; and
- The flight service station (air traffic control tower/cab or ATCT) at the Red Deer Regional Airport.

The Sandia National Laboratories' Solar Glare Hazard Analysis Tool (SGHAT) is specifically designed to estimate potential glare on flight paths, routes, and stationary observation points. The study concluded that the project can operate without causing hazardous glare on evaluated receptors including aviators, drivers, and residences located near the Project.

Will the Springbrook Solar Project produce any new jobs?

Direct Job Creation: There will be approximately 35-40 short-term jobs created throughout the development and construction phases of the Project and 1-2 full time jobs required for Operation and Maintenance of the Project throughout its lifetime. Approximately 90% of the required jobs will be locally sourced.

Indirect Job Creation: Throughout the development and construction of the Project, a surge of employees will be present within the Red Deer area, requiring accommodation and lodging, and relying on local goods and services for the majority of their needs. This will help spur additional revenue for the local community.

Will the Springbrook Solar Project have a negative impact on wildlife?

The Project has been reviewed in detail by Alberta Environment and Parks (AEP) whose responsibilities include:

- Overall management and regulation of wildlife in Alberta
- Environmental policy and sustainable resource development
- Examination of potential impacts caused by the construction and operation of wind and solar power plants in Alberta
- Providing the AUC with information and advice regarding the approval and monitoring of wind and solar power plants on a case-by-case basis, ensuring project requirements are aligned with AEP's policies

In accordance with the AUC Rule 007, a referral report from Alberta Environment and Parks (AEP) must be received to achieve approval. An experienced third-party environmental consultant has conducted field studies in April 2019 and May 2021 at the Project site to confirm existing wildlife, wildlife habitat, vegetation, wetlands and water courses within the Project area. The consultant submitted their findings to the AEP for review in the form of an Environmental Report (ER). This ER report also outlines how Saturn will mitigate impacts of the Project on wildlife and wildlife habitats during the pre-construction, construction and post-construction phase.

The Alberta Environment and Parks - Fish and Wildlife Stewardship (AEP-FWS) has reviewed the Project location, mitigation strategies, infrastructure and construction plans, and the post-construction monitoring and mitigation program. The AEP-FWS has issued a Referral Report ranking the Project as low risk to wildlife and wildlife habitat, based on Project siting, limited wildlife use in the area, and commitments made to mitigate and monitor wildlife impacts.

To remain compliant with Alberta Environment and Parks (AEP) Wildlife Directive for Alberta Solar Energy Projects, a spring 2021 Raptor Stick Nest Survey has been conducted for the Project, determining that no stick-nests are present in the area. The Wildlife Directive for Alberta Solar Energy Projects requires that wildlife surveys are kept current (within 2 years of the previous survey date) between the issuing of the signed AEP Wildlife Renewable Energy Referral Report and the commissioning of the project.

Post-construction monitoring (PCM) will also be conducted and supervised by an experienced wildlife biologist for the first three years of the Project Operation, in compliance with the AEP Directive for solar/wind energy projects. An annual report on findings will be submitted to the AEP and AUC to assess the effectiveness of mitigation efforts, identify any wildlife risks, and determine whether additions or modifications to mitigation measures will need to be made.

Does the Springbrook Solar Project house battery storage?

The Springbrook Solar Project has not been designed with any battery storage facilities, but it is not required for a utility scale solar project to operate optimally. The Project will produce approximately 33,866 MWh of electricity in its first year of operations. One hundred percent of the generated electricity will be fed into the local grid and no generated power will be available for battery storage.

Throughout the winter months, the Project facility will generate less electricity than in summer months due to lower irradiance, cloud cover, and occasional snow cover. During these periods, the generation of the facility will be lower than in summer months, but the power production modeling of the facility already considers these lower production days through the winter months, and this has been accounted for in the calculations of the Project's production estimates and financial modeling.

Will the Springbrook Solar Project create noise pollution?

A Noise Impact Assessment (NIA) was conducted for the Project by an experienced third-party consultant in accordance with the AUC Rule 012: Noise Control (Rule 012).

The AUC Rule 007 - Applications for Power Plants, Substations, Transmission Lines, Industrial System Designations and Hydro Developments, outlines the specific guidelines required to be followed by any person intending to construct, connect, operate, or alter power plants. Due to recent updates to the AUC Rule 007 and the Project Site Layout, Saturn selected to update the Project Noise Impact Assessment (NIA) to consider all changes, in May 2021. The results of the latest NIA confirm that all assessed receptors are in compliance with the AUC Rule 012: Noise Control.

While solar panels are quiet pieces of equipment, the Project will include 80 small inverters and 8 transformers which can emit a low humming sound when generating electricity. The facility will not produce noise emissions during non-daylight hours.

Seventeen receptors were identified as having the most likely potential to be impacted by sound emitted from the proposed Project and/or by cumulative sound levels, all located within a 1.5 km radius of the Project boundary. Worst case sound power levels were used to model sound emissions from the Project during day and night periods from the proposed Springbrook Solar Project.

All noise propagation calculations were performed using iNoise from DGMR Software, utilizing very conservative decibel noise levels, assuming worst-case, fully operational, noise emission scenarios during night-time periods.

The results of the noise modelling indicated that cumulative sound levels were assessed to be below permissible sound levels, and all surrounding receptors are in compliance with the permissible sound level of the AUC Rule 012.

An increase in noise levels can be expected within the direct vicinity of the Project throughout the construction phase which is expected to begin in Spring 2022 and run for 6 to 9 months. Construction will occur only within the allowable construction hours permitted by the Province of Alberta.

Will the Springbrook Solar Project and land be maintained?

Saturn will bear the responsibility for the operation and maintenance of the Project. Our Engineering Team will be monitoring the performance of the Project throughout its operational lifetime and will be alerted via automated monitoring systems if any problems were to occur with the equipment performance levels. A local O&M team located in Red Deer County will conduct visits to the Project site as necessary for scheduled and unscheduled maintenance.

Ongoing snow removal at a solar facility is the responsibility of the operator and comes with a cost/benefit analysis based on current weather conditions, forecasted weather conditions, sun irradiance, cloud cover, accessibility issues and other factors. There may be times when modules are left with snow cover as the forecasted weather conditions suggest that is most economical to leave them as they are. When covered in snow, the solar Project does not generate electricity and consequently does not generate any revenue.

Saturn will also be responsible for vegetation management on site. The project will have a Vegetation Management Plan (the Plan) for Construction and Operation which will be prepared in partnership with the Red Deer Regional Airport to ensure no impacts to the Airport and surrounding communities.

The Plan will ensure:

- Best practices related to soils and vegetation on the site that will be implemented.
- Adequate vegetation covering accomplished by seeding the site upon construction completion to restrict weed growth.
- Engaging a maintenance crew to remove unwanted vegetation regularly.
- Routine visual inspections of the Project site will occur, to ensure the solar facility infrastructure and access roads remain clear of debris, weed, and vegetation and to mow the Project area as necessary to keep from becoming over vegetated.

Will the Springbrook Solar Project negatively impact property values due to visual impacts?

Visual impact concerns have been a commonly heard theme from stakeholders within 2km of the Project area with special focus on the proximity of the solar array to Township Rd 374 and Range Rd 281 (C&E Trail). In response to these concerns, Saturn's development team worked with our engineers to optimize the site layout and increase the distance between road frontages and the solar arrays to help reduce visual impacts for residents and passersby. We anticipate that this change, along with existing vegetation and the addition of new vegetative screening has reduced the potential for visual impacts of the Project.

Through the first Participant Involvement Program (PIP1) stakeholder consultation process, we presented our original Project site plan which proposed to install solar panels 17 meters setback from Township Rd 374 and 14 meters setback from Range Rd 281. Based on feedback from neighbours and other stakeholders throughout this first round of consultation, we have refined the layout to increase the distance between road frontages and the edge of the Project boundary. Specifically, towards the northern most end of the Project, the solar array will be set back 94 m from the edge of Township Rd 374. Towards the western most end of the Project, the solar array will be set back approximately 251 m from the edge of Range Rd 281 (C&E Trail).

The solar PV panels that will be utilized for the Project will have a maximum height of 2.7 meters and all Project related equipment will be enclosed within perimeter fencing that will be approximately 2.1 meters in height, surrounding the entirety of the Project site.

The visual impact of the Project will be mitigated dramatically by already existing woodlots and hedgerows in the area. Saturn has further committed to adding and maintaining new vegetative screening around key areas of the perimeter of the Project, including along a portion of the northern Project boundary on Township Rd 374. Additionally, the Project was intentionally sited adjacent to the active Red Deer Regional Airport as it is an area already disturbed by the industrial and commercial uses of the Airport.

Tree planting for visual screening will utilize local evergreen plant species that will survive well in this region. Saturn would like to note that all tree planting will be planned such that there is no impact to the Red Deer Regional Airport operations, nor put the aviation safety of passengers and flight crew at risk.

There have been no conclusive findings, through the completion of various studies across North America, indicating that the installation of a solar facility negatively impacts resale values on nearby properties.

The Solar Energy Industries Association (SEIA) released a "Solar and Property Value Fact Sheet" stating that "…large-scale solar arrays often have no measurable impact on the value of adjacent properties, and in some cases may even have positive effects" and that the "Proximity to solar farms does not deter the sales of agricultural or residential land."

Will surrounding landowner electricity bills increase once the Springbrook Solar Project is operational?

There will be no impacts or changes to any stakeholder power bill due to the Springbrook Solar Project operation. Saturn is required to pay all interconnection costs associated with the Project coming online and an Interconnection Study has been completed. Discussions with FortisAlberta, Alta Link, and AESO are ongoing.

What happens if a solar PV panel is damaged?

Solar panels are engineered and designed to be extremely durable and are manufactured with glass that is designed to be flexible and impact resistant. In the rare case that any damage occurs to the solar PV modules, there would be an immediate reduction in power production and would be identified by our monitoring software.

If this were to occur throughout the lifespan of the Project, the Saturn internal engineering team will be alerted via automated monitoring systems. A local O&M team in Red Deer County will be available to remove and replace the damaged panel. The damaged panel would be transported and disposed of in the appropriate facilities.

What benefits will the Springbrook Solar Project bring to Alberta and Red Deer County?

Air Quality: Annually, the Project is estimated to reduce Greenhouse Gas (GHG) Emissions by approximately 17,950 tonnes of CO2e. Over the 35-year anticipated Project lifespan, GHG emissions will be reduced by 575,000 tonnes of CO2e.

Alberta's Renewable Electricity Act (the Act): The Act outlines the initiative of phasing out coal fired emissions and moving towards having 30% of Alberta's energy generated by renewable sources by 2030. The Project will aid in supporting this goal and reduce the Province's reliance on fossil fuel energy sources.

Property Tax Revenue: Direct revenue will be generated for Red Deer County through property tax revenue that will equate to over $5 Million over the Project lifespan.

Community Benefits: Saturn Power and Red Deer County will be developing a Community Benefits Agreement which ensures that additional funds flow directly into the community including monetary contributions to community groups, fundraisers and clubs, as well as scholarships for local students. In addition, Saturn hopes the Project can participate further with the community through apprenticeship programs, facility tours, and informative presentations to schools.

What will happen once the Springbrook Solar Project has reached the end of its lifespan?

At the end of the Project's life (approximately 35 years) the Project will either be decommissioned, or, refurbished so as to continue operations which would be conditional to local and provincial approvals required at that time. Decommissioning involves dismantling and removing all equipment and disposing of them in an environmentally and ethically conscious manner. Any required permits and necessary approvals at the time of decommissioning will be obtained from the appropriate regulatory and government bodies. Notification to the landowners, local municipality, and stakeholders will also be given in advance of the commencement of the decommissioning process.

The solar PV modules, once disconnected and dismantled, will be carefully handled, packed, and collected by trained professionals from the Project site, then transported to the appropriate facilities where the glass, metal, and semi-conductor materials will be separated and either recycled or disposed of appropriately and safely.

Once the metal (aluminum) and glass components of the solar PV modules are separated, 100% of the metal components and approximately 95% of the glass can be reused for future industrial purposes.

As mentioned previously, the entirety of the Project facility will be decommissioned by trained professionals in the field and will adhere to the practices and procedures followed by the Province of Alberta.

A Decommissioning Report which details the various steps of the decommissioning process will be made available on the Saturn Power Springbrook Solar Project website once finalized.

What is the site elevation of the Springbrook Solar Project land?

The Project site is relatively flat and is described as:

- East to west: An average slope of approximately 1.5%, equating to less than 3 meters of elevation across the entirety on the site from the western most end of the Project site (closest to Range Rd 281) to the eastern most end of the Project site (closest to the Airport runway).
- North to south: An average slope of approximately 1.1%, equating to less than 5 meters of elevation across the entirety on the site from the northern most end of the Project site (closest to Township Rd 374) to the southern most end of the Project site.

Why choose renewable energy compared to other more traditional energy sources?

According to the World Wildlife Fund Canada (WWF-Canada), "Climate change is the biggest challenge facing our natural environment." With the increase in electricity demand, globally, renewable energy has been the fastest growing resource in North America, with solar energy at the forefront leading the charge due to its low production and maintenance costs. This decline in costs is projected to continue as demand continues to rise and technology advances. The cost to generate solar power is affordable and it continues to be an efficient and environmentally friendly source of power.

Although we are only recently seeing an increase in popularity of the solar industry, the technology and its potential impacts have been studied in great depths since the 1950s. The overall impact from the development and installation of solar is overwhelmingly positive, from improved air quality to having minimal impacts to the project land and environment.

The Solar Energy Industries Association (SEIA) has stated that "Solar technologies offer a number of environmental benefits, including the reduction of harmful pollutants and carbon emissions in comparison to fossil fuel-based energy sources."

The adoption of renewable energy is one of the most significant changes that we can possibly make in our present day to reduce the impacts and effects of climate change, improve air quality, and to preserve land, wildlife and wildlife habitats alike.

Is there any risk of the Springbrook Solar Project being abandoned without a letter of credit for reclamation or decommissioning bond?

It is not unusual practice for a project to have a Decommissioning bond or Letter of Credit in place with the municipality hosting the project. Currently, Red Deer County does not require any such letter of credit, but this may be a condition of the Development Permit approval process which is expected to occur in late 2021 after acquiring AUC Approval.

Saturn as an entity has over 14 years of experience in the solar, wind, and energy storage industry and has developed over 150 MW of projects and continues to own and operate over 40MW in Canada. With this experience, Saturn has come to understand what steps are necessary to take a project through the origination, development, construction, and operations phases successfully.

Steps have been taken throughout the origination and development phases of the Springbrook Solar Project to best understand the detailed financial feasibility and viability of the Project projected throughout the expected 35-year lifespan to ensure success.

In the rare and unforeseen case that the Springbrook Solar Project facility will be forced to be abandoned, facility cease to operate prior to its anticipated end of life, or prior to the completion of construction, the same procedures outlined in the Decommissioning Report Plan will be adhered to. All equipment and materials will be removed from the site for re-use or disposal and the site will be graded and restored to a state similar, or better, to that of pre-construction. The salvage value of the metal and materials in the facility will cover the majority of the costs of the decommissioning.

Saturn is legally obligated under our lease agreements with our respective landowners to bear the responsibility of ensuring that decommissioning occurs, and practices and procedures are followed as required by the Province of Alberta. Furthermore, Saturn will be responsible for bearing the expenses associated with decommissioning and has a period of one year to remove the Project equipment from the leased area per industry standards at the time of decommissioning.

How can I learn more?

Project Related Information: Please visit our website for Project information, reports on completed assessments and studies, and an interactive map: **www.saturnpower.com/Springbrook-Solar**

AUC Participation: For more information on how you can participate in the AUC approval process, please refer to the AUC brochure: Participating in the AUC's independent review process. This document can be found on the Project website and has also been distributed in both round 1 and round 2 of the Participant Involvement Program.