

Dundonald Avenue Solar Farm

Frequently Asked Questions

OCTOBER 19, 2021

Dundonald Avenue Solar Farm – Questions & Answers

Last Update: October 29, 2021

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Public Consultation Clarifications

1. What community engagement has occurred on this project and site?

The following community engagement has been held on the project:

- Direct mailout of project information to neighbouring residents and businesses.
- Sharing of information and collection of feedback through the City’s website and social media platforms; and
- Hosting a live virtual public engagement meeting and answering questions on June 22, 2021.
- Direct mailout requesting feedback on any visual concerns on the solar farm by residents whose properties are located adjacent to the solar farm.

2. Will there be additional noise generated from the project?

An acoustic study was completed with the feasibility study to determine the change in road traffic noise that is transmitted west of Dundonald Avenue during the operation of the solar farm. Under the worst-case, a change of 0db is predicted during the daytime period, and an insignificant reduction of -1db during nighttime. For reference, a 3db change in sound level is considered the threshold for human perception to changes in sound. Some noise will be present during the construction phase of the project.

3. Will there be any glare impacts from the project?

A glare study was also completed as part of the feasibility study to gauge the impact of reflected light on neighbouring buildings and overhead air flight paths. During the assessment, ten routes, four railways, eighteen observation points, the air traffic control tower, and four flight paths were reviewed. The results indicated:

- Glare from solar panels is less than glare experienced from snow on the ground;
- Trees and walls block predicted glare on the west side;
- There are no occurrences of “red” glare that would cause permanent retinal damage;
- There will be between 20 to 45 minutes of “yellow” glare that would result in temporary after images along observation points, one railway path, and four routes; and
- There will be between 120 to 240 minutes of “green” glare that would result in low probability of temporary after images along one route.
- Both yellow and green glare frequency of occurrence and duration are within acceptable limits.

4. Is building solar the best use of the land?

The selected project site is the largest and most suitable land for solar development within the Saskatoon Light & Power electrical franchise boundary. The land was reserved for solar development for the following reasons:

- It is land that is not suitable for commercial, residential or recreational development;

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- Has access limitations due to its proximity with the railway line to the west and Circle Drive South freeway to the east;
- Has no influence on nearby community local area plans;
- Has excellent south exposure and is located near the City's existing Solar demonstration site; and
- Is easy to connect with the electrical distribution system nearby.

5. Why are we not building outside city limits?

Saskatoon Light & Power has a fixed electrical franchise boundary that was established based on the 1958 City limits. This franchise boundary covers the central core of the city (i.e., roughly all neighbourhoods within Circle Drive, excluding the University of Saskatchewan) which is mostly developed with residential, small business and commercial spaces. Consequently, limited opportunities exist to develop renewable energy projects within the franchise boundary.

6. Will the project conflict with future local area plans for the community (e.g. overpass considerations, noise mitigation measures, alternate land utilization)?

There are no impacts anticipated to existing local area plans for nearby communities.

7. What is the life expectancy of the project?

The life expectancy of the project is at least 30 years. Research has indicated similar project to extend beyond 30 years with minimal operating and maintenance costs. Some degradation in panel efficiency is expected throughout the life of the project.

8. Who will supply and install the panels? Will preference be given to local businesses?

The supply of material and labour to build the solar farm will be determined through a competitive procurement process that is compliant with trade and partnership agreements applicable to the City.

9. How can I visualize the size and layout of this project?

The 2.2-Megawatt solar project will be built on two connected parcels of land located between Dundonald Avenue, Circle Drive South and 11th Street West. The combined land size is 14 acres or the equivalent size of about 8 football fields. The site will comprise of approximately 5,075 solar panels which will be arranged in rows that are aligned horizontally (i.e. east/west) across the length of the site. The height of the solar panels will approximately be 13 feet above ground or the equivalent height of an average public transit bus. The solar panels will align with the existing site gradient and no additional earthworks are planned. The panels will also be tilted to approximately 35 degrees for optimal solar energy collection and to reduce snow accumulation on the panels in winter. All project specifications will be finalized during the next detailed design phase of the project.

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Technical Clarifications

10. What are the impacts to the environment from this project?

The following environmental considerations were made for this project:

- Earthworks – minimal expected as the site topography will remain unchanged. Subsequently water runoff will also remain unchanged;
- Landscaping – will be pursued to minimize site maintenance during operation and enhance biodiversity. Some removal of old trees on the northwest corner may be needed; and
- Environmental - Parcel M is considered as a brownfield site that was reclaimed after completion of the Circle Drive South freeway.

The solar farm site is a brownfield that is being reclaimed with the development of the solar farm. Wildlife grazing on this site is considered unsafe for wildlife due to its proximity to the railway line and freeway. The solar farm will reduce wildlife grazing and thereby improve the safety of wildlife and road/rail users.

11. What are the impacts to wildlife from this project?

The proposed site is a brownfield location that is being reclaimed with the development of the solar farm. The site is located between a railway line on the west side and Circle Drive South to the east which impose safety hazards associated with wildlife grazing. The proposed solar farm will prevent wildlife from accessing the location and indirectly improve the safety of wildlife, road users, and rail users.

Co-benefits Clarification

12. What co-benefits are expected from the project?

There are several expected co-benefits from the project, including enhancing the local economy by creating jobs, supporting renewable energy innovation. There is also the potential to develop pollinator habitat during landscaping as an understory to the array, supporting the biodiversity of our area.

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End of Life Clarifications

13. How long will the solar panels last?

Utility-scale solar systems have a typical life expectancy of 30 years. Market research suggests solar systems can remain in service beyond this if maintained routinely.

Components within the solar farm (such as the solar panels, string inverters, step-up transformers etc.) may vary in expected life and warranty periods. Replacement of faulty components are expected and will be considered in operational and maintenance costs associated with the project.

14. Will the solar panels degrade over time? Will they still be efficient over the life of the project?

Solar panel degradation is expected throughout its 30-year operational life. The efficiency is estimated to reduce 0.4% each year.

15. What will happen to the land after the panels are at end of life?

As the project end-of-life is at least 30 years in the future, no end-of-life plans have been developed for the land at this time. As the land is a reclaimed brownfield site, it is anticipated to remain well suited for continued solar development. Landscape options currently being considered, if implemented will mean that the land will be left in a better state than before the project.

16. Can the panels be recycled after the project?

Options for recycling solar panels are limited currently; however, this is an emerging aspect of the solar industry and has been identified as a major need in the coming decades. It is expected that a reliable recycling option will exist by the end of the project life.

Procurement of environmentally friendly panels and best practices in support of recyclability will be considered during the construction phase of the project.