

Appendix 17: Parcel 6 – Proposal

17.1 Best Use for Parcel 6

When comparing the advantages of suitable uses for Parcel 6, renewable energy provides the highest and best land use. It integrates well with the LPCA, carrying similar environmental messages. The size and shape of the parcel is also well suited for solar development allowing single-axis-trackers (tracking from east to west) to be setup. Based on industry experts' recommendation, the array would face south, turned by 90 degree to prevent the array from shading itself. Despite its rectangle shape (limited width compared to length) performing maintenance tasks will not cause any problem. In terms of financial returns, solar development performs pretty well compared to aviation commercial development.

17.2 Concept Definition

The ground mounted solar photovoltaic (PV) system concept will maximize the utilization of the space on Parcel 6. The type of terrain will also be ideal for the installation of a solar array and the sustainable nature of the project will fit well with Lemoine Point's conservation mission. The advantages of establishing a solar photovoltaic (PV) system in Kingston are not simply tied to the location aspect. This project would accelerate the region's shift to meet the growing demand for green energy production and provide substantial and stable alternate revenues to the Kingston Airport.

This Concept is also perfectly aligned with region-wide efforts to increase the share of renewable energy, notably solar energy. Several initiatives are underway in the Kingston region such as the Sustainable Energy Applied Research Centre at St Lawrence College.

A full application will have to be submitted to NavCanada in order to officially confirm that the site meets Transport Canada's regulation for navigational aids interference, reflection and glare. Initial investigation led the Study Team to conclude that Parcel 6 would be suitable for ground mounted solar photovoltaic (PV) system development.

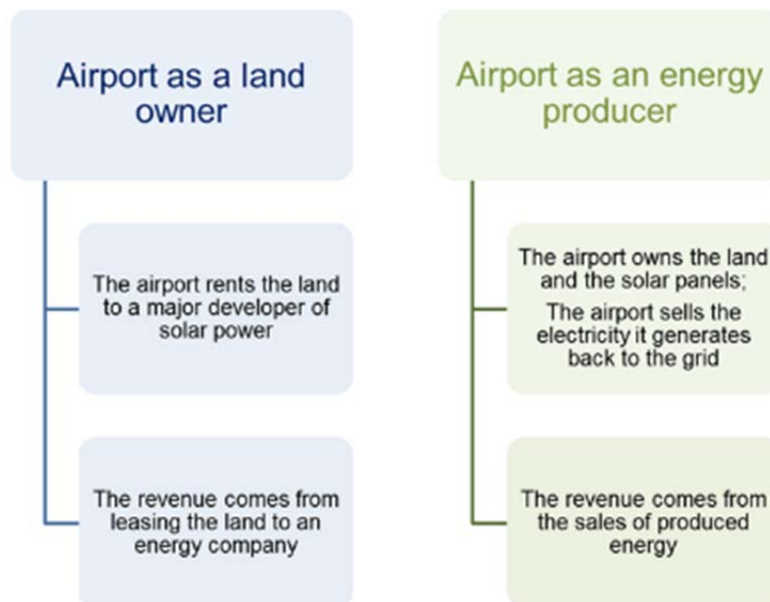
The main issue that could impact the establishment of the concept is the potential glare generated by the solar panels. NavCanada alleviated that concern, pointing out that different solutions exist to prevent glare emissions or even remove it; for example films could be applied on solar panels to drastically reduce the glare.

As per the CRCA's recommendations, an environmental inventory of Parcel 6 shall be conducted prior to the development. As summarized in Figure A16-2 below, the ground mounted solar photovoltaic (PV) project could be developed with the Airport as a landlord or with the Airport becoming the owner and operator of the system.

In the Financial Overview of this Parcel, only the landlord option has been investigated. Analyzing the ownership scenario entails too many unknown variables for which a separate mandate would be required.

Parcel 6 contains approximately 7 hectares (17.3 acres) of land. Typically, the number of panels required to produce a MW of power require approximately 5.5 to 6 acres of land, thus it can be estimated that the Parcel 6 lands could produce approximately 3 MW of power which is far more electricity generation capacity than the current loads at the Kingston Airport.

**Figure A16-2:
Potential Roles for the Airport within the Ground Mounted Solar Photovoltaic (PV)
System Project**



17.3 Development Timeline

With the planned ending of the microFIT and FIT Programs in Ontario, the schedule for construction of the ground mounted solar photovoltaic (PV) system and other roof top mounted solar PV installations can proceed independently of those programs. Installed generating capacity would likely be utilized in a net metering or fully “behind the meter” scenario with or without on-site energy storage. Solar PV infrastructure could be owned and installed by the City or by others through a land lease arrangement.

IESO programs focussed on grid scale storage could be utilized as part of the solar PV component of this Concept once details of those potential programs become available.

17.4 Infrastructure and Financial Overview

The ground mounted solar photovoltaic (PV) system development may represent a good investment opportunity when coupled with storage and net metering and peak sharing for Kingston Airport operations and tenants. The establishment of a solar PV system in Parcel 6 may not require a capital investment from the City and Airport. The bulk of the required capital investment is comprised of the solar panels, cabling and supporting systems for the transportation of electricity to the grid. The latter is estimated at \$220,000 and is required to bring three-phase electric power to the site. Such power supply is necessary for any solar panel installations transferring power to the grid. All those costs may be supported by a private developer who will be renting the land from the Kingston Airport and selling the generated power.

If 17.3 acres of land at Parcel 6 is leased out at \$800 per acre for ground mounted solar photovoltaic (PV) system per the proposed Development Concept, it is estimated that Parcel 6 will generate \$13,840 per year in leasing revenue.

The new federal government and its infrastructure investment plan could potentially allocate funds to the provinces for the development of additional renewable energy projects.