Feedback Form

Regional Electricity Planning in Kitchener/Waterloo/Cambridge/Guelph Region – July 2, 2024

Feedback Provided by:

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Title: PV development on agricultural land & Agrivoltaics

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Email:

Date: June 28, 2024

To promote transparency, feedback submitted will be posted on the <u>Kitchener/Waterloo/Cambridge/Guelph engagement webpage</u> unless otherwise requested.

Following the Kitchener/Waterloo/Cambridge/Guelph (KWCG) regional electricity planning webinar held on June 17, 2024, the Independent Electricity System Operator (IESO) is seeking feedback on the draft Scoping Assessment Outcome Report. The draft report and webinar presentation, which provides an overview of these feedback requests, can be accessed from the <u>engagement webpage</u>.

Please submit feedback to <u>engagement@ieso.ca</u> **by July 2, 2024**. If you wish to provide confidential feedback, please submit as a separate document, marked "Confidential". Otherwise, to promote transparency, feedback that is not marked "Confidential" will be posted on the engagement webpage.



Topic	Feedback
What additional information should be considered as part of the Scoping Assessment?	The full potential for PV development on agricultural land.
What other considerations should be made regarding the areas identified as requiring further study through a regional planning approach based on local developments?	There is a need to conduct more detailed feasibility studies for PV development on agricultural land and how such development can be facilitated through pilots, partnerships or policies (e.g., 'green zoning' and clear process requirements) or through direct implementation (e.g., directly investing in the project, or directly owning/operating a system).
What other areas or specific considerations should be examined through regional planning?	How will municipal governments in the region regulate renewable energy development broadly, and solar energy in particular, on 'prime agricultural land' and 'protected countryside'.

General Comments/Feedback

Waterloo recently undertook a mapping of opportunities for renewable energy development that suggested restricting PV development to 'sub-prime agricultural land' leaving approximately 800 megawatts of installed PV capacity, assuming a conservative estimate of about 4 hectares per megawatt of installed PV capacity.

This may be unnecessarily restricting opportunities for PV development by restricting it only to subprime agricultural land. If we were to include all agricultural lands in their map, the Region would have almost 30,000 hectares of land that could support PV farms, representing about 7500 MW of installed capacity.

Solar farms are not incompatible with agricultural production. In many regions of the world, solar farms co-exist with sheep or cattle grazing or fruit/vegetable production. Agrivoltaic installations optimize the use of land, granting it a dual purpose in farming and power generation. By using a local renewable energy source, it's possible to reduce the emission of ghgs and other polluting gases derived from natural gas fired generation. It can also promote distributed generation and reduced transmission requirements from more centralized generation.

At the same time, solar panels can also protect the crops located underneath them by reducing evaporation, maintaining humidity, and reducing the water footprint of farming. The combined use of land in agrivoltaics can increase efficiency by up to 186%. The latest studies also show that power generation using photovoltaic panels increases the value of farms more than 30% promoting more economic opportunities for farmers in the region.

On current trends, the all-in cost of solar PV produce promises to be less than half as expensive as the cheapest available today. Solar cells will in all likelihood be the single biggest source of electrical power on the planet by the mid 2030s. By the 2040s they may be the largest source not just of electricity but of all energy. The Kitchener/Waterloo/Cambridge/Guelph (KWCG) area needs to undertake further feasibility studies on PV development on agricultural land and how such development can be facilitated through pilots, partnerships or policies (e.g., 'green zoning' and clear process requirements) or through direct implementation (e.g., directly investing in the project, or directly owning/operating a system).