

# Grid Innovation Fund Call for Indoor Agriculture Projects Announcement

## Background

Energy efficiency combined with innovation can provide an immediate and lasting impact on system reliability, help address province-wide and regional electricity needs, and support business and community growth. Ontario's Independent Electricity System Operator (IESO) has been working closely with communities, the greenhouse sector and other stakeholders to ensure they have a reliable supply of electricity, while also helping greenhouse owners and operators manage their energy costs through energy efficiency programs and funding for innovative projects.

The pilot projects announced today are supported by the IESO's Grid Innovation Fund to help support increased demand in regions impacted by greenhouse sector expansion.

Innovative technologies in energy production, delivery and management will position Ontario's electricity sector to effectively face the challenges of tomorrow.

## Call for Indoor Agriculture Projects Results

- 18 project proposals were submitted, 65 organizations across a variety of sectors participating.
- Two successful projects contracted to date, with seven organizations participating.
- Both project locations are within the targeted area of Kingsville-Leamington and will help support increased demand in this area in the coming years.
- The IESO's Grid Innovation Fund will provide a total of over \$1.1 million of support for the two projects over the next three years.
- This is part of an allocated \$2.5 million Grid Innovation Fund for indoor agriculture projects. Additional projects will be announced in the near-future.

## Pilot Projects

The investment pilot projects are:

- Allegro Acres Inc.: To demonstrate and speed up the adoption of smart, low-intensity lighting control techniques used over a 24-hour period. The daytime electricity consumption for lighting in greenhouse vegetable production can be significantly reduced (16%-20%) and shifted to the

lower rate hours in the night; capital costs are reduced by 20 percent, and energy efficiency is increased by 15-33 percent, depending on the crop.

- Great Lakes Greenhouses Inc.: To develop an artificial intelligence (AI) powered autonomous virtual grower that is applicable to large-scale commercial greenhouses to increase the energy efficiency of a greenhouse while maintaining or increasing its yield.

Each of the approved project includes a greenhouse demonstration facility. Crop growth and maintenance will be monitored to ensure there are no negative impacts to crop yield or growth as result of changes to greenhouse building operations.

## Grid Innovation Fund

The IESO's Grid Innovation Fund advances innovative opportunities to achieve electricity bill savings for Ontario ratepayers by funding projects that either enable customers to better manage their energy consumption or that reduce the costs associated with maintaining reliable operation of the province's grid. Since 2005, the Grid Innovation Fund has provided financial support for more than 200 innovative energy projects across the province.

## Ontario Greenhouse and Energy Efficiency Facts

- Ontario's greenhouse sector is the largest in Canada and is set to grow by 50% over the next five years.
- In the Windsor-Essex region of southwest Ontario alone, electricity demand is expected to double over the next five years.
- Energy efficiency provides a valuable resource to help offset the cost of energy supply at 2 cents per kilowatt-hour (kWh). Energy efficiency can help manage increasing electricity demand while supporting business' growth and competitiveness.
- LED grow lights can yield a 20-60 percent reduction in energy usage.
- Lighting uses more electricity than all other greenhouse end-uses combined.
- Since 2011, Ontario's greenhouses with the support of Save on Energy programs, have invested more than \$88 million in energy-efficiency initiatives, contributing to more than 425 gigawatt-hours (GWh) of electricity savings.
- As part of the Save on Energy Retrofit program, a [Regional LED Incentive for Greenhouses](#) in Windsor-Essex and Chatham-Kent launched in late 2019. The incentive provides up to \$0.30/kWh of electricity saved in this system-constrained area. The program has committed six projects to date, representing 60 GWh of energy savings and 5 megawatts in demand savings.