



Proposed Upgrade and Expansion St. Clair Energy Centre Environmental Assessment

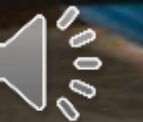
Virtual Public Information Session

December 8, 2022 – December 22, 2022

Invenergy



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CONSULTING



Welcome!

This Virtual Information Session will be live for two weeks from Thursday, December 8, 2022 to Thursday December 22, 2022

- You can provide your input on the Project by completing the questionnaire available on the Virtual Public Information Session website at **www.stclaireenergyexpansion.ca**. Please submit your comments by December 22, 2022.
- After Thursday December 22, 2022, this presentation, accompanying video transcript, and the questionnaire will be available for download on the Invenenergy Project website **www.stclaireenergycentre.com**.



Land & Water Acknowledgement

We would like to recognize and acknowledge that the land and surrounding water that the St. Clair Energy Centre operates on is the Three Fires confederacy's traditional territory of the Chippewa, Odawa, and Potawatomi peoples, referred to collectively as the Anishinaabeg.

We would also like to acknowledge and give thanks to the many other Indigenous nations and communities that reside on this land in the past, present, and future.



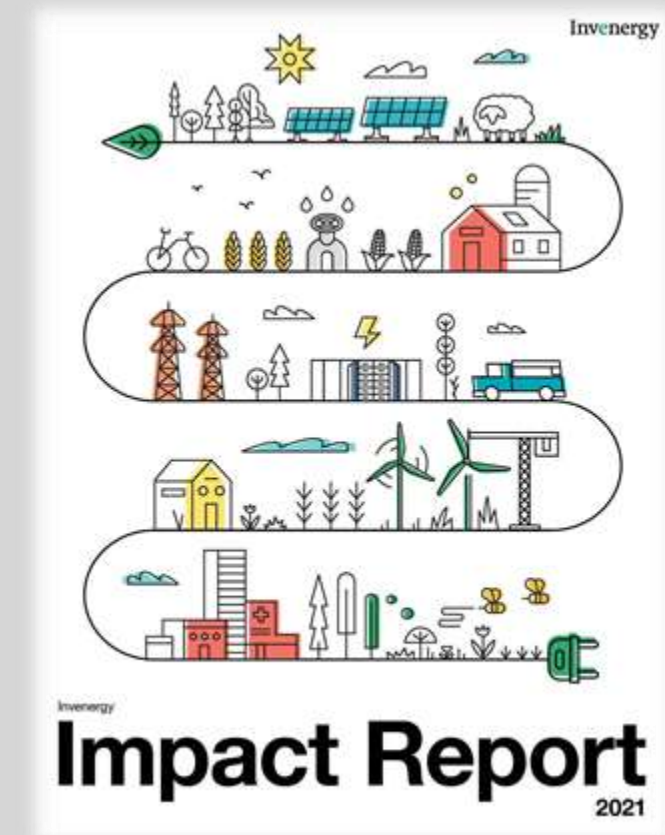
Invenergy

- Invenergy is the world's largest privately held developer, owner and operator of sustainable energy solutions. Invenergy's home office is located in Chicago, with its' Canadian headquarters in Toronto and a regional office in Montreal.
- The company has successfully developed more than 190 projects worldwide, totaling over 30,000 megawatts, including wind, solar, transmission infrastructure, natural gas power generation and advanced energy storage projects.
- Invenergy has successfully managed the St. Clair Energy Centre since 2009 and has become a valued member of the community.



Invenergy and Sustainability

- All of Invenergy's teams play a crucial role in the continued growth of sustainable energy, and are proud to highlight some of the developmental, legislative and organizational achievements they have as a company.



Project Background

- The St. Clair Energy Centre is a 584-megawatt combined-cycle natural gas turbine generation facility. The Energy Centre is located in St. Clair Township, in the province of Ontario, Canada and began operations in 2009. Power generated from the facility is transported to the provincial electrical transmission network through an onsite transformer station, where it is eventually delivered and utilized by consumers.
- To help meet the provinces growing need for reliable and efficient electricity, the St. Clair Energy Center is proposing modernization upgrades and an expansion of the facility including:
 - Project 1 - Upgrade of St. Clair Energy Centre - Upgrading the facility involves increasing plant capacity through process improvements and equipment upgrades. This will require no physical expansion of the plant footprint and will add approximately 60 MWs of generating capacity.
 - Project 2 - Expansion of St. Clair Energy Centre - Expansion of the facility involves the addition of a new gas turbine(s), or reciprocating engines, to achieve approximately 100-120 MWs of additional generating capacity. This would require the expansion of the plant footprint and other upgrades to infrastructure.



Project Description

The Project is being driven by the request from the Independent System Electricity Operator (IESO) for additional energy capacity for the 2025-2026 calendar years. If successful, the Project will allow Invenergy contribute to the needed increase in power supply called for by the IESO and the Provincial government.



Planning and design activities for the Project commenced in the second and third quarter of 2022. Pursuant to the *Guide to Environmental Assessment Requirements for Electricity Projects*, an Environmental Review ReportERR will be prepared and archaeological studies will be completed. Engineered drawings will be produced with the final design and issued to local municipalities and other regulators for approval. Once approvals are obtained final engineered drawings will be prepared for construction. Invenergy is planning to submit permits to agencies and are looking towards anticipated approval of the Project in late 2023 and into early 2024.



Regulatory Framework

- An Environmental Review Report (ERR) will be prepared for the Project. The ERR will identify potential effects, proposed mitigations and authorizations required. Work will follow the *Guide to Environmental Assessment Requirements for Electricity Projects* published by the Government of Ontario pursuant to the *Environmental Assessment Act*.
- Preliminary work on the Project has identified potential authorizations.



- **Provincial Approvals:**
- Ministry of the Environment, Conservation and Parks
- St. Clair Region Conservation Authority
- **Municipal Approvals:**
- St. Clair Township

If other authorizations, notifications, permits and/or approvals are required, they will be identified during the Environmental Assessment process.



- Invenenergy will carefully consider input and is committed to involving community members
- Invenenergy will provide up-to-date information in an open, honest, and respectful manner.
- Invenenergy is committed to environmental stewardship and conducts its operations in an environmentally responsible manner.



Regulatory Framework

- For the Project to proceed, approval from the Ministry of the Environment, Conservation and Parks (MECP) is required.
- The MECP requires that Invenenergy complete an Environmental Review Report (ERR).



Role of the MECP



- Review the ERR, including details of consultation, as part of the approval process.
- Receive comments from interested parties once the ERR is submitted to the MECP
- Provide a public forum during the review of the ERR for people to participate in the decision-making process.

Environmental Assessment

- The project is subject to “Electricity Regulation (O.Reg. 116/01) and follows the “*Guide to Environmental Assessment Requirements for Electricity Projects*” under the Ontario Environmental Assessment Act.
- The assessment will include an analysis of the potential impact on:
 - Air quality and noise;
 - Human and ecological health;
 - Vegetation;
 - Wildlife and birds;
 - Soils;
 - Social and economic conditions; and,
 - Natural and cultural heritage.



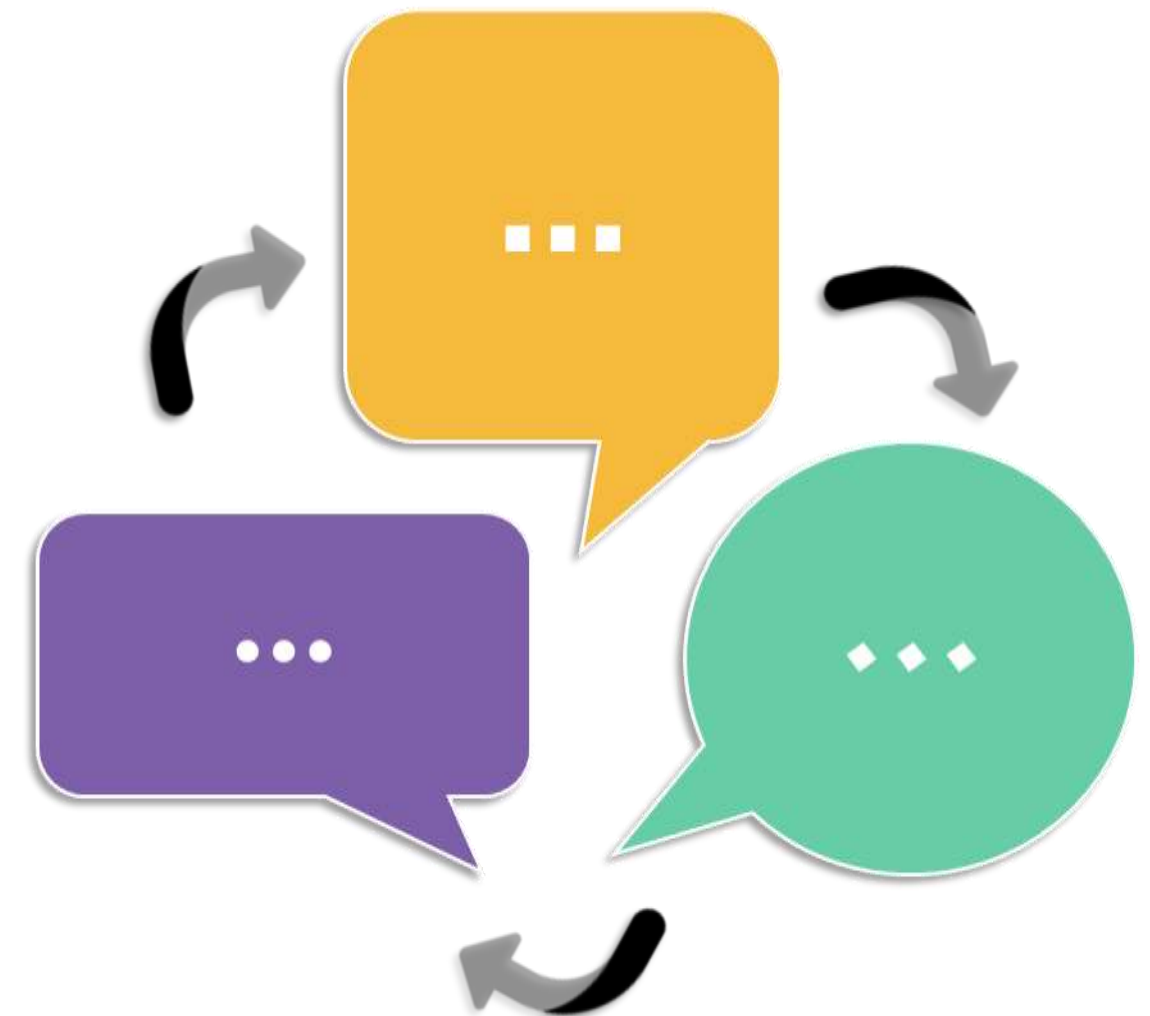
Why Natural Gas?

- The proposed upgrade and expansion occurs at an existing facility that has been in operation since 2009 and will not require a new greenfield installation. The existing facility would continue to use clean natural gas for its source of fuel.
- The proposed upgrade and expansion responds to the the Independent Electricity System Operator's request for power dispatchable base-load natural gas assets.
- Natural gas is the cleanest combustible fuel on Earth, it is colorless and odorless in its natural state. Replacing coal, diesel, and heavy fuels with clean-burning natural gas greatly reduces harmful emissions such as carbon compounds, nitrogen oxides, sulfur dioxide, and particulate matter.
- As a flexible, fast-response energy source, natural gas plays an important role within the broader energy transition by supporting the power grid's ability to manage increasing amounts of renewable generation.



Purpose of the Virtual Information Session

- Provide background information on the Project and illustrate the options being considered, studies to be conducted and other important information
- Inform landowners, Indigenous communities, municipalities, stakeholders, and regulatory authorities about the Project and gather feedback about the proposed project
- Provide an opportunity to participate during the process of completing the Environmental Review Report, which will be included in the submission to the Ministry of the Environment, Conservation and Parks
- Provide an opportunity to identify unknown constraints and review draft plans to mitigate impacts to the local community and the environment
- Create a space for you to ask questions and/or provide comments about the Project



Consultation Approach



We are committed to a comprehensive consultation process and want to hear from you about this Project.





Our consultation approach is:

- **Inclusive** – reaching out to those who may be interested or affected and providing opportunities to become informed and get involved.
- **Transparent** – providing access to information and clear explanations for decisions.
- **Accountable** – explaining how your input will be used in the decision-making process.

An important part of the consultation process is working with stakeholders to identify and resolve potential Project-related issues and concerns.

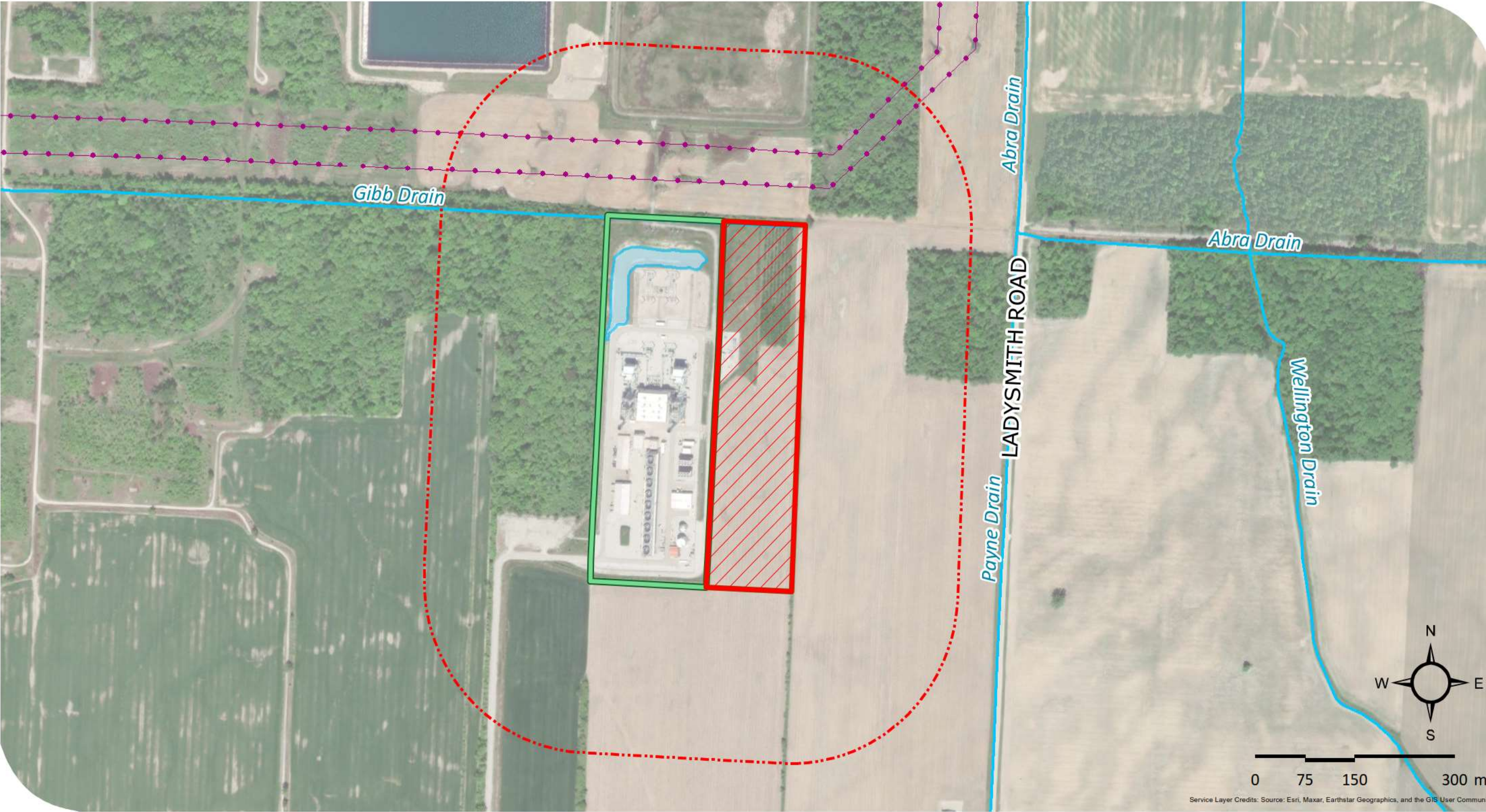


SITE LAYOUT AND STUDY AREA

-  Project 1 - Upgrade of Existing St. Clair Energy Centre
-  Project 2 - Expansion of St. Clair Energy Centre
-  Direct Study Area
-  Hydro Line
-  Watercourse / Constructed Drain
-  Stormwater Management Pond

Note: Site features are approximate

MAP DRAWING INFORMATION: DATA PROVIDED BY MNDMNR, INVENERGY, MECP			
MAP CREATED BY:	LK	DATE:	2022-11-21
MAP CHECKED BY:	JM	PROJECT:	225016
STATUS:	DRAFT	PROJECTION:	NAD 1983 UTM Zone 17N
FILE LOCATION: K:\2022\225016\Product\Client\ppt\INV_PPT_map_NHF.mxd			



Natural Environment Considerations

- The St. Clair Energy Centre is located approximately 4km east of Corunna in the Township of St. Clair, County of Lambton, Ontario.
- The Direct Study Area is defined as a 250m buffer on each side of the combined proposed expansion and upgrade areas.
- A natural environment field survey of the Direct Study Area was completed by a Dillon Biologist on November 18th, 2022.



The Direct Study Area consists of the following land classifications:

- Intense Agriculture
- Rural Development
- Industrial Use (Existing St. Clair Energy facility)

The Direct Study Area is currently zoned for:

- Environmental Protected Deciduous Forest Woodlot
- “Industrial Type 3” - Heavy Industry

Natural Environment Considerations

Based on a high-level screening, historical occurrences of Species at Risk (SAR) and Species of Conservation Concern (SCC) are known to occur within 1 kilometer of the project or within the municipality. The Environmental Assessment will review the possible presence of SAR or SCC, as well as their habitat, in the Direct Study Area. Should these species, or their habitat, be encountered, mitigation measures will be proposed in the ERR.

SAR			SCC
<ul style="list-style-type: none">• Barn Swallow• Bobolink• Eastern Meadowlark• Red-headed Woodpecker	<ul style="list-style-type: none">• American Chestnut• Butternut• Eastern Flowering Dogwood• Eastern Foxsnake	<ul style="list-style-type: none">• Eastern Small-footed Myotis• Little Brown Myotis• Northern Myotis• Tri-colored Bat	<ul style="list-style-type: none">• Monarch• Snapping Turtle• Wood Thrush• Eastern Wood-pewee



Natural Environment Considerations

Examples of Potential Effects

- Temporary loss or alteration of vegetation during construction.
- Temporary alteration of wildlife habitat and/or disruption of wildlife movement during construction.
- Temporary alteration of SAR habitat and/or disruption of SAR movement during construction.



Examples of Mitigation Measures

- Reposition construction to avoid a disturbance, or minimize the width of construction to reduce the area affected.
- Flag or fence off environmentally sensitive areas prior to construction.
- Document wildlife and SAR encounters and notify appropriate regulatory authorities, where required.
- Provide SAR identification sheets to workers that outline habitat, identifying characteristics and mitigation measures.

Socio-Economic Considerations

Examples of Potential Effects

- Temporary increase in nuisance noise during construction.
- Temporary traffic disruptions during construction.
- Temporary increase in wastes during construction.



Examples of Mitigation Measures

- Construction activities will be carried out in compliance with municipal noise by-laws with respect to noise and construction equipment usage. Applicable noise by-law exemptions will be sought if construction activities cannot be avoided on Statutory Holidays, Sundays or at night.
- Traffic access will be maintained, where possible, during construction. Good management and best practices will be implemented during construction to minimize traffic disruption. If required, temporary detour routes will be provided to reduce potential impacts to commuters.
- Solid waste will be collected and disposed of appropriately in accordance with applicable regulations at a licensed waste facility.

Cultural Heritage Resources

Archaeology

- A Stage 1 Archaeological Assessment for the Project was completed in November of 2022 and will be submitted to the Ministry of Citizenship and Multiculturalism (MCM) for approval.
- The Stage 1 study determined that no previously registered archaeological sites are located within 1 km of the Study Area. The property inspection determined that there is no archaeological potential.
- Based on the current evaluation, a previous Stage 1 and 2 completed for existing facility in 2006, and previous disturbance, a Stage 2 assessment is not being recommended.



Built Heritage and Cultural Heritage Landscapes

- There are no properties within the Study Area that are Listed or Designated under the Ontario Heritage Act.
- There are no cemeteries located in the Study Area.
- The MCM “Criteria for Evaluating Potential Built Heritage Resources and Cultural Heritage Landscapes” Checklist was completed and concluded that there is no potential for built heritage or cultural heritage landscapes in the Study Area.

Air Quality and Noise Assessment

- The proposed upgrade and expansion will meet provincial air and noise requirements as determined by the Ontario MECP.
- Detailed air and noise modeling will be completed as part of the Environmental Assessment process.
- The project will require an Environmental Compliance Approval (ECA) or an amendment to the existing ECA to reflect the proposed upgrade and expansion.
- The ECA will include a detailed Emission Summary and Dispersion Modelling Report as well as an Acoustic Assessment Report.



Water Use and Assessment

- The proposed upgrade will utilize the existing water-steam cycle for steam generation and water-cooled condenser to reject heat to a cooling tower. Incremental additional water will be required for cooling and steam generation functions.
- The proposed expansion will require minimal water as the primary cooling will occur through fin fan cooler, and there will be no steam cycle.
- The current facility is regulated by an Industrial Sewage Works ECA and a Permit to Take Water. These will be amended to accommodate the proposed upgrade and expansion activities, if necessary.
- For example, if there is a need to increase the permitted rate of water per day, an application for a Category 3 Permit will be submitted to the MECP.



Permits and Approvals

- Upon completion of the Environmental Assessment (EA) and ERR, a Notice of Completion will be filed with the Ontario MECP.
- Permits will also be obtained from various agencies in the form of operating permits. This ensures that the facility is operating according to legislated requirements.
- Environmental Compliance Approval for Air (including Noise) and Industrial Sewage are required and will be obtained from the Ontario MECP. A Permit to Take Water will also be required. These permits will be submitted as amendments to existing facility approvals.
- Permits and approvals will be obtained as required from the Township or the County.



Station Design, Construction and Safety

The existing St. Clair Energy Centre has an exceptional safety record. The facility will continue to create a safe work environment for contractors and employees during construction and operation of the upgrade and/or expansion following industry best practices.



- Construction activities will be carried out in compliance with municipal by-laws
- Good management and best practices will be implemented during construction to minimize impacts to the local community.



- The upgrade will include the installation of new gas turbine equipment which will increase both power output and efficiency and enable improvements in the performance of the existing steam turbine.
- The expansion includes the addition of one or two high efficiency combustion gas turbines (CTG) or possibly reciprocating engines, with low emission rates. Equipment must have a short start time to allow electrical capacity to be available, as and when required.



Mitigation and Monitoring

- Invenenergy is committed to working with the community on construction planning, mitigation, and post-construction monitoring. Construction and post-construction monitoring will be conducted so that impacted areas are restored to as close to pre-construction conditions as possible.
- Invenenergy recognizes that the construction of the upgraded and expanded facility may result in short-term adverse impacts and commit to applying mitigation measures to reduce these impacts and work with the municipality and landowners so that issues are resolved in a timely manner.
- The ERR will include a detailed assessment of potential effects and mitigation, where required, as well as commitments to monitoring.

Continuous Stakeholder Engagement

Invenergy is committed to open dialogue throughout the Environmental Assessment. Stakeholders will have the opportunity to remain engaged in the process after the Environmental Assessment is completed, through:

- Contacting Project team members via contact information provided on next slide
- Visiting the Project website at www.stclaireenergycentre.com



Thank you for participating in our
Virtual Public Information Session!

- We want to hear from you! Please complete the Project questionnaire on the Virtual Public Information Session website www.stclaireenergyexpansion.ca
- After **December 22, 2022**, this presentation, accompanying video transcript, and the questionnaire will be available on the Invenergy Project website www.stclaireenergycentre.com.
- Please submit your feedback by **Thursday, December 22, 2022**.

Project Contact Information:

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Stay Informed

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