**Municipality of Chatham-Kent**

**Community Development**

**To:** Mayor and Members of Council

**From:** Bruce McAllister, MCIP, RPP
General Manager, Community Development

**Date:** February 3, 2023

**Subject:** IESO Expedited-LT1 RFP Municipal Support Resolution Requests

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## Recommendations

It is recommended that:

1. The Mayor and Clerk be authorized to execute Community Support Agreements on the terms outlined in this report and subject to the approval of the final terms by the General Manager, Community Development and Director, Legal Services, for the four following Long-Term Reliability Project proposals under the IESO's E-LT1 RFP process:

    a) Wheat Energy Storage by WHEAT ENERGY Storage L.P. (a Renewable Energy Systems Canada Inc. limited partnership), located at 13613 Spence Line, Ward 3;

    b) Chatham Battery Energy Storage System Project by Boralex Inc., located in Lots 26 and 27 Concession 1, east of Communication Road, Ward 2;

    c) Chatham-Kent Battery Energy Storage System by Chatham-Kent Battery Energy Storage System L.P (Kruger Energy and Innergex), located at 4683 Finn Line, Ward 1;

    d) Cedarline Greenhouses Cogeneration Unit by 1573903 Ontario Ltd. Operating as "Cedarline Greenhouses, located at 11080 Baseline, Ward 4."

2. A specific reserve account be created, at the appropriate time, for the annual Community Benefit Contributions and that any unspent funds be transferred to the reserve at year end.

3. The Mayor and Clerk be authorized to execute a Municipal Council Support Resolution for each of the four projects outlined under recommendation #1, using the Prescribed Template Form found in Attachment 1.

## Background

After more than a decade of strong supply, Ontario is entering a period of emerging electricity system needs, driven by increasing demand, the refurbishment of nuclear generating units, as well as expiring contracts for existing facilities. The Independent Electricity System Operator (the "IESO") is forecasting that Ontario, and particularly, the area between Chatham and Windsor will be short on power starting in 2025. Therefore, the IESO is competitively securing 3,500 MW of capacity through the first Long-Term Request for Proposals (LT1 RFP) and Expedited Process" (E-LT1 RFP).

The LT1 RFP, together with the Expedited Process, is expected to competitively procure year-round effective capacity from dispatchable new build resources, including new build hybrid electricity generation and storage facilities, registered or able to become registered in the IESO administered markets, larger than 1 MW and which can deliver a continuous amount of electricity to a connection point on a distribution system or transmission system for at least four consecutive hours. Proponent submissions to the IESO's E-LT1 RFP are due February 16, 2023.

The IESO's procurement process included two separate consultation processes. The first consultation process with all industry stakeholders was launched in January 2022. A second consultation process, specifically designed for municipalities, was launched in March 2022. Chatham-Kent and Entegrus were actively engaged in the IESO's consultation processes where we provided both verbal comments and formal submissions.

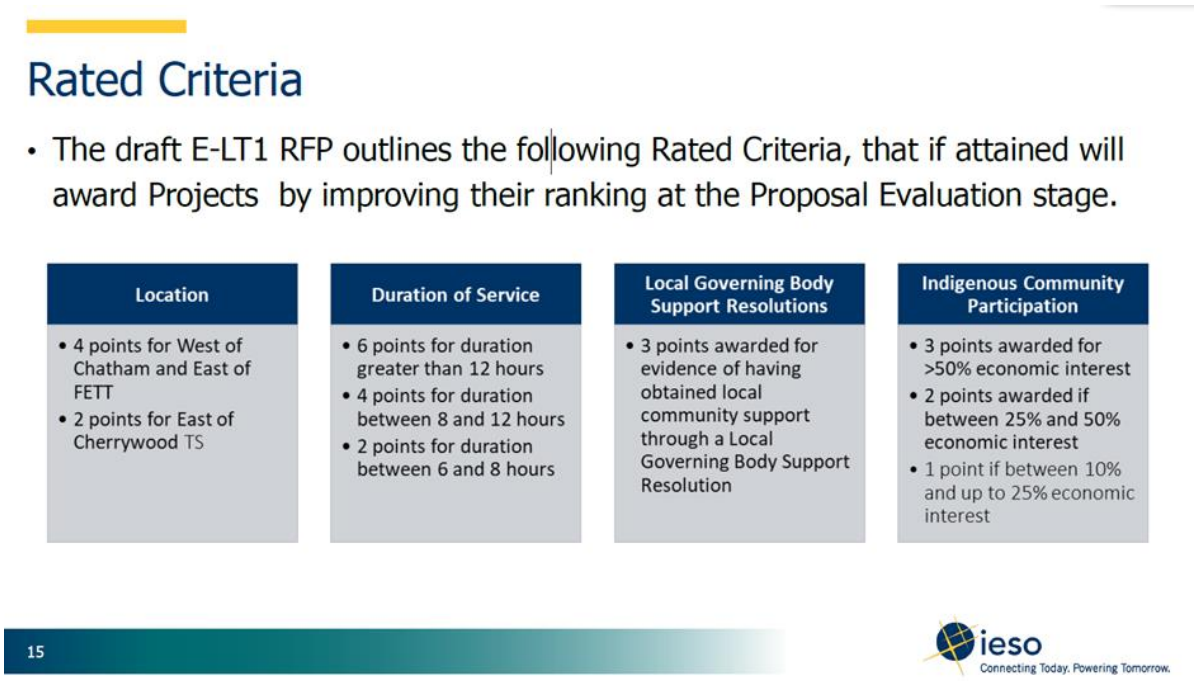
In terms of mandatory consultation, the IESO process requires that:

- For the E-LT1 RFP, the IESO proposes proponents be required to develop and post a community engagement plan on a dedicated website and, hold one public meeting with local communities to inform them of their proposed project.

- In addition to a mandatory public meeting, on December 23, 2022, the IESO issued the following Addendum requiring that all Long-Term Reliability Projects under E-LT1 RFP require a Municipal Support Resolution by the local municipality of where the project is to be located:

  "Where the Project Site is located in whole or in part on lands subject to the authority of a Local Municipality and the Proposal did not include a Municipal Support Resolution or a Blanket Municipal Support Resolution from a Local Municipality at the time of its submission under the E-LT1 RFP, the Supplier shall, by no later than sixty (60) days after the eighteen (18) month anniversary of the Contract Date, provide the IESO with a written notice including a Municipal Support Resolution or a Blanket Municipal Support Resolution dated after the Proposal Submission Deadline".

The IESO has also developed Rated Criteria that it will use in their evaluation of RFP submissions. The Location Criteria encourages the development of projects where most needed in the Province of Ontario.




The IESO has identified the area “West of Chatham” as a preferred development area for new capacity and as a result, developers have been active in Chatham-Kent, Essex and Lambton Counties. The Municipality developed a standard Community Support Agreement template and has been actively negotiating with developers wishing to locate in the Municipality, in order to secure a Municipal Support Resolution. This Community Support Agreement will ensure that the citizens of Chatham-Kent obtain benefits from these battery energy storage system projects being located within our community. The companies have been supportive of entering into a Community Support Agreement as part of their commitment to working collaboratively with stakeholders. The template Municipal Support Resolution is provided in Attachment 1.

Developers were asked to complete an IESO Request for Municipal Support Resolution (MSR) Form for Municipality of Chatham-Kent, which contains project details and a formal request for a Municipal Support Resolution. In total, there are four separate Long-Term Reliability Projects that have requested a Municipal Support Resolution. Three are battery energy storage system (BESS) projects and one is small natural co-generation unit project on an existing greenhouse property.

A summary of the Projects are as follows:

1. Wheat Energy Storage by WHEAT ENERGY Storage L.P. (a Renewable Energy Systems Canada Inc. limited partnership), located at 13613 Spence Line, Ward 3.
    - Project Technology - Lithium-ion battery energy storage system

- Project Contract Capacity – 75-150 MW
- Project Size – approximately 6 hectares (15 acres)

Please see Attachment 2 for additional project specific details.

2. Chatham Battery Energy Storage System Project by Boralex Inc., located in Lots 26 and 27 Concession 1, east of Communication Road, Ward 2.

    - Project Technology - Lithium-ion battery energy storage system
    - Project Contract Capacity – up to 600 MW
    - Project Size – up to 9.3 hectares (23 acres)

    Please see Attachment 3 for additional project specific details.

3. Chatham-Kent Battery Energy Storage System by Chatham-Kent Battery Energy Storage System L.P (Kruger Energy and Innergex), located at 4683 Finn Line, Ward 1.

    - Project Technology - Lithium-ion battery energy storage system
    - Project Contract Capacity – 100-145 MW
    - Project Size – approximately 5.7 hectares (14 acres)

    Please see Attachment 4 for additional project specific details.

4. Cedarline Greenhouses Cogeneration Unit by 1573903 Ontario Ltd. Operating as “Cedarline Greenhouses, located at 11080 Baseline, Ward 4.”

    - Project Technology – Natural Gas Cogeneration Unit
    - Project Contract Capacity – 12 MW
    - Project Size – adjacent to existing greenhouse, approximately a 0.15 hectare (0.38 acre) footprint

    Please see Attachment 5 for additional project specific details.

Included in the attachments for each project are the following details:

- IESO Request for Municipal Support Resolution (MSR) Form for the Municipality of Chatham-Kent, which contains project specific details, including the project name, location, type, size and links to their project pages.

- Project Summary Boards with information provided at the various public meetings.

- Frequently Asked Questions – responses to a number of frequently asked questions.

**Comments**

The following is a general summary of the more common questions regarding Battery Energy Storage Systems. Additional details can be found in the various attachments.

1. *Where are the proposed Battery Energy Storage System projects specifically located and are there further project details?*

   Please see Attachments 2-4, which contain the specific project locations and further project details.

2. *What is a Battery Energy Storage System and what type of structures will be on site?*

   The developers for these projects are proposing the use of lithium-ion batteries. Lithium-ion batteries at small scale are used in mobile phones and electric cars, but are also currently the dominant storage technology globally for large scale plants to help electricity grids ensure a reliable supply of renewable energy. Grid-scale lithium-ion energy storage systems have been deployed across a range of pilot projects, as well as fully commercialized projects since 2012 within Canada, and through the IESO since 2014.

   In general terms, a Battery Energy Storage System consists of an assembly of batteries that draws power from the electric grid when excess power congests transmission lines during periods of low electricity demand. This surplus energy is stored and discharged when electricity demand increases.

   Battery Energy Storage System Projects generally consist of containerized batteries, inverters, medium voltage transformers, gravel internal access roads, buried collector and communication cabling, a small transmission substation and potential garage and operations and maintenance building. The final layouts of the infrastructure within the various project's footprints will ultimately be confirmed and determined through additional engineering studies, equipment procurement and an environmental assessment. The projects will connect to the Hydro One transmission system via one or more interconnections.

3. *Why is Battery Storage needed in Ontario and is it a long-term beneficial solution?*

   After more than a decade of strong supply, Ontario is entering a period of emerging electricity system needs, driven by increasing demand, the refurbishment of nuclear generating units, as well as expiring contracts for existing facilities. The Independent Electricity System Operator (the "IESO") is forecasting that Ontario, and particularly, the area between Chatham and Windsor will be short on power starting in 2025. Therefore, the IESO is competitively securing 3,500 MW of capacity through the first Long-Term Request for Proposals (LT1 RFP), complimentary expedited procurement process "the Expedited Process" (E-LT1 RFP), and the Same Technology Upgrade Solicitation.

Battery Energy Storage Systems will provide reliable power capacity by drawing and storing energy from the grid during off-peak periods and releasing it back to the Ontario grid when energy demand is at its peak. These projects are expected to provide significant benefits to Ontario's ratepayers by reducing the need and cost associated with using gas-fired power plants during times of peak demand as well as helping to clean Ontario's electricity system.

4. *Why is Battery Storage needed in Chatham-Kent?*

The IESO has identified the area "West of Chatham" as a preferred development area for new capacity and rating points are awarded for projects being developed in this area. The region's agricultural sector growth, additional industrial growth and a shift to more electric vehicles have been identified by the IESO as a concern to be addressed. Although there are plans to build additional transmission infrastructure in the region over time, current transmission in the region is limited. A significant amount of renewable energy has been constructed in the region; however, the generation is based on resource availability (i.e. when the wind is blowing and sun is shining) and not always aligned with customer need and demand in terms of timing. Battery storage can significantly help with this, by storing energy produced by renewables and releasing it back to the grid during times of peak demand.

5. *Why are the facilities being proposed on farmland and is that permitted?*

While there are battery energy storage facilities constructed in urban areas, they are generally smaller in scale. In addition, these facilities need to be in close proximity to existing Hydro One transmission corridors, which predominantly are in the rural areas of Chatham-Kent.

From a land use planning perspective, while Battery Energy Storage is a new type of technology in Ontario, the Chatham-Kent Official Plan states the following:

*It shall be the objective of Chatham-Kent to:*

*2.4.6.1 Encourage the development of modern transmission and communications facilities to serve residents and businesses in the Municipality.*

*It shall be the policy of Chatham-Kent that:*

*2.4.6.2.1 Oil and natural gas pipelines and related facilities, <u>electric power generation and supply facilities</u>, telecommunications facilities and local utilities <u>shall be permitted in any land-use designation, provided that the development satisfies applicable provincial and/or federal legislation</u>.*

From a provincial perspective, the Ministry of Environment, Conservation and Parks (MECP) has advised that they will be requiring that these projects go through the "Class Environmental Assessment (Class EA) process for Minor Transmission Projects or Generation Facilities".

While the Chatham-Kent Official Plan provides policy support to permit these types of facilities in any land use designation, the Zoning By-law does not include a battery energy storage system as a specific use in any zone. Therefore, Zoning By-law Amendments will be required for each specific project. Specific regulations can be implemented, which will be informed by the results of the Class EA process.

6. *What are the potential impacts of Battery Energy Storage Systems and how safe are they (public safety, fire, environmental contamination, etc.)?*

As noted earlier, all the projects will have to undertake a Class EA process for Minor Transmission Projects and obtain local planning approvals. The following potential concerns are required to be addressed in these processes:

- Natural heritage assessment
- Cultural heritage assessment
- Archaeological assessment
- Land use planning considerations
- Noise
- Visual impacts
- Public safety
- Fire management
- Environmental contamination
- Local road impacts.

With respect to the risk of fire and public safety, the following responses have been provided by each of the proponents:

- RES – “The possibility of fire is a risk, but one which RES will mitigate in part by selecting a quality battery manufacturer through our rigorous procurement process. This will ensure quality battery chemistry and therefore reduced fire risk. Fire incidence and propagation risk will also be reduced through facility design, battery spacing, onboard fire monitoring and suppression systems, and various other design and operation measures. Additionally, all BESS facilities will be developed and designed in compliance with UL Standard 9540A which, among other things requires a battery design to demonstrate how well it controls fire propagation. The design for this project will also incorporate battery spacing, onboard temperature monitoring, and state-of-the art suppression systems to ensure

the facility is as safe as possible. As always, RES commits to early and thorough engagement with local emergency response services to ensure that an Emergency Response Plan and training is developed in close collaboration with local authorities and service members. RES will work with the municipality, local fire departments, and emergency response services to develop a detailed Emergency Response Plan. This will be a collaborative process to ensure they have the necessary resources, training, and equipment in the unlikely event that they'll need to respond to a battery fire. It is usually the case that no additional or special fire equipment is necessary".

- Boralex – "Boralex recognized from the outset of project development work that there would likely be a gap in expert guidance related to experienced fire emergency planning. In October, part of our team attended a session with an industry leading insurance provider where they were accompanied by a specialize fire consultant that in the past had worked for the NYFD to lead the integration of battery storage in New York City. We subsequently hired the consultant to provide guidance on best practices for all Boralex storage projects. We have initiated contact with Chief Case at Chatham-Kent to begin coordination on emergency response and will continue this work as the project progresses".

- Kruger/Innergex – "Battery energy storage systems are already safely installed and operating in many urban environments. These systems are made of the same type of batteries you find in mobile telephones, electric vehicles, and portable computers. A local team of operations personnel will be present to monitor and maintain the BESS to the highest industry standards. Safety measures will include:

    - Preparation of a Site Security and Safety Response Plans in coordination with first responders and the municipality.

    - Training of first responders prior to construction and as required thereafter.

    - Storage containers contain integrated fire suppression systems, in compliance with Ontario Fire Code.

    - 24/7 monitoring of the entire system down to the battery module level

  In the unlikely event that the safety measures are unable to prevent a fire, the compartmentalized design of the BESS units will prevent the spread to adjacent units. As an additional preventive measure, the areas around the BESS units will be clear of vegetation".

As part of the approval process, the battery energy storage companies will be required to develop comprehensive Emergency Response Plans through further consultation with Chatham-Kent Fire, EMS and Police Services. The Emergency Response Plan will identify the need for any additional training or resources that may be required.

7. *What type of foundations are required and how deep will they be?*

The following responses have been provided by each of the proponents:

- RES – "The foundation design is yet to be determined, but it's likely that the batteries will sit on concrete pile foundations. This determination is subject to ongoing engineering and design work. The foundation depth is yet to be determined based on ground conditions, but it's unlikely that the pilings would be very deep. Ongoing geotechnical and hydrological studies will inform the most suitable engineering design requirements. Geotechnical studies will be conducted to determine how to best engineer the foundation design to avoid vibrations during construction. No vibrations are anticipated during operations".

- Boralex – "The site has had geotechnical investigation and based on our engineering firm's initial design, we anticipate the use of screw-pile foundations installed to a depth of approximately 6.5m (21 ft) to support battery containers. Regarding the concern about whether interaction between foundations and black shale is an issue, based on geotechnical data for the site, there is some black shale at a depth of approximately 9.1 m (30 ft), well below the planned depth for foundations".

- Kruger/Innergex – "The most modern battery storage units are self contained sized to match units consisting of enough batteries, inverters, transformer and associated equipment. They are landed and bolted to concrete pads (most often) or screw foundations, basically sitting on/above the surface. Drilling deep piles is not required".

8. *How does the Municipality benefit from these investments?*

There will be a number of local benefits, including:

- Community Support Agreement – as a condition of local support, all the proponents are required to enter into a Community Support Agreement with the Municipality, which would result in significant financial contributions to the Municipality over the next 22 years.

- Municipal Tax Revenue - Over the course of their life, the project will provide significant and reliable contributions to the Municipality's tax base while requiring minimal municipal services. Administration has not yet

received a firm response from MPAC related to the assessment value or the subsequent tax rates and classification for these types of projects.

- Local Economy – during construction these projects will create local jobs. In addition, they will increase electrical capacity enabling further investment in Chatham-Kent.

- Reduction of Emissions and Grid Reliability – these projects will help to reduce Ontario's emissions by limiting the need to run natural gas generators during times of peak loads. They will also contribute to provincial grid resilience and allow a better integration of renewable energy sources and potentially avoid needing to build new transmission infrastructure in the future.

9. *Have other municipalities provided support for these types of projects?*

At the time of writing, the following are some municipalities that have given municipal support resolutions to companies that plan to apply for E-LT1:

- City of Windsor
- Municipality of Leamington
- St. Clair Township
- Haldimand County
- City of Guelph
- King Township
- Fort Francis

At the time of writing, the Municipality of Lakeshore deferred a decision until a later time.

10. *What is the IESO timing for E-LT1 and how long is the contract?*

- Proposal submission deadline: February 16, 2023
- Proposal award: May 1, 2023
- Commercial operation: Q2 2025

IESO contracts will require the electricity services to be provided for a term of 22-years, so until at least 2047.After that time, it is possible that the contract may be renewed, or the facility may be decommissioned and the property returned to its

existing condition or better. Approximately, 95 percent of a lithium-ion battery can be recycled.

Community Support Agreement

Chatham-Kent Administration has come to an agreement on the proposed terms of a Community Support Agreement with the various developers in order to receive a Municipal Support Resolution from Council. The general terms of which are discussed in more detail below and which are being proposed for Council's consideration and approval.

The Community Support Agreement will provide the following benefits to Chatham-Kent:

1. The Long-Term Reliability Project Entity will make an annual community benefit contribution to Chatham-Kent in the aggregate amount of $1,000/MW of Project Contract Capacity for the duration of the agreement with the IESO for the Project, up to a maximum amount of $275,000 per year. The Community Benefit Contribution shall be increased annually by an amount equal to the escalation factor received by the Long-Term Reliability Project Entity under its Power Purchase Agreement. The Community Benefit Contribution is provided for recreational and cultural purposes within Chatham-Kent's community, to be allocated and distributed at the sole discretion of the Municipality, to recognize both formal and informal support provided by Chatham-Kent and Entegrus for the Project.

2. Entegrus will have the option to participate in the Long-Term Reliability Project by purchasing up to a 10% limited partner interest in the Long-Term Reliability Project. The investment decision is subject to a $1,000,000 break fee payable to Entegrus if the Long-Term Reliability Project Entity fails to reach commercial operation of the Project, or if Entegrus does not elect to exercise its project investment option for any reason, or if both parties cannot reasonably agree on the final form of a limited partnership agreement before the date of financial closing, then the Long-Term Reliability Project Entity will pay to Entegrus a break fee. The break fee is only payable if the Project reaches financial closing.

3. The Long-Term Reliability Project Entity shall be responsible for compliance with all applicable laws in respect to the Project, including Federal and Provincial legislation, and shall indemnify and hold the Municipality and Entegrus harmless for any breach thereof.

4. The Long-Term Reliability Project Entity will obtain, or cause the owner of the Project to obtain, approvals in the normal course from Chatham-Kent where Chatham-Kent is the governing or approval authority (eg. Planning Act, Building Code, Fire Code, Drainage Act, Municipal By-laws, etc.). Nothing in the Agreement affects the authority of Municipal officials or decision makers (Chief Building Official, Fire Chief, Council etc.) from enforcing and exercising their authority and discretion under applicable law, acting reasonably.

Given the relatively small size of the Cogeneration Unit project by Cedarline Greenhouse, the Entegrus option has been waived. They have agreed to pay community benefit contribution.

There are also obligations of Chatham-Kent under the Community Support Agreement:

1. Chatham-Kent, through the elected Municipal Council, agrees to formalize its consent to be a willing and supportive host of the Long-Term Reliability Project, by either adopting council resolutions that support the Project, or providing delegated authority to the Chief Administrative Officer to issue a support confirmation letter (the "Support Resolutions"). Such resolution(s) or letter(s) shall be in a form satisfactory to the IESO. The Long-Term Reliability Project Entity agrees and acknowledges that following passing of the Municipal Council Support Resolutions, Council retains the right to withdraw such Support Resolutions if:

    a) the IESO terminate or cancels the RFP;

    b) the Long-Term Reliability Project Entity or Project SPV is unable to obtain any material provincial permits after it has exhausted all available recourses, or;

    c) municipal stakeholders raise material concerns in respect of the Project and, after working with Long-Term Reliability Project Entity and consultants to address such concerns in a fair and objective manner, Chatham-Kent, acting reasonably, determines that supporting the Project is not in the best interest of municipal stakeholders.

    If any Support Resolution is withdrawn in accordance with this Section, the Long-Term Reliability Project Entity agrees that its sole remedy shall be a termination of this Community Support Agreement and the related economic benefits to Chatham-Kent and Entegrus hereunder, and that neither Chatham-Kent nor Entegrus shall have any liability, financial or otherwise, to the Long-Term Reliability Project Entity or related parties, with the exception that the Break Fee shall be fully reimbursed to the Long-Term Reliability Project Entity if already paid.

Administration is supportive of Chatham-Kent entering into the proposed Community Support Agreements. These Projects will provide important electrical capacity within the Province and provide tangible benefits to the communities of Chatham-Kent.

**Areas of Strategic Focus and Critical Success Factors**

The recommendations in this report support the following areas of strategic focus:

☐ Economic Prosperity:
Chatham-Kent is an innovative and thriving community with a diversified economy

☐ A Healthy and Safe Community:
Chatham-Kent is a healthy and safe community with sustainable population growth

☐ People and Culture:
Chatham-Kent is recognized as a culturally vibrant, dynamic, and creative community

☐ Environmental Sustainability:
Chatham-Kent is a community that is environmentally sustainable and promotes stewardship of our natural resources

The recommendations in this report support the following critical success factors:

☐ Financial Sustainability:
The Corporation of the Municipality of Chatham-Kent is financially sustainable

☐ Open, Transparent and Effective Governance:

The Corporation of the Municipality of Chatham-Kent is open, transparent and effectively governed with efficient and bold, visionary leadership

☒ Has the potential to support all areas of strategic focus & critical success factors

☐ Neutral issues (does not support negatively or positively)

## Consultation

The Executive Management Team and the Director, Legal Services were consulted. Entegrus was also consulted and contributed to the report.

## Financial Implications

The proposed Community Support Agreements would result in significant financial contributions to the Municipality over the next 22 years. However, it is also noted that the Community Benefit Contribution is only payable if the Projects reach commercial operation, as confirmed by the IESO.

Prepared by: Bruce McAllister, MCIP, RPP, General Manager, Community Development

Reviewed by: Dave Taylor, Director, Legal Services

Reviewed by: Gord Quinton, MBA, CPA, CGA, Chief Financial Officer / Treasurer / GM, Finance, Budget, Information Technology & Transformation

Reviewed by: Michael Duben, Chief Administrative Officer

Attachments:

Attachment 1 – Template Municipal Support Resolution

Attachment 2 – Renewable Energy Systems Project Details

Attachment 3 – Boralex Project Details

Attachment 4 – Kruger/Innergex Project Details

Attachment 5 – Cedarline Greenhouses Project Details.