

Electricity Planning in the West of London Area

Responses to feedback received

The IESO hosted a public webinar on November 26, 2020 to provide an overview of two electricity planning initiatives underway in the West of London area and seek input on defined needs and potential options. The presentation material and recorded webinar are available on the [engagement webpage](#).

This document summarizes the key themes that emerged from feedback received and IESO responses. Feedback received is in response to the Windsor-Essex Integrated Regional Resource Plan (IRRP) Addendum and West of London Bulk Study, and in some cases intersects both initiatives, as indicated in this document. The IESO appreciates all of the input, which will be considered as options to meet the future electricity needs of the West of London area continue to be evaluated.

Feedback was received from the following parties and posted on the engagement webpage:

- [Baseload Power](#)
- [Canadian Renewable Energy Association](#)
- [EDF Renewables](#)
- [Energy Storage Canada](#)
- [EnWIN Utilities](#)
- [Essex Region Conservation Authority](#)
- [EverGreen Energy](#)
- [Hydro One Networks](#)
- [Medisun](#)
- [Nature Fresh Farms and South Essex Fabricating](#)
- [Ontario Greenhouse Vegetable Growers](#)
- [Sundara Energy](#)
- [Township of Enniskillen](#)

Theme 1 – Planning Process

1. Feedback provider: Essex Region Conservation Authority

- Feedback related to: Windsor Essex IRRP Addendum and West of London Bulk Study

Feedback: It would be useful to understand the degree to which community energy and climate change plans such as those of the City of Windsor and the County of Essex have been factored into electricity planning for the area. These plans include detailed sector-specific strategies for transportation, residential, commercial, institutional, municipal, industrial, and greenhouse sectors that may present significant impacts on the electricity demand in the Windsor-Essex Region.

IESO response: The IESO has met with a number of municipalities within Windsor-Essex and Chatham-Kent through the course of regional and bulk planning in this area to supplement its understanding of the community energy and climate change plans in the area. Our forecasts are produced in collaboration with the local distribution companies (LDCs) and reflect expected changes to demand resulting from growth, known embedded generation, and energy efficiency. That being said, based on the information that was shared, the County of Essex's plan being put forth to the County Council this year could have a significant impact on the electricity needs in the area, and the IESO would welcome a meeting with the City of Windsor and County of Essex to further expand our understanding for consideration in the forecast assumptions as necessary.

2. Feedback providers: Canadian Renewable Energy Association and EDF Renewables (EDFR)

- Feedback related to: West of London Bulk Study

Feedback: It is imperative that the IESO integrate this process with the broader resource adequacy consultation and community net metering initiatives. Potential solutions should be integrated with the need for future capacity province-wide.

IESO response: The IESO agrees that integration of capacity acquisition processes is necessary to ensure we meet our system needs effectively and avoid over- or under-acquiring resources. The IESO has introduced the Resource Adequacy Framework and is working with stakeholders to operationalize and implement it to meet emerging system needs. Integrating identified needs and translating it into acquisitions and procurements is a key focus for the IESO. Further details on the Resource Adequacy engagement can be found on the [IESO's engagement site](#).

3. Feedback providers: Nature Fresh Farms Inc. and South Essex Fabricating Inc. and Hydro One

- Feedback related to: West of London Bulk Study

Feedback: The IESO is urged to make best efforts to expedite this process and consider short, medium, and long-term needs.

Feedback: As high growth continues in the West of London area, customers have expressed concern around potential delays in needed electricity infrastructure and call for a comprehensive approach that swiftly addresses urgent electricity infrastructure needs in the area, and investments in other resources (e.g. natural gas, water).

IESO response: The IESO recognizes the urgency to connect greenhouse customers and has been working closely with stakeholders to understand needs and recommend solutions. To meet the sustained forecast load growth, the IESO continues to assess (through both the West of London Bulk Study and the Windsor-Essex Integrated Regional Resource Plan (IRRP) Addendum) and engage on the needs and options for the West of London area that will culminate in a set of recommendations from both planning initiatives. These activities are occurring simultaneously with on-going work to support implementation of recommendations made in 2019 that are already in development including: an assortment of interim operational measures and exemptions to connect customers sooner, new transmission infrastructure, a targeted call for innovative proposals, and energy efficiency incentives.

4. Feedback provider: Hydro One

- Feedback related to: West of London Bulk Study

Feedback: A staged approach could further delay urgent investments and customer connections and exacerbate reliability issues in the area. Planning development work should be undertaken in parallel with stakeholders to pursue tactics that will accelerate investments. Coordinated development of the reinforcements in the area is critical to delivering safe and reliable supply in a timely manner to support local industry and communities.

IESO response: In an effort to expedite the development and construction of facilities needed to connect greenhouse customers, the IESO is taking a staged approach to its recommendations; rather than waiting until the conclusion of the planning process to trigger near-term recommendations. This was demonstrated in the latest Windsor-Essex regional planning cycle, where the IESO triggered the development of the switching station at Lakeshore and the transmission reinforcement west of Chatham ahead of finalizing the Windsor-Essex IRRP. This enabled the development of critical transmission reinforcements to proceed expeditiously. A similar staged approach is being taken for the West of London bulk and Windsor-Essex IRRP Addendum recommendations, to the extent possible, along with consideration for the most appropriate development mechanism. The IESO looks forward to continuing its close coordination of plans with Hydro One, LDCs, and stakeholders in the area.

5. Feedback provider: EDF Renewables (EDFR)

- Feedback related to: Windsor Essex IRRP Addendum and West of London Bulk Study

Feedback: Consistent assessment criteria for a regional power system should be established and published with the results of analysis to help stakeholders understand the nature of power system needs and ensure that proposed solutions are focused on the core issues.

IESO response: The IESO recognizes that there needs to be a standardized integrated process for bulk planning. The IESO is currently undertaking an initiative to formalize the bulk system planning process in order to further increase its transparency and allow for regular stakeholder input. Further details on this initiative, Formalizing the Integrated Bulk System Planning Process, can be found on the [IESO's engagement site](#).

Further, the IESO will provide the criteria and results of the West of London bulk study and Windsor-Essex IRRP Addendum in final public reports, to the extent possible.

Theme 2 – Study Assumptions, Forecast, Needs, and Options

1. Feedback provider: Township of Enniskillen

- Feedback related to: Windsor Essex IRRP Addendum

Feedback: The Wanstead TS is listed as 115 KV. It was converted in 2019 to a 215 KV station.

IESO response: Thank you for your feedback. The map shown in the webinar deck will be updated; power flow studies have properly accounted for this change already.

2. Feedback provider: ENWIN Utilities Ltd.

- Feedback related to: Windsor Essex IRRP Addendum

Feedback: It is noted that there are a number of transformer stations attached to the 115 kV infrastructure of Hydro One in Windsor that on a number of occasions station circuit switchers have been replaced. The circuit switchers were originally specified for 230 kV operation, but confirmation was received from Hydro One upon replacement that these circuits would not be upgraded to 230 kV. The original devices were replaced with units rated only for 115 kV operation.

IESO response: Before selecting a preferred option in the Windsor-Essex IRRP Addendum study, a high-level cost comparison will be conducted with the Technical Working Group¹. It is worth noting that options that maximize utilization of current infrastructure tend to be more cost-effective.

3. Feedback provider: Nature Fresh Farms Inc. and South Essex Fabricating Inc.

- Feedback related to: West of London Bulk Study

Feedback: Clarification is requested on how demand forecasts were derived and if modelling can be made available as estimates relating to the planned growth may be underestimated. A significant pent-up demand exists, particularly from greenhouses.

Additional capacity from transmission infrastructure already in development are understood to be fully subscribed. A key consideration is a proposed Agripark, to be constructed in Essex County that is expected to double local greenhouse capacity.

IESO response: Demand forecast scenarios for the West of London area will be documented as part of the West of London bulk report, and were produced using the following inputs:

- Greenhouse load growth information (connection requests, crop type, timing) received from the local distribution companies;
- Other connection inquiries (including larger, transmission-connected facilities such as the Agripark);
- Projections of other resources required by greenhouses, if known (such as gas supply capability)
- Submitted System Impact Assessments from connection applicants;

¹ The Windsor-Essex Technical Working Group is led by the IESO and consists of the local distribution companies (LDCs) serving the region and the local transmitter, Hydro One Networks Inc.

- Historical acreage expansion rates for vegetable greenhouse growers in the area, as obtained by the Ontario Greenhouse Vegetable Growers association; and
- Timing of new transmission and distribution infrastructure buildout.

4. Feedback providers: Nature Fresh Farms Inc. and South Essex Fabricating Inc., EDF Renewables, and Baseload Power

- Feedback related to: West of London Bulk Study

Feedback: Clarification is requested on how the potential 650 MW of generation solution was derived and key principles for decision-making including mechanisms/programs being contemplated to fill the supply/generation gap. The IESO should also provide further rationale for the need for both the generation and transmission reinforcement.

IESO response: The size of the generation solution was determined through the West of London Bulk Study's capacity assessment, which shows a 650 MW capacity need arising in 2035 under the reference forecast considering existing transmission interface constraints, and assuming the availability of current generation resources. The IESO is conducting an assessment of options comparing transmission and resource solutions based on technical feasibility, economics, and suitability to meet the need and timelines. The rationale for any needs will be outlined in the final report.

If a resource alternative is recommended, the mechanisms for procurement would be informed by the ongoing Resource Adequacy engagement; further details can be found on the [IESO's engagement site](#).

5. Feedback provider: Township of Enniskillen

- Feedback related to: West of London Bulk Study

Feedback: Clarification requested on what reinforcement solutions entail within the context of the future options.

IESO response: Reinforcements to address electricity system needs include the following options: new transmission (wires) infrastructure, and non-wires solutions such as generation, energy efficiency, and energy storage. For instance, one of the main alternatives considered for the West of London bulk stage 1 solution includes reinforcing the existing transmission corridor from Lambton TS to Chatham SS: building a new transmission line parallel to the existing line.

6. Feedback provider: Nature Fresh Farms Inc. and South Essex Fabricating Inc.

- Feedback related to: Windsor Essex IRRP Addendum and West of London Bulk Study

Feedback: System upgrades and new infrastructure (poles, wires, generation assets, including non-wire alternatives) are critically important. However, understanding timing and planning horizons married with market needs/demand cannot be overlooked. Wire options also cannot meet the need without significant infrastructure development east of London.

IESO response: The IESO will continue to actively engage with LDCs and potential transmission-connected customers in order to keep abreast of market needs and demand. This will be used to update the load forecast and technical feasibility of solutions accordingly.

At this time, no further transmission reinforcements required east of London have been identified.

7. Feedback provider: Hydro One

- Feedback related to: West of London Bulk Study

Feedback: Whilst investments in generation and non-wires alternatives are important parts of the solution to address the electricity needs in the West of London area, given the projected load growth as well as reliability standards, additional investments in transmission are required. Hydro One strongly supports the planned reinforcements of the system east of Chatham to supply the forecasted load, increase transfer capability of the bulk transmission system, enable generation, support provincial needs, and ensure resiliency of the system.

IESO response: The IESO appreciates Hydro One's support in the planned reinforcements in this area. An integrated planning approach is necessary to ensure needs are addressed in the most cost-effective and timely manner. Transmission investment has a significant lead-time for development and construction. Thus the IESO must consider if integrated solutions can help cost-effectively bridge the gap between larger transmission investments.

Theme 3 – Non-Wires Alternatives

1. Feedback provider: Canadian Renewable Energy Association (CanREA)

- Feedback related to: Windsor Essex IRRP Addendum and West of London Bulk Study

Feedback: Distributed Energy Resources (DERs) and some generating assets (storage, solar) can grow with load to ensure no infrastructure overbuild thus reducing risk to ratepayers. Solar PV is well suited to meeting rapidly increasing summer peak demand in Windsor-Essex and West of London, can be readily located in a specific area of the grid where it is of optimal use from a congestion mitigation standpoint, and can be deployed in matter of months. Behind-the-meter (BTM) DER solutions can contribute to lower power prices, reduced greenhouse gas emissions, enhanced industry competitiveness and job creation. These solutions help to mitigate line losses, reduce the risk of potential transmission and distribution overbuild, and reduce peak demand in a targeted and optimally efficient manner, contributing to lower overall costs for all consumers.

Customers should be enabled to invest in BTM solar PV generation, either stand-alone or paired with energy storage such as through a modest expansion of the scope of the Ontario Ministry of Energy, Northern Development and Mines' Community Net Metering pilot project for example, could allow for these projects to move forward on a trial basis.

IESO response: The IESO recognizes that there is potential for DERs to play a role in addressing the needs west of London – particularly as they can reduce reliability concerns until larger reinforcements (such as new transmission lines) that require long lead times are in-service.

The load growth is primarily triggered by vegetable greenhouse expansion, which increases regional winter peak demand levels. Stakeholders have also described greenhouse lighting load to be on in large time blocks and highest during hours without daylight. These factors suggest that some DERs,

such as solar PV, would be less suitable to address the regional capacity needs unless paired with other solutions.

The IESO is aware of the Ontario Ministry of Energy, Northern Development and Mines' proposal of Changes to Ontario's Net Metering Regulation to Support Community-Based Energy Systems. While the proposal contemplates BTM renewable generation and potentially energy storage, feedback on that should be directed to the Ministry.

On a related note, the IESO intends to discuss enabling further participation of resources in Ontario's electricity markets at the next SAC meeting. When available, materials will be posted [here](#).

2. Feedback provider: EDF Renewables (EDFR) and Energy Storage Canada (ESC)

- Feedback related to: Windsor Essex IRRP Addendum and West of London Bulk Study

Feedback: Grid-scale solar PV and energy storage systems (ESS) could assist in meeting this regional power system need in addition to global supply needs Ontario is expecting by the mid-2020s. Consider the full potential of non-wires options, including largescale generation and/or storage solutions which can be quickly deployed, are easily scalable, and reduce ratepayer risk.

There are several attributes and characteristics of grid-scale energy storage that would be beneficial for the IESO to consider when assessing grid-scale electricity supply solutions in the Windsor-Essex region. These include fast ramp rates, dispatch when variable renewable energy resource output fluctuates, customized capacity and energy scaled for both local and global power system needs, installation in phases that align with the growth of the power system, and the minimization of overbuild for the benefit of Ontario's ratepayers.

Energy storage resources can offer multiple electricity services from a single facility (i.e., value stacking). This can reduce the cost to ratepayers for reliability services (e.g., peak capacity supply) since additional revenue streams can be used to fund the project. There is limited to no risk of stranded asset since the battery ESS can be re-purposed at any time to provide another function to the power system (e.g., global capacity need, ancillary services, etc.).

Feedback: Energy storage can serve as a distributed energy resource (DER) and non-wires alternative (NWA), and can also serve as a supply-side resource (i.e., utility-scale storage).

Energy storage technologies are highly varied, and different technologies are suitable for specific purposes or use cases. Identifying the best suited storage technology will require specific details on the needs of the grid (e.g., response time, duration, etc.). Given the local industry and infrastructure in the Windsor-Essex region, a range of energy storage technologies may be viable, including batteries and power to gas.

Unlike traditional wires solutions, in addition to meeting local reliability and system needs, energy storage may also have the flexibility to offer excess capabilities to the wholesale market (i.e., ancillary services) or other customers. While it is appropriate for the IESO to seek further information about the installed cost of energy storage solutions, this does not provide the complete view of the cost-effectiveness of energy storage relative to traditional solutions. In other words, energy storage may offset costs depending on its ability to access other revenue streams.

Therefore, rather than analyzing the cost to install and operate energy storage solutions, the IESO should instead evaluate the cost of procuring the services from energy storage solutions to meet the identified needs. In this context the procurement approach could impact the cost of the solution (i.e., transparency, competition, contract terms, etc.).

The procurement of energy storage can lead to savings for electricity customers given improved and efficient utilization of the province's existing assets. In addition to providing the needed capacity, energy storage can offer excess capability to other markets, such as end-use customers or distributors. Further, unlike other dispatchable supply resources, energy storage does not contribute to increased greenhouse gas emissions and is also aligned with Ontario's proposed hydrogen strategy.

IESO response: Thank you for the information provided to help understand the attributes and characteristics of storage. These will be taken into consideration as we assess the need and determine the appropriate solutions to meet the needs as well as our next steps for a potential procurement, if required.

3. Feedback provider: Nature Fresh Farms Inc. and South Essex Fabricating Inc., Medisun and Sundara Energy

- Feedback related to: Windsor Essex IRRP Addendum and West of London Bulk Study

Feedback: In the immediate future while transmission is being reinforced, clean generation (solar, biomass, etc.) and storage development should be considered. Solutions should include both transmission and generation.

Non-wire alternatives should play a key role as the transmission and distribution enhancements are being developed. Therefore, local generation both in front and behind the meter, energy efficiency, etc. are key. Local businesses, in particular greenhouse operators, are well positioned to self-generate while meeting sustainability objectives.

Power should be generated and sold onto grid, and farmers buy from grid. In order to fully utilize all outputs of electricity generation, the generating project should be located in on or in close proximity to a site. In addition, these assets should be able to participate in market programs such as the capacity market (demand response and other value streams) and the Industrial Conservation Initiative (ICI).

Feedback: Medisun currently has 8 MW of behind-the-meter generation that is projected to grow to 17 MW by 2023 in the Chatham area with no grid access. These generators have significant spare capacity to use in the evenings/nights and there is interest in exploring the potential to provide capacity to the grid to meet regional needs. A recommendation for a smart meter type and/or communication protocol is requested.

Feedback: The non-wire approach (DERs) is an excellent pilot alternative to introduce to the region as a variety of assets are readily available for dispatch if/as necessary. Gas fired CHP should be considered as part of the alternative solutions. With the power constraints in the region – several generation units have been necessary and as power becomes available will become stranded assets - ready to be deployed as required. The integration of readily available CHP along with solar/wind and battery storage is an important component of the microgrid concept. LED lighting solutions and controls also play an important part of the future of the power landscape. Simple wire solutions (new

builds) in my opinion may be part of the solution but limits the possibilities of technological developments moving towards more sustainable solutions. We need to open the market to competitive alternatives.

The York region IESO pilot will pave the way to introduce the concept in this region – long overdue to support the growth utilizing local available resources. The region is ready for this as expansion is anticipated into the next decade with younger generation entrepreneurs and growers willing to embrace new concepts.

IESO response: The IESO agrees that the magnitude and timing of the needs, as well as the strong community interest, presents an opportunity for an integrated solution of both wires and non-wires solutions. Both the West of London Bulk Study and the Windsor-Essex IRRP Addendum will continue assessing the viability of non-wires options in parallel with the wires infrastructure still required to enable more load. Simultaneously, the targeted call issued by the IESO's Grid Innovation Fund has selected three projects to date. These pilots will further the industry's understanding of what technologies can address the regional electricity needs. Their scopes range from exploring the performance of LEDs and lighting controls to demonstrating the potential of a lighting demand response program.

Furthermore, the IESO is aware that some growers have installed CHP or other generation facilities but the IESO would be interested in additional information to understand the extent of the total capacity behind-the-meter.

4. Feedback provider: EverGreen Energy

- Feedback related to: Windsor Essex IRRP Addendum and West of London Bulk Study

Feedback: Non-Wired Electricity is an excellent answer to greatly reduce the high distribution cost and to keep the installation of needed new power very simple. Direct power supply can be provided by a generator that needs no sun, water, wind, diesel or biomass to power generators of 1, 5 and 10 MWs that can be grouped together in series to produce 200 plus MW.

Distribution is a major cost for power distribution, paying about \$1,000,000.00 per mile for new and need distribution lines. Local distribution can be modified best using designed locations for new independent power in cities, towns, remote communities and large industrial or educational or hospital locations throughout Ontario and the rest of Canada.

IESO response: Thank you for the feedback. The IESO recognizes the benefit of local solutions in potentially having lower transmission and distribution requirements. This will be taken into account through the economic comparison of options.

Theme 4 – Access to Additional Data

1. Feedback providers: Nature Fresh Farms Inc. and South Essex Fabricating Inc., EDF Renewables (EDFR) and Baseload Power

- Feedback related to: Windsor Essex IRRP Addendum and West of London Bulk Study

Feedback: Data used in the analysis and evaluation of options should be provided prior to the finalization of recommendations to help stakeholders understand the nature of the system need and enable the development of solutions.

IESO response: The IESO recognizes the importance of transparency and information-sharing when developing a plan. Before making final recommendations, the IESO will continue collaborating with the Technical Working Group on regional solutions and engaging the public on the regional and bulk electricity system needs and options developed. Where appropriate, the IESO will endeavor to provide additional information through the West of London bulk study and/or Windsor-Essex IRRP addendum.

2. Feedback providers: Nature Fresh Farms Inc. and South Essex Fabricating Inc., EDF Renewables (EDFR) and Energy Storage Canada (ESC)

- Feedback related to: Windsor Essex IRRP Addendum and West of London Bulk Study

Feedback: Recognizing the sensitivity of some data, the IESO should work towards establishing a process to allow stakeholders to be vetted for access to critical system information to enable solution design and better participation in engagement initiatives including:

- Capacity updates at each transformer station
- Historic hourly station loading for the region to allow stakeholders to understand the characteristics of electricity demand
- Interface constraints including hourly data for select forecast years to demonstrate the severity of the constraint (e.g., 5-year, 10-year, 20-year outlooks)

Feedback: It is recommended that the IESO provide transparent and sufficiently detailed information with respect to emerging capacity needs which will support the identification of solutions. For example, IESO should provide access to planning data including:

- Locational specific needs within the study area
- Constraints on the system, including hosting capacity (transmission and distribution-level)
- Duration and frequency of capacity needs
- Variables impacting and informing forecasts

With more granular data provided by the IESO about the nature of the emerging system needs, energy storage providers will be able to respond with targeted and competitive options.

IESO response: To maintain transparency and competitive impartiality for bulk transmission studies, the IESO endeavors to provide the same level of detail to all interested stakeholders. The IESO recognizes the value of this information for stakeholders to better understand needs and design solutions. To the extent possible, the IESO will look into the best format and mechanism for providing critical data in its decision-making including the final report, in subsequent procurement mechanism if required, and/or other mechanisms.

3. Feedback provider: Medisun

- Feedback related to: Windsor Essex IRRP Addendum and West of London Bulk Study

Feedback: Access to behind-the-meter data with monitoring feeding into IESO databases is requested for consumption forecasting and analysis. Current data is inadequate in capturing the true scale of electricity consumption within Ontario due to onsite solar/natural gas generators running to offset grid consumption.

IESO response: Behind-the-meter data is not visible to the IESO, as the meter data received aggregates the resource and load values at that injection point. The IESO relies on LDCs to provide this information, but hourly details are not available due to the positioning of the meter.

4. Feedback providers: Baseload Power, Ontario Greenhouse Vegetable Growers and EDF Renewables (EDFR)

- Feedback related to: Windsor Essex IRRP Addendum and West of London Bulk Study

Feedback: Additional information is requested on seasonal total average daily and hourly load profile data associated in the West of London area separated into the Essex region, the Chatham-Kent region, and the Windsor Region, and timing and magnitude of capacity needs.

IESO response: Thank you for your feedback. In the Windsor-Essex IRRP, typical hourly profiles were created for agricultural loads using information provided through the Technical Working Group and the Kingsville-Leamington Local Advisory Committee (public materials found on the [engagement webpage](#)). This was driven by the understanding that electricity demand due to greenhouse lighting would be distinctly different from the historical station load patterns west of London. Where appropriate, the IESO will endeavor to provide additional information through the West of London bulk study and/or Windsor-Essex IRRP addendum.

Theme 5 – Implementation of Solutions

1. Feedback providers: Nature Fresh Farms Inc. and South Essex Fabricating Inc. and Energy Storage Canada (ESC)

- Feedback related to: Windsor Essex IRRP Addendum and West of London Bulk Study

Feedback: It is imperative that the IESO establish clear principles and objectives to guide program or procurement design with a focus on establishing net-zero goals.

Feedback: With any future procurement, the IESO should identify required attributes such as:

- Proportion of eligible generation with zero tailpipe emissions
- Capability to provide guaranteed sub cycle response to nameplate energy for ramping and other services
- Other attributes required for efficient grid operations.

IESO response: As outlined, in the Resource Adequacy engagement, the IESO's focus is on identifying the need and having resources that meet the outlined requirements compete. The IESO will take any government policy into account in both the planning and acquisition processes. Further details can be found on the [IESO's engagement site](#).

2. Feedback provider: Canadian Renewable Energy Association (CanREA), EDF Renewables (EDFR)

- Feedback related to: West of London Bulk Study

Feedback: Solutions to address supply needs arising in 2025 need to be secured several years in advance to allow for as much lead time as possible to ensure solutions that are scalable and cost-effective, and provide the maximum benefits to the system and the ratepayer. This process will need to be refined and should include an opportunity for price discovery and other qualifying considerations so that appropriate mechanisms (i.e., RFI and RFP) can be developed in time to procure the best resources to meet the needs.

Feedback: EDFR suggests that the IESO identify and share necessary information pertaining to this specific regional need to the market, and complete a competitive Request for Proposals (RFP) process before the end of 2021. As a corollary, EDFR would suggest from a development perspective (i.e. siting, interconnection, project design, financing, etc.) waiting longer than 2021 could impact the ability for the IESO to meet the emerging regional capacity need in 2025, and stall much needed economic growth and investment in Ontario that is driving this load growth.

For project developers to provide the IESO with the detailed project cost information needed to determine if NWOs are viable and cost-effective in meeting the system needs, a procurement mechanism and compensation framework for the project is required. A procurement mechanism, such as an RFP, establishes a clear and transparent process for evaluating different NWOs that stakeholders can leverage to design their projects. The process would also align with what the IESO is already proposing under the Resource Adequacy Engagement.

If the IESO is to compare different NWO to one another on a cost basis, or to compare NWOs to potential wires solutions, the same level of information must be given to all parties. This includes not only the data as outlined above (which presumably is accessible to LDCs and Transmitters) but also the terms of cost recovery. Whereas wires solutions have a clear pathway of cost recovery through the OEB, NWOs do not. Therefore, the IESO also needs to be clear on what procurement design is on the table, for what term, etc. Without such information, it is impossible to compare across resources and secure the lowest possible solution.

With or without a procurement mechanism, the IESO must describe the compensation framework for NWOs providing services to IESO for system needs. A compensation framework is needed for stakeholders to determine financing costs of the project and to engage with major equipment suppliers.

The IESO could prioritize determining a compensation framework so that stakeholders can have certainty in developing their projects and engaging with major equipment suppliers. However, EDFR would recommend the IESO proceed to an RFP process for clarity on need, competition, and offtake.

IESO response: Thank you for your feedback. The capacity need emerging in winter 2025, as identified in the Windsor-Essex Bulk Study² in 2019, aligns with the full lead time required to implement the new reinforcement (230 kV transmission circuits) between Chatham and Lakeshore by the winter of 2025/2026.

² <https://www.ieso.ca/en/Get-Involved/Regional-Planning/Southwest-Ontario/Southwest-Ontario-Bulk-Planning-Initiatives>

Generally, the IESO agrees with the urgency for triggering cost-effective reinforcements so that project development can ensue and expedite further regional load connections. The IESO recognizes that a procurement would need to be launched with sufficient lead time and is working with stakeholders to implement the Resource Adequacy framework.

Barriers to non-wires options were explored and identified in the [Regional Planning Review Process](#). Additionally, as EDFR mentioned, the current [Resource Adequacy engagement](#) is an initiative to develop a framework for competitively acquiring capacity while integrating both regional and bulk needs. The IESO submits that while near-term changes within the regional planning process can support fairer comparisons and enable market solutions, the broader sector will also need to evolve in tandem. For instance, the OEB's ongoing consultation processes, [Utility Remuneration](#) and [Responding to Distributed Energy Resources](#), seeks to identify the regulatory framework for facilitating investments in DERs.

Theme 6 – Future Engagement

1. Feedback provider: Sundara Energy

- Feedback related to: Windsor Essex IRRP Addendum and West of London Bulk Study

Feedback: More on-site regional consultations and customer visit to engage and educate.

IESO response: The IESO recognizes the value of in-person meetings to engage local stakeholders and has made efforts to do so. When travel restrictions lessen, the IESO will continue on-site consultations to the extent possible in order to get a better sense of the sector and communicate planning activities.

2. Feedback provider: EDF Renewables (EDFR)

- Feedback related to: Windsor Essex IRRP Addendum and West of London Bulk Study

Feedback: The IESO should describe to stakeholders how they expect non-wires options (NWOs) to participate in multiple markets and which will be prioritized. In addition, if the reliability services for the transmission system is coordinated by a non-IESO entity (e.g., the transmitter) the IESO should describe how coordination between the two control entities (e.g., the IESO and transmitter) will be accomplished. If NWOs are expected to manage the risk, they should be informed of that. If communication and prioritization protocols are required between different control entities, the IESO should describe the high-level framework they envision for NWOs to offer services to meet system needs.

IESO response: The IESO undertook [a review of the regional planning process](#) that included the identification of barriers to implementing NWOs. These barriers were grouped into six interdependent categories – including funding streams, procurement mechanisms, and operations. The IESO acknowledges that while NWOs may need multiple revenue streams to be economically feasible, there is no guideline or mechanism for the coordination of these services. Moreover, there is no established procedure governing the process, timing, communications, and controls for operating dispatchable NWOs to coordinate their reliability services.

Addressing these barriers will require sector-wide changes. More information related to ongoing work to support operationalization and NWO participation in markets can be found in the Regional Planning Process Review's Final Report³.

Further, the IESO intends to discuss enabling further participation of resources in Ontario's electricity markets at the next SAC meeting. When available, materials will be posted [here](#).

3. Feedback provider: EDF Renewables (EDFR)

- Feedback related to: West of London Bulk Study

Feedback: The IESO launched a Resource Adequacy Engagement in the fall to determine procurement mechanisms to address provincial supply needs. Resources developed for the West of London area will also be able to provide capacity in meeting the provincial needs. The IESO should consider how there will be alignment between the different procurement mechanisms. For example, how should timelines and participation requirements be aligned for the regional need and global needs? Regional benefits must be reflected in the resource adequacy procurement to ensure the IESO optimizes the overall resource procurement. These needs should all be considered when determining revenue streams and terms.

IESO response: A key aspect of the Resource Adequacy work is to integrate the needs to ensure we meet our system needs effectively. The operationalization of this framework will provide the foundation for meeting system needs in this area.

4. Feedback provider: EDF Renewables (EDFR) and Energy Storage Canada (ESC)

- Feedback related to: Windsor Essex IRRP Addendum and West of London Bulk Study

Feedback: Improve broader stakeholder involvement in solutions-setting throughout the process to ensure it is not inherently biased towards wires/utility solutions. The IESO should convene a second Technical Working Group focused on NWOs that operates in parallel with the existing Technical Working Groups. Joint sessions of the two work groups can be run to define the system needs and share critical system information. The NWO working group can conceptualize appropriate NWOs, and help the IESO develop appropriate procurement mechanisms and compensation frameworks. The existing Technical Working Group can work towards developing a "regulated backstop solution" that will meet the system need should a viable, cost-effective NWOs is not available.

Feedback: ESC recommends that the IESO augment its planning process by including technical expertise from energy storage providers. Our members have operated in a number of jurisdictions where energy storage has been deployed to meet local and regional needs. We believe it is necessary to augment technical working groups with representatives from the energy storage industry who are well positioned to provide details on the capabilities and operations of energy storage.

IESO response: Thank you for the feedback. The IESO is taking non-wire solutions into consideration in the on-going studies, which is being informed by feedback we heard from stakeholders across the sector.

³ Report will be available on the [engagement page](#) once it is published.

In addition, the IESO undertook [a review of the regional planning process](#) that included the identification of barriers to implementing non-wires solutions. The IESO will advance measures to make the study of non-wires options more consistent by considering the merits of a screening mechanism, the information required by developers so that they could propose solutions, and necessary backstop paths in the regional planning process. The suggestion of a non-wires Technical Working Group will be considered as the implementation of the initiative's recommendations proceeds in 2021. Further, the IESO intends to discuss enabling further participation of resources in Ontario's electricity markets at the next SAC meeting. When available, materials will be posted [here](#).

5. Feedback provider: EDF Renewables (EDFR)

- Feedback related to: Windsor Essex IRRP Addendum and West of London Bulk Study

Feedback: More work is required by the IESO to ensure greater transparency and fairness in any future process in order to arrive at the most efficient outcomes for the region and the provincial grid.

IESO response: Thank you for the feedback. The IESO is currently undertaking an initiative to formalize the bulk system planning process in order to further increase its transparency and allow for regular stakeholder input. Further details on this initiative, Formalizing the Integrated Bulk System Planning Process, can be found on the [IESO's engagement site](#).