Committee Report

To:	Warden Milne and Members of Grey County Council
Committee Date:	May 9, 2024
Subject / Report No:	PDR-CW-23-24
Title:	Battery Energy Storage Systems
Prepared by:	Liz Buckton and Stephanie Lacey-Avon
Reviewed by:	Scott Taylor
Lower Tier(s) Affected:	All member municipalities in Grey County
Status:	

Recommendation

1. **That report PDR-CW-23-24 regarding battery energy storage systems be received for information; and**
2. **That report PDR-CW-23-24 be shared with all member municipalities in Grey County for their information; and**
3. **That Council, by means of a letter to be composed by the Warden, urges the Province to develop an Energy Land Use Policy Guideline (akin to the Province's Guidelines on Permitted Uses in Ontario's Prime Agricultural Areas) which would aid municipalities in consistently revising their planning documents to facilitate the realization of the IESO's Pathways to Decarbonation document.**

Executive Summary

This report provides Council with background information regarding potential applications for battery energy storage system (BESS) facilities, in response to the recent Independent Electricity System Operator (IESO) procurement process. Preliminary information regarding IESO's next procurement (LT2) for new energy generation facilities is also provided. The report outlines Ontario's forecasted electricity challenges, including the potential for BESS facilities to mitigate pressures on the electricity network, as well as the municipal policy / approval process, and public concerns raised in response to BESS proposals. Considerations regarding siting BESS facilities, as well as highlighting current gaps in policy at the County and municipal levels, as a result of the repeal of the *Green Energy Act,* are also discussed. County staff have provided policy options; but are not recommending updating the County Official Plan immediately. An Official Plan update could be initiated in the future, or collaborative policy updates could be pursued with neighbouring counties / municipalities. If the Province were to develop an Energy Land-use Policy guide this would assist municipalities in consistently

updating their planning documents to facilitate the energy supply targets identified in IESO's Pathways to Decarbonation document.

Background and Discussion

On December 14, 2023, the Multi Municipal Energy Working Group presented to the County Committee of the Whole on Battery Energy Storage Systems (BESS). Following that deputation, County staff were directed to prepare a report with more information on BESS facilities. This report is the outcome of staff's further research and consultation on BESS facilities.

The repeal of the *Green Energy Act* has led to a County and municipal policy void, as it pertains to BESS and renewable energy projects. Legislative, official plan, zoning by-law, and site plan tools are highlighted in the report, and the attached Appendix 1. Although staff are not recommending updating the County Official Plan currently; there are options for both County Council and municipal councils to consider for updates now or at a later date. It is also recommended that the Province provide assistance to municipalities through the development of a provincial energy policy guide to help fill the energy policy void created by the repeal of the Green Energy Act.

Ontario's Electricity System

The government of Ontario established the Independent Electricity System Operator (IESO) to coordinate Ontario's electricity system and markets. By 2025, the IESO has identified the need to increase energy supply due to the forecast decrease in electricity production (refurbishment or closure of nuclear plants) and the increase in electricity demands from population growth, increased electrification, and decarbonization efforts.

Currently, electricity for Ontario's energy needs is produced by a diverse range of resources, including hydro, natural gas, nuclear, solar, wind, and bio-fuels. The electricity is then transported using transmitters and delivered by local hydro or distribution companies.

In anticipation of these system pressures, the province (Ministry of Energy – under subsection 25.32(5) of the *Electricity Act*) directed the IESO to issue a call for applications for BESS solutions throughout Ontario. The province's intent is to increase the network's capacity by storing excess energy collected at off-peak times for periods of high demand. Proposals are being solicited at small scale (greater than 1MW [megawatt] but less than 5 MW) and large scale (greater than 5MW, to a maximum of 600MW). Ontario communities have already seen interest from private companies in submitting applications to IESO to establish BESS facilities, including Grey County member municipalities and the broader region.

While this report is focused on BESS facilities relating to IESO's recent call for applications, staff note that IESO has begun further engagement efforts on a second request for proposal (RFP) process (LT2), for a proposal intake expected to open in late 2024, closing in mid-2025.

This next procurement process will not focus on standalone BESS facilities; instead, IESO intends to solicit 2,000 MW of new energy producing resources, intended to be in effect/operation by 2030. This intake will be focused on non-emitting, newly built energy generation resources, such as solar or wind renewable energy projects, or repowered

(retrofitted) existing generation facilities. Please note that IESO intends to make municipal support resolutions a mandatory submission requirement for this LT2 RFP intake for applicants.

What is Battery Energy Storage System Technology?

Over the past ten years, IESO has started integrating battery and other forms of energy storage into Ontario's electricity system to mitigate system pressures and provide a more reliable and sustainable electricity network. Other energy storage methods include flywheels, thermal, compressed air, or pumped storage. Currently, BESS use mostly lithium-ion batteries. While a relatively new solution in Ontario, BESS technology has previously been successfully established worldwide, including in Europe and Australia. The IESO has suggested various benefits to BESS solutions beyond improving electricity system reliability by saving surplus energy until it is needed most, including spurring economic development, job creation, Indigenous partnerships, alignment with community energy and climate change objectives, supporting the integration of renewable resources, and providing backup power during emergencies.

Public Comments and Concerns

Planning applications are assessed individually on their unique merits and context. Recent BESS proposals across Ontario have faced questions and concerns regarding the following:

- fire safety and emergency plans,
- noise and light pollution,
- traffic and site access,
- impact on agricultural or environmentally significant lands,
- necessary environmental studies or monitoring, and
- the need to establish appropriate setbacks from property lines, structures, or livestock.

Further, concerns have been highlighted regarding regulatory uncertainty within this developing component of Ontario's electricity system, the need to establish the responsible party or plans for decommissioning, and the potential supply chain issues in procuring the necessary batteries.

With respect to the proposed LT2 RFP for energy generation by IESO, it is expected that further community concerns may arise relating to proposed renewable energy installations (e.g., wind, solar, etc.). Considerations for LT2 have not been specifically addressed within this report, as is primarily focused on BESS per IESO LT1 Intake.

BESS Approval Process

In Summary

For applications to successfully achieve a contract with the IESO for a BESS facility, municipal land use approval is required. Applications for BESS facilities were solicited for submission to the IESO in the December 2023 round of bids, for which the IESO will award contracts in May 2024. Following contract award, the proponent would then be required to complete any studies required by Hydro One Networks Inc (HONI), and IESO. Further, any applicable Environmental Assessment-related studies for minor transmission facilities would need to be completed and an applicant would need to obtain municipal approval, e.g., a local zoning amendment, site plan

control, or permitting as may be required before they can proceed with construction. Should the necessary approvals be received, procurement and construction are estimated to take approximately three years. The facilities are estimated to operate through off-site monitoring or limited on-site personnel for roughly 20 years before decommissioning and site restoration.

The Ontario Fire Marshal (OFM) has commented that there are no additional training or certification requirements for municipal fire services where lithium-ion batteries are used in BESS facilities. The OFM does require municipalities to complete community risk assessments to identify and prioritize public safety risks involving fire protection in consideration of potential fire or explosion risks posed by the failure of lithium batteries.

Detailed Considerations

As described above, municipal land use approval is required for BESS facilities. However, the nature of approvals required and the related trigger points whereby studies or securities may be requested are expected to vary across municipal geographies. This variation is based on the specifics of the applicable policy and planning framework, and whether study requirements may be triggered per HONI standards, as part of an Environmental Assessment (EA) process or, via *Planning Act* applications. Additional detail regarding the policy/planning framework and its application to BESS facilities is provided under the 'Policy/Planning Framework' section below.

Based upon discussion with Transmission Planning Staff at HONI, County Staff understand that certain BESS facilities will trigger study requirements under their '*Fire Protection Risk and Response Assessment Standard*' ("the standard"). Applicability of the standard is based on the size/scale of the facility and its proximity to critical HONI infrastructure, thus such study requirements under the standard will not apply to all BESS facilities.

BESS installations sited more than 250 metres from HONI transmission lines/ROW or more than 400 metres from HONI substation property lines, are not subject to the standard. In such cases, it will fall to the authority having jurisdiction (i.e., the municipality) to request any technical studies necessary to inform their land use decisions regarding a BESS proposal. Municipally requested studies would;

- identify risks or hazards associated with a proposal,
- address sensitive or protected land uses or natural heritage features nearby, and
- inform those necessary safety and site mitigation measures as would be implemented through land use decisions and/or related planning tools.

It is further noted that not all related minor transmission lines will trigger an EA process. As such, local authorities should also be prepared to consider and address impacts or implications of such installations as well.

The standard has been compiled by HONI specifically to guide design and study requirements for protection of their own critical infrastructure. However, the standard may serve as a useful starting reference for planning authorities in addressing the technical elements of BESS installations. The document compiles adopted standards and codes within Canada together with relevant recommended industry standards and codes from other jurisdictions (e.g., USA). Section 5 of the standard identifies the minimum design documentation recommended for BESS facilities based on industry practice, detailing study scoping and other technical considerations for:

- Hazard Mitigation Analysis,
- Fire Risk Assessment, including Community Risk Assessment and Air/Gas Dispersion Studies,
- Fire Protection Design Documentation,
- Commissioning Plans,
- Decommissioning Plans, and
- Emergency Response Plans.

Generally, where such studies would be indicated for HONI's purposes, the standard requires that they also be provided to the authority having jurisdiction.

It appears from the standard that such studies would be required to be submitted to HONI by the proponent as part of a self-certification process. In this process the proponent would certify that the necessary assessments have been completed, and that the BESS poses no known safety risks, or unmitigated hazard, to HONI employees or their transmission system. Where local technical or peer review of studies is desired to inform land use considerations, it appears that this would need to be addressed in the context of a *Planning Act* application.

Policy/Planning Framework

Land use planning in Ontario occurs within a policy-led planning system, where local planning documents are required to be consistent with the Provincial Policy Statement and not conflict with provincial plans and upper-tier official plans. Related authorities and implementation tools are set out under the *Planning Act* and are often limited in scope or nature of application. The effect is that appropriate triggers or circumstances must be in place to support the use of certain regulatory tools or the requirement for associated agreements or securities, per the Act.

Appendix 1 identifies staff's understanding of how the policy and planning framework may apply to BESS facilities. This understanding helps staff to further discern where planning tools may not be available under the Act to address siting or risk mitigation for BESS facilities, and where other approaches may be necessary.

Based on Appendix 1, County Staff recommend that:

- Municipalities should review their local official plan and zoning by-law wording and determine if as-of-right permissions for BESS facilities may apply.
- Updates to existing zoning by-laws could be pursued to establish definitions and standards applicable to BESS, with discernment regarding scale/capacity thresholds, and to identify appropriate zones for siting of large-scale and/or standalone battery energy storage installations. Consideration of adopted technical standards and codes, as well as industry best practice is recommended with any such update.
- Municipalities should review their local site plan control by-laws to confirm the inclusion/capture of BESS.
- Where use restrictions are in place within a local zoning by-law, municipalities may consider site-specific ZBLA's as a municipal tool to regulate these use types, where supporting documents could be requested under this process as part of a complete application, for example:
    - Hazard Mitigation Analysis,

    - Fire Risk Assessment, including Community Risk Assessment and Air/Gas Dispersion Studies,
    - Fire Protection Design Documentation,
    - Commissioning Plans,
    - Decommissioning Plans and Agreements (including securities collection),
    - Emergency Response Plans,
    - Planning/Siting Justification (i.e., demonstrating compliance with natural heritage and other policy requirements, setback requirements, identification of suitable zones to accommodate these uses, addressing any anticipated noise or lighting impacts and their mitigation, etc.),
    - Agricultural and/or Environmental Impact Assessments,
    - Local road impact assessment, understanding the installation of these facilities, their maintenance, and future decommissioning may require road and entrance upgrades, or haulage route consideration, or
    - Other reports, documents or studies as may be required, where supported by enabling OP policies per the *Planning Act*.
- In the case of BESS permitted as-of-right, and in absence of a re-zoning application to act as a trigger for provision of supporting documents, a municipality may consider requesting necessary supporting information through complete application requirements associated with a site plan control application, and/or under municipal authorities derived under the *Fire Protection and Prevention Act*, the Ontario Fire Code, or *Ontario Building Code/Act*.
- An Interim Control By-law may be pursued as a matter of last resort where BESS facilities are forwarded prior to establishment of appropriate zoning triggers or thresholds, subject to the timing and obligations specified within 38(2) of the *Planning Act*.

It is also recommended that Council request that the Province develop a provincial energy land-use policy guide. This guide would replace the gap left by the repeal of the Green Energy Act, offering municipalities and energy companies a consistent framework for locating energy projects, while also protecting the environment, farmland, and public health and safety. The guide would be similar to the Province's Guidelines on Permitted Uses in Ontario's Prime Agricultural Areas, which have helped municipalities and farmers apply consistent land use policies. The proposed energy policy guide would similarly aid municipalities and energy companies in implementing projects awarded by IESO to meet the energy goals outlined in the IESO's Pathways to Decarbonization document.

Further County and municipal planning policy considerations are discussed in greater detail below.

Approaches for County and local Municipal Consideration

1) BESS Policy Official Plan Amendment (OPA) to the Grey County Official Plan

This approach would involve the preparation of a detailed policy to guide land use permissions, policy tests/criteria, and information or study requirements specifically for BESS facilities. These policies would be incorporated into the County Plan via an OPA and could identify use-specific policy requirements relating to planning justification,

risk/safety documentation, road impact assessment, any necessary haulage route agreements as well as provisions regarding decommissioning plans, agreements, or securities for a BESS application. Specific consideration would be given to siting and mitigation of impacts on agricultural lands, perhaps limiting the size of facilities permitted to align with maximum lot coverages set out for OFDUs (as indicated via draft provincial policy), and/or directing consideration of large-scale or standalone facilities per the non-agricultural use policies of the Plan.

Following an update to the County Official Plan, local official plan policies may need to be amended and brought into conformity, and local zoning by-laws updated. County Staff, or paid consulting capacity, would be required to advance a policy amendment, and local municipalities would also need to resource policy or zoning by-law updates to implement this framework.

Staff are not recommending this approach at this time, given the staff capacity and resourcing associated, as well as the timeframes that would be anticipated for implementation via a County OPA and further via local OPA and/or ZBLAs. Allowing other counties to first implement BESS policies, could also reduce the future efforts needed for Grey County to establish such policies.

If the County were to pursue future official plan updates relating to BESS, staff suggest this would be more appropriately and efficiently pursued within the broader context of updated energy and utility policies. An energy policy OPA may also address other elements of a modernized energy system beyond BESS, including considerations for renewable energy facilities, e.g., wind, solar, biogas, etc., given that the *Green Energy Act* has been repealed.

A comprehensive energy policy OPA would further allow for integration of the renewable energy related commitments from the County's Climate Change Action Plan, (CCAP, 2022) into the Official Plan. The CCAP establishes corporate and community targets for renewable energy generation and outlines specific actions to be undertaken to support the achievement of these targets.

Specifically, the CCAP:

- Encourages the development of renewable energy in Grey County by providing clear and streamlined land use policies, bylaws regulations, permitting, and procedures.
- Supports review of existing bylaws and policies and procedures for barriers to renewable energy development.
- Targets 100MW of installed renewable energy projects in the County by 2030

Staff note that objectives within the CCAP regarding renewables seek to capture potential benefits of low-carbon energy opportunities within Grey County that are owned and operated locally, having minimal impact on the surrounding landscape, supporting both job creation and the energy independence of residents and businesses.

As described within the CCAP under the 'Energy' theme, there are concerns that have been raised regarding large-scale wind turbine development in Grey County, with some local municipalities identifying themselves as 'unwilling hosts' for this technology at utility

scale. Given these known concerns, the CCAP recommends that it is important that future renewable energy models ensure that the community is extensively consulted and directly benefits from these projects.

The *Planning Act* specifies the mitigation of greenhouse gas emissions and adaptation to a changing climate as matters of provincial interest, requiring that municipalities shall have regard to these matters as part of land use decision-making. The IESO is rolling out their procurements for BESS and new renewable energy generation in pursuit of de-carbonization and modernization of the electricity network. As such, it will be necessary to reconcile and/or balance local and provincial objectives regarding siting of these facilities. Reference to existing approaches to other types of infrastructure creation and/or resource extraction may help to inform this work.

A comprehensive policy exercise focused on renewables, including BESS, presents an opportunity for in-depth discussion of these issues. Specifically, it would allow the County to explore how utility-scale renewables, as are being procured through IESO's process, may align with the impact mitigation and community benefit aspects that underpin the renewable energy objectives outlined in the CCAP. To strike this balance effectively, policy guidance could perhaps be tailored to different technology types, scales, and/or use cases for renewables. Policy efforts could support the achievement of CCAP objectives for local benefit, while ensuring that utility-scale installations are appropriately and strategically located. For example, the location can consider impacts, mitigation, and other important policy objectives, such as the preservation of prime agricultural lands and protection of the natural environment.

New renewable energy generation projects will be subject to municipal land use permissions, with a provincial Registration or Renewable Energy Approval (REA) process also applicable to facilities meeting size/generation thresholds, as per the *Environmental Protection Act*. This combined process separates the more technical review of the wind or solar installation itself (provincial), from other land-use considerations to be addressed via *Planning Act* tools (municipal). While municipal land use decisions to refuse proposed renewable energy installations are no longer subject to appeal, it remains important to balance the general intent of the province/IESO in pursuing new energy generation capacity, with local concerns regarding facility siting. A policy framework would articulate this balance and would provide transparency for proponents and the public, regarding the factors that will inform such decision-making.

The recently announced LT2 IESO proposal intake will focus on new-built energy generation facilities. As such, this broader policy work may be warranted in the nearer term, to inform consideration of new renewable energy installations proposed, in addition to BESS. Additional discussion on the resources needed for a County OPA for this purpose, has been included in the Financial and Resource Implications section of this report. Further discussion will be required to address the capacity constraints and timing factors noted above, should Council wish for this work to proceed with an OPA at this time.

Staff note that surrounding counties may also be considering similar policy updates, which may present opportunity for collaboration or partnership in policy drafting or solicitation of consulting support for this work. Should the County defer an energy policy

OPA at this time, the County could benefit from seeing what other municipalities outside Grey do in this regard. It may be feasible in the future to adapt other municipal policy approaches, such that County staff or consultants do not need to conduct as much primary research on our own (i.e., it could result in time and cost savings in the long term).

2) Local Official Plan and/or Zoning By-law Amendment(s)

This approach would include any necessary revisions to local official plans and/or zoning by-laws, to establish a municipal-specific framework for consideration of BESS facilities. Local official plan policies may be more detailed than the County Official Plan, and thus such local policies would be more specific but generally would conform to and not conflict with the overarching policies of the existing County OP.

Zoning by-law updates, via an amendment, could be pursued by local municipalities to implement a municipal-specific official plan policy update. Zoning updates could also be done on a standalone basis, enabling compatibility, separation of sensitive uses, or similar existing policies of their official plan. These amendments could define and prohibit (or permit) BESS facilities in certain zones, use cases, or based on size/capacity thresholds, informed by industry standards and best practice.

A municipality may further choose to refine existing ‘infrastructure’ or ‘utility’ definitions or permissions. Refinements may require that privately owned or operated infrastructure or utilities are subject to the permitted/prohibited uses and zone standards of the zoning by-law; while publicly owned or approved specified agencies installing such facilities may be exempted from certain by-law requirements. This exemption of specified and/or public infrastructure/utility is a typical inclusion in zoning by-laws in Ontario. It is common where such facilities are subject to technical oversight via provincial or federally mandated technical standards, codes, regulations, or approval processes.

Given the staff capacity and resourcing associated with undertaking such amendments on a standalone basis, local municipalities may opt instead for an interim ‘watchful waiting’ approach as outlined below.

3) Watchful Waiting – Interim Review and Monitoring

Local capacity may not currently be available to pursue official plan or zoning by-law provisions relating to BESS. Municipalities could also choose to update their official plans or zoning by-laws at a regularly scheduled review (e.g., a five-year review). As an alternative, a ‘watchful waiting’ interim review and monitoring approach could be employed.

County staff recommend that each municipality examine their current official plan, zoning by-law, and site plan control by-laws. These examinations could determine what, if any, *Planning Act* process or documentation requirements, may be triggered should a BESS facility be proposed within the municipality.

In absence of restrictive zoning by-law provisions triggering an amendment application, site plan control may present opportunity for scoped information requirements, agreements, and securities per the limitations of the *Planning Act* as described in Appendix 1. Where HydroOne’s *Fire Protection Risk and Response Assessment*

Standard applies, or where the associated transmission lines may trigger an Environmental Assessment, adequate information to assess siting or mitigation measures may be made available to the local planning authority via these review processes.

A municipality may additionally consider requesting necessary supporting information under municipal authorities derived via the *Fire Protection and Prevention Act*, the Ontario Fire Code, or *Ontario Building Code/Act.* This information should relate specifically to site layout or facility design for fire and other safety/risk mitigation. Fire and Building staff should be engaged early in the review process to ensure that safety and emergency response considerations can be incorporated together with site layout matters (e.g., lighting, access, landscaping etc.) at the site plan control stage.

If a satisfactory level of documentation is not available through municipal or other agency processes to ensure all policy and safety considerations are addressed, voluntary approaches could be pursued together with a potential applicant. Ultimately, proponents are aiming to achieve compliance and approval, such that they can satisfy awarded IESO contracts. It is therefore expected that reasonable information requests would be honoured.

In an extreme situation, municipalities may further consider if the siting, scale, or other circumstances at hand may warrant pursuit of an interim control by-law (ICBL) under Section 38 of the *Planning Act.* ICBLs, are usually a tool of last resort, and would establish a time-limited prohibition of BESS uses within the municipality. An ICBL facilitates detailed review or study and the pursuit of comprehensive amendments to local planning documents. ICBLs should not be used in any manner to delay a decision, and this process requires the municipality to undertake detailed study within the ICBL period.

County staff note that several other municipalities have pursued interim zoning changes to regulate BESS in certain situations (e.g. on agricultural lands), as they otherwise pursue more comprehensive study and policy revision. The City of Ottawa is one such example, where interim zoning provisions were established for BESS in an agricultural context, but more comprehensive policy and process review are ongoing to examine the broader framework applicable to renewable energy generation, energy transmission and storage.

County Staff will monitor other municipal policy processes, together with any further direction as may be provided by upper levels of government regarding BESS facilities. Future updates could be given to County Council, to further consider a County energy policy OPA. If other municipalities establish comprehensive energy frameworks, then Grey may be able to adapt such frameworks to meet the County's needs.

Municipal Support Resolutions

As a final note relating to BESS (IESO RFP LT1) and future energy generation projects via IESO RFP LT2, municipal support resolutions have been requested by project proponents, to be submitted to IESO as part of their proposals. Staff understand that for LT2, IESO is contemplating 'mandatory' support resolutions, such that where municipal support is not

provided by resolution up front, a proposal would not proceed through IESO review to contract award.

Non-support or the failure to provide a municipal support resolution does not prohibit a future *Planning Act* application from proceeding. However, from a practical standpoint, it's expected that a proponent may choose not to proceed where a support resolution is unavailable. In the event of a mandatory requirement by IESO for support resolutions, a proposal would not then be eligible for IESO contract award.

Staff's understanding is that municipal support resolutions reflect municipal 'support in principle'. Support may be offered subject to commentary or conditions regarding actions to be addressed, to move forward to a potential planning approval. That said, transparency and good-faith action is important. If a municipality does not anticipate that a future approval would be available, this should perhaps be communicated, and consideration should be given to not offering a municipal support resolution. Municipal decisions to refuse an OPA or ZBLA for renewable energy undertakings are not appealable by the applicant to the Ontario Land Tribunal. A project proponent could apply significant resources towards obtaining an IESO contract and land use approvals, with appropriate study and technical documentation, with little recourse available should the planning application(s) be refused.

Legislated Requirements

Various legislative requirements have been flagged throughout this report.

Financial and Resource Implications

Should this report be received for information purposes there are no specific financial or resource implications to be considered at this time.

However, should County Council direct staff to pursue a County OPA to implement BESS or energy policies, then there would be both resource and financial implications. Should consulting resources be needed it is estimated that such work could cost approximately $60,000 (note this is a very 'ballpark estimate' as staff have not specifically costed this work), in addition to the staff time required. Should the County take this project on completely 'in-house' it would require staff to defer other projects on the 2024 workplan, in favour of such an OPA. There was no money allocated within the 2024 Planning department budget for such an OPA. It is anticipated that an OPA could generate significant public dialogue, which may mean extensive consultation is needed, and could potentially be subject to future appeals to the Ontario Land Tribunal. Council could also direct staff to consider a County OPA in the 2025 budget and workplan, or at the time of the County's next official plan review, estimated to begin in 2027.

Relevant Consultation

☒ Internal: Planning, Climate Change

- ☒ Contribution to Climate Change Action Plan Targets (see discussion in the report)

☒ External: Municipalities in and outside Grey, Niagara Escarpment Commission,

HydroOne, Westario, IESO, and provincial ministries

Appendices and Attachments

Appendix One: Planning Framework for BESS Facilities

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Policy/Plan	**BESS Considerations**
Provincial Policy Statement (PPS) 2020	With respect to energy planning and supply, Section 1.6.11.1 of the PPS directs that "*planning authorities should provide opportunities for the development of energy supply including electricity generation facilities and transmission and distribution systems, district energy, and renewable energy systems and alternative energy systems, to accommodate current and projected needs*." Utility-scale BESS facilities appear to meet the PPS definition of 'Major facilities', being: *"facilities which may require separation from sensitive land uses, including but not limited to airports, manufacturing uses, transportation infrastructure and corridors, rail facilities, marine facilities, sewage treatment facilities, waste management systems, oil and gas pipelines, industries, energy generation facilities and transmission systems, and resource extraction activities."* As noted within Section 1.2.6.1 of the PPS, "*Major facilities and sensitive land uses shall be planned and developed to avoid, or if avoidance is not possible, minimize and mitigate any potential adverse effects from odour, noise and other contaminants, minimize risk to public health and safety, and to ensure the long-term operational and economic viability of major facilities in accordance with provincial guidelines, standards and procedures."* BESS use also appears to fall within the PPS definition of 'Infrastructure': *means physical structures (facilities and corridors) that form the foundation for development. Infrastructure includes: sewage and water systems, septage treatment systems, stormwater management systems, waste management systems, electricity generation facilities, electricity transmission and distribution systems, communications/ telecommunications, transit and transportation corridors and facilities, oil and gas pipelines and associated facilities.* As noted within Section 4.7 of PPS, 2020, "*In addition to land use approvals under the Planning Act, infrastructure may also require approval under other legislation and regulations. An environmental assessment*

	process may be required for new infrastructure and modifications to existing infrastructure under applicable legislation." In the case of BESS, staff understand that limited other approvals are indicated (e.g. HydroOne, Environmental Assessment) depending upon the scale and siting of storages and the nature of the transmission lines connecting these storages to the broader hydro network. At present, the *Planning Act* framework will provide any application triggers for review and implementation of mitigation approaches (e.g. zoning amendment, site plan control, related agreements) with building permits likely to also be required. With respect to Prime Agricultural Areas, the PPS sets out that permitted uses include *agricultural uses, agriculture-related uses, and on-farm diversified uses*, as well as limited other *non-agricultural uses* subject to specific policy tests of Section 2.3.6.1 (b) of the PPS. The policy direction here appears to capture utility-scale BESS and large-scale renewable energy generation installations on Prime Agricultural land as "non-agricultural uses" requiring assessment of alternative locations, and potential agricultural impacts prior to approval. Staff note that additional definitions have been included within the draft Provincial Planning Statement (PPS), released for consultation on April 10th, 2024 that may further relate to BESS installations, as follows; • The draft definition of On Farm Diversified Use is expanded, as shown in bold text: *means uses that are secondary to the principal agricultural use of the property, and are limited in area. On-farm diversified uses include, but are not limited to, home occupations, home industries, agri-tourism uses, and uses that produce value-added agricultural products. Land-extensive energy facilities, such as ground-mounted solar or battery storage are permitted in prime agricultural areas, including specialty crop areas, <u>only</u> as on-farm diversified uses (emphasis added).* • A draft new definition of Energy Storage System is included**:** *means a system or facility that captures energy produced at one time for use at a later time to reduce imbalances between energy demand and energy production, including for example, flywheels, pumped hydro storage, hydrogen storage, fuels storage, compressed air storage, and battery storage.*

	Taken at face value, with consideration to their draft nature, these added/expanded definitions appear to indicate that land extensive energy facilities, including battery energy storage systems are to be permitted on Prime Agricultural and specialty crop areas as on-farm diversified uses (OFDUs). OFDUs are generally area-limited, and with reference to Ontario's *Guidelines on Permitted Uses in Ontario's Prime Agricultural Areas,* would typically not exceed 2% of the area of a farm parcel, up to a maximum lot coverage of 1ha. The inclusion of the word 'only' within the draft PPS 2024 definition of OFDU raises questions as to whether BESS and other land-extensive energy facilities exceeding the area maximums of an OFDU could be pursued under the non-agricultural use provisions of the PPS, subject to stated policy tests of Section 2.3.6.1 (b). Staff will query this nuance and intended function of 'only' through any review and comment to be offered relating to the draft PPS consultation period.
Niagara Escarpment Plan (NEP)	Under the NEP, most development is administered via a development permit system, except where development control has been lifted by regulation and municipal zoning is in place. In discussion with local Niagara Escarpment Commission (NEC) staff, it is understood that development permits will be required for any BESS facilities proposed within the Niagara Escarpment Planning Area where development control is in place.
Grey County Official Plan	Section 8.9.3 of the Grey County Official Plan (GCOP) speaks to utilities, noting that such facilities are also referred to as 'Infrastructure' per the PPS, 2020. GCOP Section 8.9.3 (1) states: "*The County and local municipalities will plan for and protect corridors for electricity generation (e.g. hydro corridors), utility facilities, and transmission systems to meet current and future needs"* Further relevant policy sections include: 8.9.3 (4) *"Utility companies will be requested to ensure construction of their lines and facilities has minimal impact on farm operations, residential, and other surrounding land uses."*

	(5) *"During the construction of utilities, adequate environmental protection will need to be provided with respect to fuelling, dust, noise, landscaping, site drainage, erosion control, groundwater wells, and waste disposal."* (6) *"The County will protect agricultural, environmental, and other County wide public interests when entering general agreements with utility companies for utility corridors."* (7) *"The utility company will maintain and be responsible for the corridor, the decommissioning and/or removal of facilities, and any site remediation upon the abandonment of the utility line."* (12) *"It is recognized that agricultural uses, agricultural-related and on-farm diversified uses require utilities in order to support these uses and therefore are permitted within the Agricultural and Special Agricultural land use type. Impacts from any new of expanding utilities on surrounding agricultural operations and lands are to be mitigated to the extent feasible."* Based on this foregoing policy, the mitigation of potential impacts of utility projects (i.e., BESS) on surrounding land uses and the natural environment is expected and necessary. The utility company / owner is responsible for future decommissioning and removal of facilities and any related site remediation. Staff note that the definitions of 'utilities' and 'infrastructure' within the GCOP do not distinguish between 'public' or 'private' ownership or operation. There appears to be no broad prohibition for these types of facilities within any of the land use designations identified under the County OP. That said, given existing PPS direction for utility-scale BESS and renewable energy generation as non-agricultural uses where proposed on Prime Agricultural lands, the policies of Section 5.2.2 (4)(b) of the GCOP may be additionally directive.
Local Official Plans	Local official plans vary with respect to infrastructure or utility policies, though such policies generally conform to the County Official Plan and are consistent with the PPS, 2020.

	It is expected that a similar focus on mitigation of potential impacts would be reflected in such policies. Local OP policies may or may not distinguish between 'public' vs. 'private' utility ownership or management.
Local Zoning By-laws	Local zoning by-laws vary from municipality to municipality. It is typical to see by-law exemption or reduced standards applied to public agencies and/or community infrastructure installations. Given the recent introduction of utility-scale BESS technology in Ontario via the IESO process, BESS-specific definitions, setbacks, and other siting standards are not yet established within existing zoning by-laws in Grey County. Depending upon the specific wording of each existing zoning by-law, standalone BESS facilities may fall within existing utility or infrastructure permissions / exemptions and thus be allowed on an as-of-right basis. Small scale BESS, installed in conjunction with residential, commercial, and other land uses, may also be permitted on an ancillary basis, under existing 'accessory use' provisions of local zoning (e.g., alongside personal use renewable installations). Where new standalone BESS facilities are proposed but would not meet the permissions of the existing zoning by-law, a site-specific zoning by-law amendment (ZBLA) would be required to establish such land use permission, at municipal discretion. Given the substantial existing policy direction relating to mitigation of impacts for utility and infrastructure installations and relating to Prime Agricultural land and other sensitive and natural features within the County, a site-specific ZBLA would be expected to: • provide the appropriate application materials for site/use-specific review, • provide supporting studies to confirm policy conformity, site suitability and any necessary mitigation efforts, and • implement any site-specific zoning provisions for BESS, together with any holding provisions employed to ensure execution of related agreements or securities.

	BESS-specific updates to Zoning By-laws: Given the wide application and use of battery technology, the consideration of battery type, storage capacity, and type/scale-specific potential impacts are appropriate in considering any BESS-specific zoning provisions in municipal zoning by-laws. It is likely not appropriate nor necessary to require a zoning by-law amendment for smaller scale and ancillary battery energy storages. Larger scale storages should be subject to technical assessment and site mitigation measures, particularly where proposed in proximity to sensitive land uses, and on Prime Agricultural land. A BESS-specific technical standard is not adopted in Canada or Ontario at this time. This work has been undertaken in other jurisdictions and may inform BESS definitions, as-of-right zoning permission thresholds and site standards, as well as those documentation requirements or standards to be applied to larger scale BESS facilities on a site-specific amendment basis. A recent issue of 'Zoning Practice' published in March 2024 by the American Planning Association (APA) focuses on BESS zoning considerations. The article references various use cases, recommended performance, design, safety and dimensional standards, and various example ordinances from communities in the United States. These considerations are largely tied to US National Fire Prevention Association (NFPA) Standard 855, applicable to BESS installations. Staff note that this standard is embedded within the *Hydro One Fire Protection Risk and Response Assessment Standard* developed for BESS, wherein it is referenced as a 'recommended industry applicable standard'. Generally, this US standard requires operators of BESS facilities with energy storage exceeding 600 kWh [kilowatt hours] to complete hazard mitigation analysis, develop fire suppression design, conduct fire and explosion testing, and carry out emergency planning for the facility. Under this standard, minimum separations from lot lines, buildings and other exposures are established (generally 3 m / 10 ft), as would be further informed through facility-specific study and risk assessment for storages above 600 kWh capacity. Storages are categorized as 'remote' when installed more than 30.5 m (100 ft) from exposures such as buildings, lot lines, or

	rights of way, and may be exempted from certain fire suppression and water supply requirements under Standard 855 where this separation distance is in place. While this staff report does not make specific recommendations on the detail of zoning provisions to be applied by the local municipalities, consideration of industry best practice and ordinance examples elsewhere may help to inform this work locally. Please note that Ontario Fire Code, Electrical Code and Building Code provisions and standards apply in the Ontario context and would need to be considered in this work as well.
Local Site Plan Control	As outlined within Section 41 of the *Planning Act*, the council of a local municipality may, by by-law, designate the whole or any part of that local municipality as a site plan control area. This is contingent on enabling policy being set out in the official plan. Where site plan control applies, an applicant shall not undertake any development, until such time that the municipality approves site plans and/or drawings of sufficient detail showing the site facilities and works. Under section 41(7) of the Act, it is established that as a condition to the approval of plans and drawings, a municipality may require the owner of land to provide certain works or facilities, to maintain such facilities and to enter into agreements ensuring such provision, facility maintenance, and the orderly progress of the development. The items that can be required and secured as a condition to site plan control approval, are scoped/listed within the *Planning Act*, summarized as follows: • Properly identified widenings of highways that abut the land, • Facilities to provide access to/from the lands, such as access ramps or curbing, • Off street loading and parking facilities, access driveways, emergency access routes, and specification on the surfacing of such facilities, • Walkways and walkway ramps and all other means of pedestrian access,

	• Facilities designed to have regard for accessibility for persons with disabilities, • Facilities for the lighting of the land, building or structures, • Walls, fences, hedges, trees, shrubs or other groundcover facilities for landscaping of the lands or protection of adjoining lands, • Vaults, storages, collection areas, and enclosures for the storage of garbage and other waste material, • Easements conveyed to the municipality for construction, maintenance or improvement of watercourses, ditches, land drainage works, sanitary sewage facilities and other public utilities of the municipality on the land; and • Grading or alteration in elevation or contour of the land and the provision for disposal of storm, surface and waste water from the land, building, structures. Regarding site plan control applications, Section 41(3.4) of the *Planning Act* establishes that "*a municipality may require that an applicant provide any other information or material that the municipality considers it may need, but only if the official plan contains provisions relating to requirements under this subsection*." In absence of any applicable zoning prohibition and related requirement for an amendment process, it may be appropriate to request that an applicant provide certain supporting study and technical information at the site plan control stage. However, staff caution that site plan control cannot be used to regulate matters that are typically covered by zoning by-laws (like use prohibitions, parking requirements, lot area/sizing, permitted structure heights or densities, lot line setbacks or site coverages etc.) nor matters relating to standards or manner of construction of a building. Staff note that such requests for information by a municipality at the site plan control stage are generally expected to be reasonable, and an applicant has the right under the *Planning Act* to make a motion for directions to have the Ontario Land Tribunal determine if such a request is appropriate. Requests for other/additional information at the site plan stage should be carefully considered or scoped with consideration to implementation authorities, and legal advice is recommended where such information request may be potentially perceived to extend beyond the scope of matters identified at 41(7).

	Authorities under other agencies (e.g. Conservation Authority Regulations) or other legislation (e.g. *Fire Prevention and Protection Act, Building Code Act*) may provide additional opportunities to obtain necessary information to support site planning, and offering tools for implementation. Further information is provided below. **Cautions:** Given the scoping of matters that can be addressed via site plan control, it is unlikely that requirement for haulage route/securities, or decommissioning plans would be established via site plan control alone. Staff also note that BESS facilities are likely to be proposed on a leasehold basis, potentially changing hands throughout their lifecycle. This may make registration of agreements and the administration of development securities more challenging. Legal advice is recommended. Staff would further note that the Act provides less processing time on a site plan control application, than a ZBLA, before application refunds need to be issued to proponents. Recent draft legislation (Bill 185) shared for consultation in April 2024 may remove this timing element, however this remains a consideration until such time a legislative change comes into force/effect.
Other applicable process/requirements	Various other legislative and enforcement tools may support review and implementation of BESS facilities. Examples within the local municipal scope of control, include the *Fire Prevention and Protection Act* / Fire Code and the *Ontario Building Act* / Code. Staff note additionally that Ontario Regulation 41/24 issued under the *Conservation Authorities Act* is expected to apply to BESS facilities and any faciliatory site grading works, where a subject site is adjacent or close to the shoreline of Georgian Bay or inland lakes, within river or stream valleys, on hazardous lands, wetlands or on lands adjacent to wetlands.

	Where site alteration is required to facilitate siting of a BESS facility, other by-laws, such as local Grading & Drainage by-laws, or the County's Forest Management By-law may further apply (e.g., addressing tree removals in woodlands). Some forest management by-laws may already include exemptions where building permits have been issued, or for constructing and maintaining a transmission/distribution under the *Electricity Act.*