



**POLICY REPORT
DEVELOPMENT AND BUILDING**

Report Date: November 2, 2017
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Meeting Date: November 15, 2017

TO: Standing Committee on City Finance and Services
FROM: General Manager of Planning, Urban Design and Sustainability
SUBJECT: Low-Carbon Energy Systems Policy and NEU Connectivity Requirements

RECOMMENDATIONS

- A. THAT Council approve the Low-Carbon Energy Systems Policy (the “Policy”) attached as Appendix A that defines a low-carbon energy system (“LCES”) and establishes criteria for use in City policies and by-laws, including:
 - i. City-owned LCES, as described in section 5.0 of the proposed Policy;
 - ii. Utility-owned LCES, as described in section 6.0 of the proposed Policy;
 - iii. User-owned LCES, as described in section 7.0 of the proposed Policy; and
 - iv. Existing utility-owned district energy systems, as described in section 8.0 of the proposed Policy.
- B. THAT Council direct staff to review the outcomes of the Policy at regular intervals, and report back to Council within two years with any recommendations for changes.
- C. THAT Council approve amendments to City policies attached as Appendix B, effective immediately, to remove mandatory district energy connectivity requirements from new rezoning and development applications received after the amended policies take effect, except for:
 - i. Buildings in, or immediately adjacent to, areas that are served by a City-owned LCES and subject to the City’s Energy Utility System By-law No. 9552;
 - ii. Buildings in, or immediately adjacent to, areas under active study by the City for expansion of City-owned LCES’s, those areas currently being Northeast False Creek, Mount Pleasant, and False Creek Flats (as indicated in the map in Appendix C); and

- iii. Buildings within the East Fraser Lands (River District) Official Development Plan, which is currently being updated by the City.
- D. THAT Council direct staff to give rezoning and development applications already received the option to proceed under the amended policies attached in Appendix B if the developer can demonstrate, to the satisfaction of the Director of Planning, that the development will achieve a greenhouse gas outcome equivalent to connecting to a low-carbon energy system.

REPORT SUMMARY

This report proposes a policy to define the requirements for compliance of LCES with the Zero Emissions Building Plan. This report also recommends the removal of mandatory district energy connectivity requirements for certain areas of the City.

These proposed changes together provide:

- Clear policy direction on requirements for LCES;
- A range of choices for new buildings to comply with the City's energy efficiency and greenhouse gas emissions ("GHG") limits; and
- Support for innovation in renewable energy.

COUNCIL AUTHORITY/PREVIOUS DECISIONS

In March 2006, Council approved the creation of the Southeast False Creek Neighbourhood Energy Utility (NEU). In June 2012, Council approved the expansion of the NEU to the Great Northern Way Campus Lands and adjacent lands in the False Creek Flats South Area.

In January 2011, Council adopted the revised Greenest City Action Plan 2020 targets, which included the target to have all buildings constructed from 2020 onward will be carbon neutral in operations.

In October 2012, Council approved the Vancouver Neighbourhood Energy Strategy and Energy Centre Guidelines, to address the Greenest City 2020 Action Plan objectives, through the deployment of sustainable energy systems for certain high-density neighbourhoods.

Between 2009 and 2014, Council approved various Community Plans, Design Guidelines, and Rezoning Policies that include criteria for new developments to be compatible and connect to a neighbourhood energy system when available. These include: Amendments to the East Fraser Lands Official Development Plan (December 2009), Norquay Village Neighbourhood Centre Plan (2010), Chinatown HA-1 Design Guidelines (April 2011), Chinatown HA-1A design Guidelines (April 2011), Rezoning Policy for Chinatown South (April 2011), West End Community Plan (November 2013), Rezoning Policy for the West End (November 2013), Marpole Community Plan (March 2014), Downtown Eastside Local Area Plan (March 2014), and, Rezoning Policy for the Downtown Eastside (April 2014).

In November 2016, Council approved changes to the Green Buildings Policy for Rezoning that established GHG, heat loss, and energy use limits on new buildings, with two pathways to achieve these low-carbon building outcomes as recommended in the Zero Emissions Building Plan.

CITY MANAGER'S COMMENTS

The City Manager supports these recommendations to further implement the Zero Emissions Building Plan, support innovation in renewable energy, and provide developers a range of choices in how they meet the City's GHG and energy efficiency limits.

REPORT

Background/Context

Southeast False Creek Neighbourhood Energy Utility ("SEFC NEU")

The SEFC NEU provides low carbon heating and hot water services to buildings in the Southeast False Creek and Great Northern Way Campus Lands areas. Since it was first established in 2010, it has grown by more than 300% to serve ~5 million square feet of buildings. It utilizes waste heat recycled from municipal sewage, and derives 70% of its energy from renewable sources. This system can be adapted over time to new technologies and sources of energy, enabling a transition to a 100% renewable energy future for buildings connected to it.

Compared to the incremental improvements in energy efficiency of buildings delivered by North American energy codes, this represented a breakthrough solution for low-carbon communities.

Neighbourhood Energy Strategy

Building off the success of the SEFC NEU, the Neighbourhood Energy Strategy targets areas of the city with the highest density and greatest carbon reduction potential, including the Downtown, Cambie Corridor, Broadway Corridor, and River District areas. Community plans, design guidelines, and rezoning policies in these areas were created or amended to require all new developments to be designed to be compatible and connect to a low-carbon energy system when it becomes available.

In addition, the Rezoning Policy for Large Sustainable Developments requires that developers of large sites undertake a study to determine if a low carbon energy system is feasible. Developers are strongly encouraged to implement a system if one is determined to be viable.

The requirement for a low-carbon feasibility study on large sites has led to the development of on-site solutions provided by utilities, including Marine Gateway, Telus Garden, and the Shannon Wall Centre. Other low-carbon on-site solutions have been developed without a utility, with the system owned by the strata corporation, such as the MC² development.

Zero Emissions Building Plan

The Zero Emissions Building Plan (“ZEBP”) includes detailed actions to reduce emissions in all new residential and office building to zero by 2025, with the exception of high-rise multi-unit residential buildings, which will be required to achieve zero emissions in the Building By-law by 2030.

Policy and By-Law amendments to implement the ZEBP establish GHG limits for new buildings. These limits require all buildings to improve the performance of building envelope and ventilation systems to minimize heat loss and energy use.

Beyond this, developers of new buildings that require a rezoning can choose one of two pathways for compliance with the City’s GHG limits:

- Envelope Pathway - requires stringent limits on heat loss and energy use. Using this approach significantly reduces the demand for heat in new buildings, through a combination of continuous insulation, high performance windows and ventilation systems, and airtight building enclosures.
- Low-Carbon Energy System Pathway (“LCES Pathway”) - in addition to the base envelope and ventilation system improvements, buildings are supplied with heat energy from a professionally operated and maintained district-scale or on-site low-carbon energy system.

Combining efficiency and renewable energy into two performance-based pathways means new developments can tailor their building design to the needs of the project, while ensuring they reliably and cost-effectively reduce GHG emissions.

Strategic Analysis

The proposed Low-Carbon Energy Systems Policy was developed to satisfy the following objectives:

- to define the compliance pathways for LCES to meet the GHG limits of the Zero Emissions Building Plan;
- to ensure these systems will be available to developments in a timely manner and will result in real and permanent GHG reductions over the life of the building;
- to enable innovation in the market; and
- to foster the responsible use energy regardless of source.

An LCES is a system that provides heat energy at a carbon intensity that is much less than that of fossil fuels, and low enough so that when applied to modelled building energy use, the development satisfies the City’s GHG limits. These systems may also provide domestic hot water and cooling to buildings.

The proposed Policy recognizes four types of LCES, and establishes requirements by system type to ensure they each result in real and permanent GHG reductions. If a developer of a new building that requires a rezoning chooses to pursue the LCES Pathway, the developer must also choose an LCES type to provide heat energy to its proposed development. The developer may not apply for a building permit until all of the requirements of the chosen LCES type are met to the City’s satisfaction. For projects pursuing a staged building permit, building permit refers to the full

construction application stage. Some requirements must be met at different stages of the development process. The details of the policy are provided in Appendix A, with a summary of the key requirements for each LCES type provided below in Table 1.

TABLE 1. SUMMARY OF REQUIREMENTS UNDER LCES PATHWAY

LCES Type	Primary Requirement(s)	Rationale
1. City-owned LCES (e.g. SEFC NEU)	<ul style="list-style-type: none"> • Owned and operated by the City, with Council policy for low carbon performance 	<ul style="list-style-type: none"> • City has full control over achieving lasting low-carbon performance for system
2a. Utility-owned On-site LCES (e.g. Marine Gateway utility-owned heat pump system)	<ul style="list-style-type: none"> • LCES design is verified by a qualified engineer • LCES must be purchased and operated by a utility with sufficient expertise and capacity 	<ul style="list-style-type: none"> • External validation that LCES will enable development to meet the City’s GHG limits • Experienced LCES owner will ensure real and permanent GHG reductions
2b. Utility-owned District-Scale LCES (e.g. large master-planned site development with LCES)	<ul style="list-style-type: none"> • Feasibility study confirms low carbon outcome of development • BC Utilities Commission (“BCUC”) issuance of a Certificate of Public Convenience and Necessity (“CPCN”) for the LCES • If all requirements may not be met, a developer may choose to obtain heat from a Type 2a LCES instead 	<ul style="list-style-type: none"> • Feasibility study provides assurance that the LCES will enable a development to meet the City’s GHG limits • BCUC approval is needed for non-City owned district-scale LCES to operate • Allowing developers to change to a Type 2a LCES mid-stream helps ensure low carbon energy will be available when needed by the development
3. User-owned On-site LCES (e.g. on-site heat-pump system)	<ul style="list-style-type: none"> • System designed to achieve strict energy efficiency GHG performance outcomes (verified by a qualified engineer) • Extended system warranty, optimization, and long-term maintenance contract with a qualified provider 	<ul style="list-style-type: none"> • System is designed in a way that provides additional assurance of low-carbon performance • Warranty, optimization and maintenance by a qualified provider helps to ensure the system will function as designed

<p>4. Existing Utility-owned District Energy System (e.g. Creative Energy’s Downtown steam system, River District Energy)</p>	<ul style="list-style-type: none"> • Utility must provide reliable interim low carbon energy to a proposed development before it is able to provide permanent low carbon energy, by building or connecting to a permanent low carbon energy plant • Feasibility study and business plan are required to confirm viability of providing permanent low carbon energy • Commitment by utility to build or connect to a permanent low carbon energy plant according to committed timeline • Utility must make real and measurable progress towards above commitments 	<ul style="list-style-type: none"> • Supply of interim low carbon energy enables the development to be low carbon right away • Feasibility study provides assurance that the LCES will enable a development to meet the City’s GHG limits • Commitment by utility to providing permanent low carbon energy ensures the GHG reductions will be permanent • Requiring measurable progress allows City to periodically assess the outcomes of this pathway
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In addition to the proposed Policy, staff will develop and issue an accompanying bulletin clarifying any specific requirements and the timing or development stages at which certain requirements must be met. This may include, for example, that a developer’s letter of intent to connect/build a LCES must be submitted at the time of rezoning application, with permit holds at certain stages of the development process to secure performance of the requirements and successful delivery of the LCES.

In addition to the above requirements, all developments following the LCES Pathway will require a contract between the developer and the City to provide energy and emissions data to the City. This requirement will allow the City to understand how these systems are performing over time and to make policy adjustments as required.

The proposed Policy also allows a utility to take credit for producing more low-carbon energy than required to meet the GHG limits of a development, and apply this GHG benefit to future developments served by that utility. This encourages utilities to realize opportunities for generation of renewable energy, and to provide renewable energy to existing buildings.

Stakeholder Consultations

The Policy recommended in this report was informed by extensive stakeholder consultation involving the development industry, existing district energy utilities, on-site heat energy utilities, and a number of innovative technology and business model

solution providers. Beginning in February of this year, the process included two in-depth sessions with the UDI Codes and Standards Committee, two large LCES solution provider workshops, and numerous meetings with and written feedback from specific stakeholders and experts.

The recommended Policy has undergone a number of significant iterations to reflect this highly constructive and informed stakeholder feedback, with the aim of meeting public policy objectives while also recognizing the business and regulatory realities of the potential solution providers.

Updates to Energy Modelling Guidelines

To accompany the limits set out in the ZEBP, the City created the City of Vancouver Energy Modelling Guidelines. These guidelines standardize important definitions and inputs for building energy models to create a consistent approach to modelling, for the purposes of demonstrating energy and GHG limit compliance. While the guidelines are clear on how to model building energy use and conventional energy systems, they need to be updated to reflect the intent of the proposed Policy to:

- Recognize the carbon intensity of specific district energy systems in addition to the Provincially-established carbon intensities for natural gas and electricity;
- To provide a mechanism for accounting for district systems that use highly efficient technologies such as heat pumps or renewable energy sources such as biomass so as to be able to meet the intention, and demonstrate compliance with, building energy use limits.

The City of Vancouver Neighbourhood Energy Interpretation Guide for Rezoning clarifies the energy modelling of neighbourhood energy systems for compliance with past rezoning policies. These guidelines will be reviewed for consistency with the proposed policy and updated accordingly.

Removing NEU Connectivity Requirements and Other Restrictions

In addition to the development of this Policy, the City is also developing complementary amendments to related existing City policies.

These updates will remove mandatory district energy connectivity requirements for new developments, including restrictions on 3rd-party thermal energy supply contracts, except for areas currently served by a City-owned LCES (South East False Creek and Great Northern Way) or areas under consideration for expansion of the City-owned LCES (e.g. areas of the False Creek Flats, Mount Pleasant and North East False Creek). In addition, the mandatory connection requirements in the River District neighbourhood will remain in place while the City updates this neighbourhood's Official Development Plan and works with River District Energy on a plan and agreement to transition to low carbon energy.

The option to remove NEU compatibility and connection requirements, as per Recommendation D, will also be available to in-process developments, provided they are able to demonstrate a greenhouse gas outcome equivalent to connecting to a low-carbon energy system. This equivalence must be demonstrated to the satisfaction of the Director of Planning, and may include achieving a 50% GHG reduction from a high-efficiency natural-gas scenario, achieving the GHG limits of the Green Buildings Policy for Rezoning, or a Certified Passive House.

District energy connectivity requirements were originally introduced to support the City's transition to low-carbon by preserving opportunities for future low-carbon district energy systems. Since these requirements were created, the ZEBP has identified an approach to achieving comparable low-GHG outcomes for new developments. For this reason, mandatory connectivity requirements to preserve future opportunities are no longer required. Refer to Appendix B for a full list of the proposed changes to connectivity requirements in City policies.

Stakeholder Education and Training

If the proposed Policy is approved by Council, staff will work with industry to provide information sessions and presentations as needed, to ensure developers, designers, and energy system providers are aware of the policy and its requirements. This would also provide the opportunity for staff to hear any initial feedback on the implementation or further clarification needed.

Implications/Related Issues/Risk

Financial

There are no financial implications for the City.

Environmental

This policy provides new pathways to achieve the deep carbon reductions in new buildings required under the Zero Emissions Building Plan, and will provide support for the innovation required to achieve the plan's goal of zero emissions new buildings by 2030 or sooner.

CONCLUSION

The proposed Policy and related changes to existing City policies provide clear direction on low-carbon energy systems, with a range of choices for developers to meet the City's GHG and energy efficiency requirements, and support innovation in renewable energy in buildings.

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LOW-CARBON ENERGY SYSTEMS POLICY

Authority - Director of Planning
Effective November 15, 2017

1. Background

Policy and By-Law amendments to implement the Zero Emissions Building Plan (“ZEBP”) establish greenhouse gas (“GHG”) limits for new buildings in Vancouver, supported by limits on heat loss and energy use. These limits require new buildings to have improved envelope and ventilation systems to reduce heat loss and energy use. Beyond this, developers of new rezoned buildings can choose one of two pathways for compliance with the City’s GHG limits:

- (a) Envelope Pathway – requires additional improvements in envelope and ventilation systems to further reduce heat loss and energy use;
- (b) Low Carbon Energy System (“LCES Pathway”) – in addition to the base envelope and ventilation system improvements, buildings are supplied with heat energy from a professionally operated and maintained district-scale or on-site low carbon energy system.¹

This Policy defines the requirements of the LCES Pathway. The LCES Pathway is only available if a development will obtain its heat energy from an LCES that meets the requirements of this Policy.

2. Policy Objective

The objective of this Policy is to define requirements for low carbon energy systems. These requirements provide assurance that these systems will be available to provide low carbon energy to developments in a timely manner, will result in reliable and permanent GHG reductions over the life of such developments, enable innovation, and use all energy responsibly.

3. Definition of a Low Carbon Energy System

Low carbon energy systems (“LCES”) supply heat energy primarily derived from highly efficient and renewable sources in order to provide space heating and conditioned ventilation air for buildings seeking to meet GHG limits using the LCES Pathway. These systems may also provide domestic hot water and cooling service.

Low carbon is defined as the provision of heat energy at a carbon intensity that is much less than that of fossil fuels, and low enough so that when applied to modelled building energy use, the development satisfies the City imposed GHG limits.

4. LCES Types and Requirements to be met prior to Application for Building Permit

The types of LCES that are eligible under this Policy and the requirements of each LCES type are set out in the following sections 5 to 8. If a developer elects to pursue the LCES Pathway, the developer must also choose one of the LCES types described below to provide heat energy to its development.

¹The LCES Pathway was named the Renewable Neighbourhood Energy System (RNES) pathway in the Zero Emissions Building Plan. This term was expanded to include all types of low-carbon energy systems when implemented in the Green Buildings Policy for Rezoning (November 2016).
November 2017

A developer may not apply for a building permit until all of the requirements of the chosen LCES type are met to the City's satisfaction. To help ensure a developer and its chosen LCES type is on track prior to an application for building permit, some requirements will need to be met at earlier stages of a development. In addition to this Policy, City staff will develop and issue an accompanying bulletin to further clarify the specific requirements that may need to be met at earlier stages of development, as well as any documentation that may be acceptable to the City to satisfy these requirements. For projects pursuing a staged building permit, building permit refers to the full construction application stage only.

Some requirements are complex and may take a long time to achieve or may be outside the developer's or the City's control. These include approvals that may be required from the British Columbia Utilities Commission ("BCUC") pursuant to the *Utilities Commission Act* or the purchase of an LCES system by a utility. Due to these factors, it is recommended that a developer consider and prepare a contingency plan that would allow the developer to, if necessary, satisfy the City's GHG limits through another LCES type or the Envelope Pathway.

In addition to the specific requirements of each LCES type set out below, a developer must also satisfy the City in respect of the following:

- (a) each LCES type must comply with all applicable requirements of the *Utilities Commission Act*;
- (b) whenever the requirements of an LCES type involve a utility, such utility must be authorized to operate in British Columbia, and to engage in the required activity, in accordance with the *Utilities Commission Act*; and
- (c) whenever the requirements of an LCES type include certain contracts relating to the LCES or the supply of energy service, such contracts, if applicable, must comply with the *Utilities Commission Act* and have been approved by the BCUC.

5. LCES Type 1: City-Owned LCES

This type refers to a City-owned LCES that produces and supplies low carbon energy to numerous connected buildings, possibly with different owners.

Type 1 LCES must meet the following requirements:

- (a) the LCES must be:
 - (i) an operating City-owned LCES; or
 - (ii) a proposed extension of an operating, or a newly proposed, City-owned LCES approved by Council; and
- (b) the City has agreed to provide energy service to the development in question.

Connection to this LCES type may be required in a by-law, rezoning condition or may be voluntary. Rezoning conditions for potential connection requirement to a City-owned system under active study will be resolved prior to development permit issuance.

6. LCES Type 2: Utility-Owned LCES

This type refers to a utility-owned, professionally maintained and operated LCES that could be an on-site or district-scale system providing heat energy to one or more buildings. The requirements for this type are divided into the following two sub-types:

6.1 LCES Type 2a: Utility-Owned On-Site LCES

This type refers to a new utility-owned LCES located on-site within a development. Type 2a LCES must meet the following requirements:

- (a) a qualified engineer must provide written verification that the LCES is designed to provide low carbon energy such that the development will meet the City's GHG limits;
- (b) there must be evidence that a utility will purchase the LCES and supply long term energy service from the LCES to the development; and
- (c) the utility must have demonstrated experience with other similar successful LCES.

Prior to the application for an occupancy permit, the developer must deliver evidence to the City's satisfaction that the LCES was successfully registered with the BCUC, and that the ownership of the LCES was, or will soon be, duly transferred to a utility.

6.2 LCES Type 2b: Utility-Owned District LCES

This type refers to a utility-owned district-scale LCES. Type 2b LCES must meet the following requirements:

- (a) there must be a feasibility study that confirms the LCES will provide low carbon energy such that the development will meet the City's GHG limits;
- (b) the BCUC must have issued a Certificate of Public Convenience and Necessity ("CPCN"), in accordance with the *Utilities Commission Act*, approving the district-scale LCES that is designed in accordance with the City-approved feasibility study to provide low carbon energy such that the development it serves will meet the City's GHG limits;
- (c) there must be evidence of long term supply of low-carbon energy from the district-scale LCES to the proposed development; and
- (d) there must be an agreement between the utility and the City for annual utility reporting on the energy used and provided by the district-scale LCES.

If a developer believes one or more of the above conditions may not be met by the time of building permit application, the developer may, in discussions with the City, as an alternative to the above, elect to obtain energy from a Type 2a on-site LCES instead and comply with the Type 2a requirements.

For new developments connecting to an existing Type 2b LCES, the LCES must demonstrate sufficient low-carbon energy capacity to serve the new loads. Note that no Type 2b LCES exists in the City of Vancouver as of the effective date of this Policy but could be established and recognized under this Policy.

7. LCES Type 3: User-Owned On-Site LCES

This type refers to an on-site system that supplies low carbon energy that is owned by, located within, and serves a particular development. Type 3 LCES must meet the following requirements:

- (a) a qualified engineer must provide written verification that the LCES is designed to meet the following requirements:

- (i) the system seasonal average co-efficient of performance > 2;
 - (ii) the modelled GHGI < (GHGI limit – 33%); and
 - (iii) any natural gas fired peak demand heating equipment is sized appropriately and is to augment the primary low-carbon system under peak demand conditions;
- (b) there must be a 2-year minimum maintenance, warranty, and optimization contract; and
- (c) there must be a 5-year minimum long-term, owner-funded maintenance contract, with a qualified provider.

In the case of a building to be owned by a residential strata corporation, prior to the application for an occupancy permit, the developer must deliver evidence to the City's satisfaction that the funding structure for long-term maintenance has been established (including an initial strata budget and strata fees consistent with the maintenance funding requirements).

8. **LCES Type 4: Existing Utility-Owned District Energy System**

This type refers to an existing utility-owned district energy system that is not yet a permanent LCES. As a temporary bridging measure before such a utility builds or connects to a permanent low carbon energy plant and becomes a permanent LCES, the utility must be able to obtain a reliable source of low-carbon energy. Such utility must also have a plan and commitment to build or connect to a permanent low-carbon energy plant in order to provide permanent low-carbon energy to the developments served by it. Type 4 LCES must meet the following requirements:

- (a) during the interim period before the utility becomes a permanent LCES, the utility must be able to obtain a reliable source of low carbon energy (which could include, without limitation, renewable natural gas, Aggregation as per section 10 of this Policy, or installation of temporary on-site low carbon heating equipment), and must supply such low-carbon energy to the proposed development for it to meet the City's GHG limits, all in accordance with the *Utilities Commission Act* and any BCUC approvals as necessary;
- (b) there must be a feasibility study and business plan confirming the technical and financial viability of building or connecting to a permanent low carbon energy plant and investing in all necessary ancillary equipment in order to provide permanent low carbon energy to the proposed development;
- (c) there must be evidence that the utility is making real and measurable progress towards being able to provide permanent low carbon energy to the proposed development;
- (d) if the City is satisfied as to the viability and progress of providing permanent low carbon energy to the proposed development, there must be one or more binding agreements between the utility and the City, or some other framework as may be determined by the City, to ensure that the utility commits to, and makes real and measurable progress towards, providing permanent low carbon energy to the proposed development. Such agreement or framework may include the following requirements:
 - (i) key milestones to be achieved by the utility;
 - (ii) a commitment by the utility to build or connect to a low-carbon energy plant once agreed criteria are met;

- (iii) a commitment by the utility to the City to:
 - (A) annual reporting of the energy used and provided by the LCES; and
 - (B) continue to comply with section 8(a) until such time that the utility is able to provide permanent low carbon energy to the proposed development; and
- (iv) any other requirement that the City considers necessary;
- (e) there must be a covenant registered in favour of the City on the title of new development requiring such development to comply with the City's GHG limits during the period of interim low carbon energy supply; and
- (f) if the utility has entered into an agreement with, or has otherwise made commitments to meeting certain milestones including building, or connecting to, a low carbon energy plant in accordance with section 8(d), the City must be satisfied that the utility is making real and measurable progress towards those commitments.

The City intends to reassess this LCES type two years after this Policy initially takes effect and periodically thereafter to determine whether it provides a realistic pathway to achieving reliable and permanent GHG reductions in buildings. If the City is not satisfied that a utility is making sufficient progress towards providing permanent low-carbon energy from its existing district-scale system, the City may no longer make this Type 4 LCES path available to new developments.

9. Reporting

All developments following the LCES Pathway will require an Energy Reporting Agreement to provide energy and emissions data for both the building, and the LCES, to the City after occupancy. An Energy Reporting Agreement means an agreement entered into between the City and a developer (to be assigned to the strata corporation) in respect of a proposed development to meter and accurately report, on an annual basis, the energy use by type, energy cost, and carbon intensity of both the development and its LCES.

10. Aggregation

Where a utility can demonstrate the operational carbon intensity of a building served by such utility outperforms the City's GHG requirements, the City may, on the request of a developer that intends to pursue one of the LCES Pathways by obtaining energy service from such utility, consider applying the extra GHG performance of such utility towards meeting the requirements of any of the LCES Pathways in this Policy, if the City determines that doing so will achieve reliable and permanent GHG reductions. If a developer makes this request of the City, such developer must submit all such information, and do all things as the City may consider necessary, in order for the City to make such a determination.

Proposed Amendments to City Policies		
Policy	Section	Proposed Amendment
Chinatown HA-1 Design Guidelines (2011)	Section 8	<p>Remove: There are a number of strategies that are appropriate, including active reuse of existing buildings, incorporation of passive design to increase comfort and building energy performance as well as <u>connectivity to a district energy system</u>.</p> <p>Add: There are a number of strategies that are appropriate, including active reuse of existing buildings, incorporation of passive design to increase comfort and building energy performance as well <u>implementation of a low carbon energy system</u>.</p>
	Section 8.1	Remove: Section 8.1 <i>Connectivity to a District Energy System</i>
Chinatown HA-1A Design Guidelines (2011)	Section 8	<p>Remove: There are a number of strategies that are appropriate, including active reuse of existing buildings, incorporation of passive design to increase comfort and building energy performance as well as <u>connectivity to a district energy system</u>.</p> <p>Add: There are a number of strategies that are appropriate, including active reuse of existing buildings, incorporation of passive design to increase comfort and building energy performance as well as <u>implementation of a low carbon energy system</u>.</p>
	Section 8.1	Remove: Section 8.1 <i>Connectivity to a District Energy System</i>
Rezoning Policy for Chinatown South (HA-1A) (2011)	Section 7	Remove: Section 7 <i>Connectivity to a District Energy System</i>
Downtown Eastside Local Area Plan (2014)	Section 15 <i>Local Area Directions</i>	<p>Remove: The Downtown Eastside's (DTES) current emissions levels could be maintained despite population increases through complete communities, <u>connectivity to a neighbourhood energy system (NES)</u>, building retrofits, as well as incorporating passive design to increase comfort and building energy performance.</p> <p>Add: The Downtown Eastside's (DTES) current emissions levels could be maintained despite population increases through complete communities, <u>implementation of low carbon energy systems</u>, building retrofits, as well as incorporating passive design to increase comfort and building energy performance.</p>

	Section 15.1	Remove: Section 15.1 <i>Neighbourhood Energy</i> , including Policy 15.1.1, Policy 15.1.2, and Policy 15.1.3.
	Figure 15.1	Remove: Figure 15.1 <i>How the False Creek Energy Centre Works</i>
	Map 15.1	Remove: Map 15.1 <i>Neighbourhood Energy Areas</i>
	Glossary	Remove: Definitions for <i>Neighbourhood Energy Connectivity</i> , and <i>Neighbourhood Energy Systems</i> , under Glossary.
Rezoning Policy for the Downtown Eastside (2014)	Section 7	Remove: Section 7 <i>Connectivity to a District Energy System</i>
West End Community Plan (2013)	Section 5 Plan Summary	Remove: The plan also sets directions for environmental sustainability through building retrofits, <u>promoting district energy opportunities</u> , new community gardens, rain gardens, and other green initiatives. Add: The plan also sets directions for environmental sustainability through building retrofits, <u>green building design</u> , new community gardens, rain gardens, and other green initiatives.
	Section 15 Introduction	Remove: The West End will help contribute to this goal by using strategies relating to <u>land use, neighbourhood energy, and green building design</u> . Add: The West End will help contribute to this goal by using strategies relating to green building design.
	Section 15 Citywide Context and Policies	Remove: Council has also adopted the Citywide Neighbourhood Energy Strategy and Energy Centre Guidelines (2012), which acknowledges that Neighbourhood Energy Systems (NES) are needed to achieve rapid GHG emission reductions. The strategy identifies downtown, including the West End, as a priority area with the greatest carbon reduction potential of any area in Vancouver. As the City is actively pursuing low carbon NES in this area, large developments in the West End will be required to be built connectable to NES, and to connect, when a NES is available.
	Section 15.1	Remove: Section 15.1 <i>Land Use</i> , including Policy 15.1.1, Policy 15.1.2, and Policy 15.1.3.
	Section 15.2	Remove: Section 15.2 <i>Neighbourhood Energy</i> , including Policy 15.1.1, Policy 15.1.2, Policy 15.1.3., and image entitled <i>Southeast False Creek Energy Centre</i> .

Rezoning Policy for the West End (2015)	Section 5	Remove: Section 5 <i>Neighbourhood Energy</i>
Marpole Community Plan (2014)	Section 15 <i>Introduction</i>	Remove: The Marpole community will help contribute to a reduced ecological footprint through strategies related to land use, <u>neighbourhood energy</u> , and green building design. Add: The Marpole community will help contribute to a reduced ecological footprint through strategies related to land use and green building design.
	Section 15.1	Remove: The entire text including and below <i>Community Directions</i> Section 15.1 <i>Neighbourhood Energy</i> , and Policy 15.1.1, Policy 15.1.2, and Policy 15.1.3, including Neighbourhood Energy systems description and False Creek Energy Centre image.
	Figure 15.1	Remove: Figure 15.1 <i>Neighbourhood Energy</i>
	Figure 15.2	Remove: Figure 15.2 <i>False Creek Energy Centre - How it works</i>
Cambie Corridor Plan (2011)	n/a	NEU amendments will be addressed in Phase 3 of the Cambie Corridor Planning program, currently underway with anticipated completion in 2018. Amendments will include the removal of connectivity requirements.
Norquay Village Neighbourhood Centre Plan (2010)	Section 4.3 <i>Kingsway Rezoning Policies</i>	Remove: No. 5 <i>Future Connections to Shared or Sustainable Energy</i> , under Policies

Note: Rezoning and development applications already in-process may elect to proceed under these amended policies provided that the developer demonstrates, to the satisfaction of the Director of Planning, that the development will achieve a greenhouse gas outcome equivalent to connecting to a low-carbon energy system.

Areas under active study for potential expansion of the City-Owned LCES:

