

# LOW CARBON ENERGY SYSTEM POLICY

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# ZERO EMISSIONS BUILDING PLAN

## GOALS:

- Real and durable GHG reductions
- Healthy, comfortable, efficient buildings
- Transform industry to zero emissions buildings

# ZERO EMISSIONS BUILDING PLAN

two pathways to real and reliable GHG reductions

## High Performance Buildings

- GHG limit achieved by minimizing heat loss through and energy use
- Enables simple heating system design

## Low Carbon Energy System

- GHG limit achieved by balancing efficiency with low carbon energy supply
- Enables use of more advanced technologies with professional operators



# LOW CARBON ENERGY SYSTEM POLICY

Supports required innovation

- Builds local industry capacity and demand for advanced energy system technologies such as heat pumps
- These technologies will be required to achieve zero emissions buildings
- Provides increased flexibility in building design
- Will help inform the most cost effective balance between efficiency and renewables

# LOW CARBON ENERGY SYSTEM POLICY

four low carbon system types

1. City-owned LCES
2. Utility-owned On-site or District LCES
3. User-owned LCES
4. Existing Utility-owned District Energy System

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## 1. City-owned LCES (e.g. SEFC NEU)

- Real and reliable low carbon outcomes achieved through City control and Council commitment

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## 2a. Utility-owned On-site LCES (e.g. Marine Gateway heat pump system)

- design verified to meet GHG limits
- System purchased and operated by a qualified utility ensures proper construction, commissioning and professional operation

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## 2b. Utility-owned District Scale LCES (e.g. for a large master planned site)

- Feasibility study of system design confirms it is capable of meeting development's GHG limit
- BCUC approval ensures system is vetted by external parties and provides regulatory oversight



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## 3. User-owned On-Site LCES (e.g. MC2)

- Design verified as meeting even higher GHG performance requirements
- Size of fossil fuel systems limited to meet only peak loads (coldest days)
- Extended warranties and funded optimization and maintenance contracts ensure system functions as designed

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4. Existing Utility-Owned District Energy Systems (e.g. Creative Energy or River District Energy)
  - Utility commits to low-carbon plant or connection when feasible
  - Utility demonstrates on-going progress towards low-carbon plant or connection
  - Utility commits to providing interim low-carbon energy (e.g. renewable natural gas)

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## NEU connectivity requirements

- Update policies and plans to eliminate mandatory connectivity requirements for new developments, except:
  - areas served by City-owned systems or under study for system expansion; and,
  - East Fraser Lands (ODP under review)
- Staff will apply new policies if currently in-development projects can demonstrate equivalent GHG outcome



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Four recommendations

- A) Approve LCES Policy
- B) Review and report back in 2 years
- C) Remove NEU connectivity requirements for new developments, except areas served by a City-owned system
- D) Remove connectivity requirements for in-progress developments (except areas served by a City-owned system) if equivalent outcomes achieved





# QUESTIONS