

# Sustainability and Resilience

The Broadway Plan offers a unique opportunity to explore new directions that will respond to the Climate Emergency Action Plan, build more connected communities, adapt to climate change, and advance neighbourhood energy.

## WHAT WE HEARD

In the future, the following are important considerations for sustainable buildings:

- » Energy efficiency and green space
- » Heating and cooling systems tied to renewable energy
- » Building systems and design: water systems (e.g. rainwater capture), green roofs, gardens and recycling options
- » Spaces and services shared between buildings

Most important features in new apartments and sustainable design:

- » Good indoor air quality
- » A quiet indoor environment, even on busy streets
- » Suite utility bills are stable and affordable

Other important sustainability features include:

- » Solar panels and other renewable energy systems
- » Access to electric forms of transportation and charging stations
- » Insulation and window functionality
- » Focus on renewable materials



Vancouver Climate Strike in 2019

On November 17, 2020, Council approved the Climate Emergency Action Plan to put Vancouver on track to reducing carbon pollution by 50% by 2030. This means change to the City, residents and local businesses on how we move, how we build and renovate to make it easier to live a carbon-free life.

## EMERGING DIRECTIONS

### *Climate Emergency Response*

- » Reinforce and seek to exceed the target of 90% of people living within an easy walk/roll of their daily needs by 2030.
- » Reinforce the 80% sustainable mode share target for the Broadway area by 2030.
- » Ensure all residents have access to near-home charging for electric vehicles by 2030.
- » Create new opportunities for zero operating emissions from buildings.
- » Advance low embodied carbon construction for buildings, e.g. match the requirements of the rezoning policy for site that develop under existing zoning.
- » Provide significant increases in ecosystem space, including new tree planting.
- » Advance individual actions in the Climate Emergency Action Plan, especially:
  - » Sustainable Mode Splits
  - » Advance near-zero emissions buildings in area plans, including allowances for simplified low-carbon building forms
  - » Design guidelines to integrate climate change and seismic goals
  - » Zero emissions areas
  - » Deep emission retrofits
  - » Explore feasibility of expanding City NEU service area

- » Accelerate active and equitable transportation network

### *Prepared, connected communities*

- » With a focus on equity, minimize the negative health and safety impacts of climate change on communities and maximize their preparedness

### *Climate change adaptation strategies*

- » Plan infrastructure to be robust across a range of future climate scenarios and minimize unintended rainfall related flooding and consequences
- » Built form should be designed for future climates, e.g. extreme rain, heat and drought, while providing cobenefits such as seismic resilience, energy efficiency, accessibility, cool streets and supporting health and well-being
- » Build healthy, vigorous natural areas and more green spaces

### *Other*

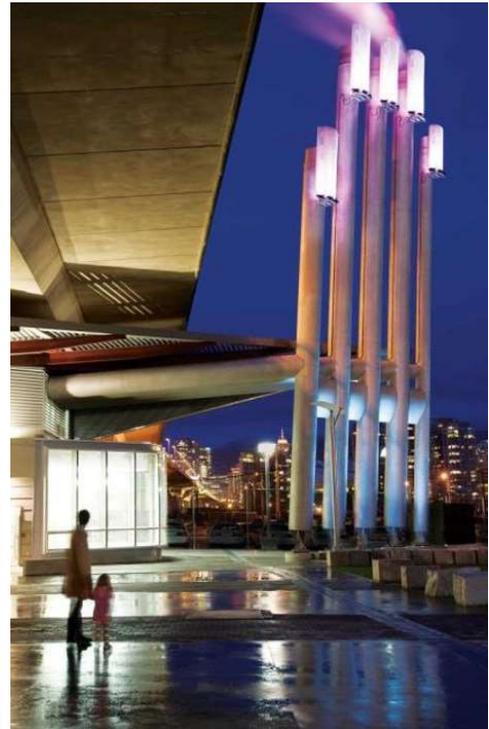
- » Ensure high air quality and thermal comfort within rental homes.
- » New buildings and infrastructure should be designed to minimize noise and air pollution risk for people on the street and in adjacent buildings

# Neighbourhood Energy Utility

Dense and mixed-use neighbourhoods are ideal candidates for low carbon neighbourhood energy systems. The economies of scale associated with such systems facilitate access to local renewable heat sources that would otherwise not be available to an individual building, such as excess waste heat from cooling (e.g. data centre) or waste heat from sewage. The City-owned low carbon Neighbourhood Energy Utility (NEU) supplies thermal energy for heating and hot water to over 6 million square feet of development in the False Creek area. The current target for the NEU is to derive 70% of energy from renewable sources, with a long term goal of securing 100% renewable energy outcomes for its connected buildings.



Inside the Neighbourhood Energy Utility



Neighbourhood Energy Utility stacks at night

## EMERGING DIRECTIONS

- » Evaluate feasibility for expansion of the low carbon Neighbourhood Energy Utility service into areas of opportunity
- » Explore policy tools to encourage generators of excess waste heat to locate within the Neighbourhood Energy Utility service area
- » Pursue waste heat recovery and other potential resource recovery opportunities with local businesses
- » Facilitate and preserve opportunities to access the significant amount of waste heat available in the 8th Avenue sewage main