



RENEWABLE CITY

ACTION PLAN



OVERVIEW

A clean energy future for Vancouver means a city entirely powered by renewable energy before 2050, producing at least 80 per cent less carbon pollution than 2007 levels.

The Renewable City Action Plan (RCAP) is our 10-year roadmap to get closer to that future. It contains our guiding principles, mid- and long-term targets, and specific actions.

With RCAP, we will first and foremost improve energy efficiency, so we're

using less to begin with. Then, we will move to using more renewable energy in our buildings and transportation; the two sectors that produce the most carbon pollution. Finally, we will look to increase the supply of renewable energy through opportunities such as solar power and producing renewable natural gas from solid waste.

A clean energy future means cost savings, clean air, a healthy environment, and a strong, vibrant economy for Vancouver residents and businesses.

Renewable energy is energy that is naturally replenished as it is used, such as solar and wind power, hydroelectricity, geothermal, tidal, sustainable biofuels, sewer heat, or renewable natural gas (biomethane).

- **HEALTH:** Lifestyles become healthier with more options for walking and cycling. Air quality is improved as we move to a renewable energy future and more vehicles are powered by electricity instead of fossil fuels.
- **ENVIRONMENT:** Energy efficient buildings, zero emissions vehicles, and low-carbon neighbourhood energy utilities are renewable city examples that will reduce carbon pollution and improve air quality.
- **ECONOMY:** As a renewable city, Vancouver will attract investment and innovation, create jobs, and grow the economy by fostering a clean tech sector and businesses that thrive on renewable energy and energy efficiency. Figuring out the best solutions locally will position our businesses to help other jurisdictions move in the same direction.

RCAP Targets

2007

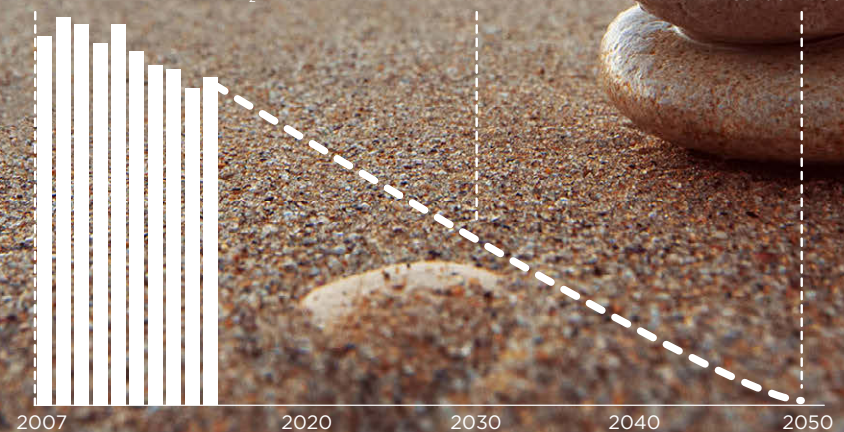
Vancouver's
Carbon Pollution
2.85 million tonnes CO₂e

By 2030

Interim Targets
Renewables: 55%
Carbon: -50%

By 2050

Long-term Targets
Renewables: 100%
Carbon: -80%



WE CAN DO THIS

Vancouver is known internationally as a sustainable city that values environmental protection, innovation, and green technology. For residents, access to nature, clean air and water are high on the list of what makes Vancouver home.

The goal of a 100 per cent renewable Vancouver is built on a strong foundation of success. From the Clouds of Change Report (adopted in 1990) to the Greenest City Action Plan (adopted in 2011), the groundwork has been laid for reducing our dependence on fossil fuels. Vancouver has made great strides, reducing our community-wide carbon pollution by 11 per cent between 2007 and 2016, even while our population and economy grew.

Collectively, we have already accomplished a great deal to ensure Vancouver is moving the dial on climate action. However, even with the past success, our actions to date are not resulting in a fast enough transition to renewable energy. We now need to accelerate our approach and add bold actions to ensure we meet the commitment of a renewable city.

Already, you can see many renewable city examples starting to pop up around Vancouver. There are a growing number

of Passive House buildings – a super energy efficient building standard. There are now over 2,000 electric vehicles in the city and many more anticipated as the cost of the technology decreases and range increases.

We are building our renewable city now by:

- Improving energy efficiency in buildings through green building policies, bylaws, plans, and design standards, which have made Vancouver a leader in energy efficient building standards.
- Investing in active transportation infrastructure to improve options for moving around the city, which has resulted in more than 50 per cent of all trips being taken by foot, bike, or transit.
- Increasing home, workplace, and public charging networks to support the growing number of residents considering an electric vehicle.
- Building a low carbon Neighbourhood Energy Utility, which we will be expanding to serve other neighbourhoods. Last year, the Neighbourhood Energy Utility, displaced 3,500 tonnes of carbon pollution.

This plan is about choice. It gives people more choices to keep their homes and businesses comfortable and move around the city without relying on fossil fuels. Through better transit, safer walking and cycling infrastructure, and more electric vehicle charging stations, more transportation options will be available.

PRINCIPLES

We have adopted ten principles that will provide direction and ensure the transition to a low carbon future is equitable, delivers choice, and is cost effective.

A JUST TRANSITION

LEAD BY EXAMPLE

ADAPT TO CHANGING CIRCUMSTANCES

The challenges and opportunities we face today, and the available solutions will shift over time. We will design our actions to be adaptive to these shifting contexts.

LEVERAGE NATURAL STOCK TURNOVER

Take advantage of the most convenient and cost-effective times to reduce fossil fuel use – like during improvements or replacements.

ENGAGE AT EVERY STEP

REDUCE CARBON POLLUTION

EQUITABLE ACCESS TO SOLUTIONS

REDUCE COSTS

Many of these solutions are already cost-effective. New actions will be designed to make it even more affordable for Vancouver residents and businesses to use energy more efficiently and switch to renewable energy solutions.

INCREASE CHOICE

New actions will be designed to give more options to reduce reliance on fossil fuels. Many already exist, and we will do more to make them available, grow the range of choices, and resolve barriers to provide better access to service.

SEEK PARTNERSHIPS

Read the full Renewable City Action Plan at vancouver.ca/renewablecity for a description of all 10 principles.



A PLAN OF ACTION

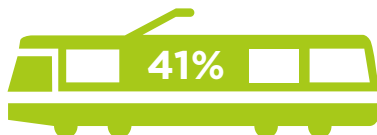
The 77 actions in the RCAP will be rolled out over the next 10 years.

The following pages provide highlights of how carbon pollution from buildings, transportation, and waste will be addressed.

SOURCES OF VANCOUVER'S CARBON POLLUTION (2016)



BUILDINGS



TRANSPORTATION



SOLID WASTE

An economic modelling study, which explores a variety of scenarios shows that the Renewable City objectives are achievable. By using energy as efficiently as possible, we can save money at the same time.

WHAT A RENEWABLE CITY WILL LOOK LIKE

High-performance buildings will be less drafty, more comfortable, and will reduce your monthly utility bills. When getting around the city, there will be better options to walk and bike safely, more buses and rapid transportation options, and many locations to charge electric vehicles. All of this will lead to cleaner air and less noisy streets.

Electricity will continue to be predominantly hydroelectric, plus you will notice more solar panels on rooftops, heat pumps in buildings, and energy utilities in neighbourhoods generating heat and power right where you need it.

Many of your friends, family, and neighbours will be working in Vancouver's growing innovative clean tech and renewable energy sector, as more green capital is attracted to Vancouver.

We want to be your partner in making forward-looking energy decisions that will help Vancouver and benefit us all. We will continue to share information and resources, and will be looking for your input as we move forward.

VANCOUVER'S CHANGING ECONOMY

Vancouver is well positioned to increase its economic diversity and encourage local innovation for a stronger, more resilient economy. Local innovation can be shared internationally, as renewable energy generation is set to define the economy of the future, and our leadership will be an asset moving forward.

RENEWABLE CITY, LOWER COST

This plan helps us spend less on energy to keep our homes and offices comfortable, and to move us around the city.

Renewable energy is becoming more affordable, and projections show this trend will continue.

The successful implementation of this plan means Vancouver households will save nearly \$600 a year in home and transportation energy costs by 2030, and nearly \$1,000 by 2050 while enjoying a quieter, healthier, and more resilient city.

For more information, read the Renewable City Action Plan Economic Modeling Results at vancouver.ca/renewablecity



BUILDING ACTIONS

- Improve energy efficiency and transition to renewable energy in new buildings. **7 ACTIONS**
- Improve energy efficiency and transition to renewable energy in existing buildings. **9 ACTIONS**
- Increase low carbon neighbourhood energy systems. **7 ACTIONS**



ACTIONS -TO- IMPROVE ENERGY EFFICIENCY OF BUILDINGS AND TRANSITION TO RENEWABLE ENERGY

By 2050, nearly half of Vancouver's buildings will have been replaced with zero-emission buildings. The remaining buildings will have undergone deep retrofits to bring their energy performance up to the standards expected of new construction, or have been connected to one of Vancouver's neighbourhood renewable energy systems.

Over half of Vancouver's carbon pollution comes from energy use in buildings. Improving the energy efficiency of our homes and workplaces will make a significant difference.

This transition will be gradual and planned. It builds on the work already done to green Vancouver's buildings. The focus on low carbon and energy efficient buildings means improved air quality and comfort, which will benefit occupants and the environment.

This plan identifies 27 new actions that will make homes and workplaces more comfortable and less expensive to heat and cool in the long-term.

EXAMPLE RCAP ACTIONS

- Continue to implement key policies like the Zero-Emissions Building Plan, which improves energy efficiency, reduces heat loss, and cuts carbon pollution.
- Develop incentives for building retrofits, and streamline the process so that renovations, which encourage deep energy savings, are easier to do.
- Continue to expand and develop neighbourhood energy utilities, which recover heat from sewage and other renewable sources, to provide more buildings with zero-emissions heat and hot water.

For a full list of RCAP actions, visit vancouver.ca/renewablecity



TRANSPORTATION ACTIONS

- Use land-use and zoning policies to develop compact communities and complete streets. **6 ACTIONS**
- Improve transit services. **4 ACTIONS**
- Transition vehicles to electric, plug-in electric, or biofuel powered. **14 ACTIONS**
- Develop car-sharing and regional mobility pricing. **2 ACTIONS**
- Better manage commercial vehicle journeys and transition commercial vehicles to sustainable fuels. **4 ACTIONS**



ACTIONS
-THAT-
MAKE IT EASIER TO TRAVEL
BY
FOOT, BIKE, TRANSIT, AND LOW CARBON VEHICLES

The Broadway Corridor stretches from Commercial Drive to UBC connecting people to jobs and innovation hubs in our region. It is North America's busiest bus route, and current services are not able to keep up with demand. Creating the Broadway Subway is Transportation 2040's top priority, and will cut carbon pollution and improve air quality.

Vancouver is still growing. How we move around and access amenities in our neighbourhoods are big considerations as we continue to design our city. The 30 transportation-related actions outlined in RCAP align with the City's Transportation 2040 plan, aiming first to improve transportation options and reduce car dependency, and then support electric vehicles.

EXAMPLE RCAP ACTIONS

- Optimize the road network to manage congestion, improve safety, and prioritize green transportation.
- Improve transit services and convert public transportation options to run on renewable energy sources. This will require expanding and upgrading the transit system, including extending the SkyTrain system, and switching buses away from diesel.
- Continue to build out the public electric vehicle charging network. By 2021, there will be a 'fast charger' within a 10 minute drive of everyone in the City.
- Ensure that electric vehicles can be charged at all new residential parking stalls.
- Implement a preferential parking policy to encourage the use of zero emissions vehicles in place of fossil fuel vehicles.

For a full list of RCAP actions, visit vancouver.ca/renewablecity



Methane is a powerful contribution to climate change, which is produced as organic waste decomposes. We collect 75 per cent of the methane from the Vancouver Landfill. Once cleaned, it becomes a renewable form of natural gas, ready for use.

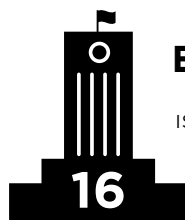
See photo opposite: Methane gas capture at Vancouver Landfill

WASTE AND CROSS-CUTTING ACTIONS

- Waste actions focus on reducing waste and turning it into renewable energy. **4 ACTIONS**
- Cross-cutting actions focus on building partnerships, tracking results, and leading by example in the City's own operations. **16 ACTIONS**



**ACTIONS
-TO-
REDUCE
WASTE**
AND GENERATE
RENEWABLE ENERGY
FROM WASTE



**ACTIONS
-TO-
ENSURE OUR
PROGRESS**
IS COLLABORATIVE AND
MEASURABLE AND
**CITY
OPERATIONS**
LEAD THE WAY

WASTE

Achieving our zero waste goals means consuming less stuff. This will reduce our overall energy demand, as less energy will be used in the creation, processing, packing, and transportation of goods. Along with reducing material waste, the waste decomposing in our landfill is a potential renewable energy source.

EXAMPLE RCAP ACTIONS

- Carry out a comprehensive Zero Waste Strategy for Vancouver.
- Continue to work with FortisBC to upgrade methane gas from the Vancouver Landfill to renewable natural gas.
- Evaluate other opportunities to produce biofuels from Vancouver wood waste and other potential waste streams.

CROSS-CUTTING

Vancouver's success as a renewable city depends on strong partnerships between all levels of government, businesses, utilities, and community groups. This section identifies ways that we can coordinate engagement, green our operations, and better track data to inform future actions.

EXAMPLE RCAP ACTIONS

- Continue to expand our public and stakeholder engagement around the Renewable City Strategy to increase understanding, support, and participation.
- Assess the sources of carbon pollution that are not currently reflected in our reporting framework, for example those from the production and movement of food and consumer goods.
- Develop and implement a corporate carbon pricing policy that builds on the leadership shown by Metro Vancouver.

For a full list of RCAP actions, visit vancouver.ca/renewablecity

GET INVOLVED

With RCAP as a roadmap, Vancouver will be a city that is sustainable, resilient, green, and built to last. We are a city of leaders, entrepreneurs, makers, and cultural creatives. We are surrounded by a rich and vibrant environment that we will celebrate and enjoy now and in the future.

Vancouver's transition to a renewable city will require on-going action that builds on past progress from all levels of government, utilities, and industries. Success will be due to the drive, energy, engagement, and collective action of our partners, residents, and businesses.

Vancouver's citizens and communities have a critical role to play in the success of this plan. Discover how you can help build Vancouver's green and renewable future at vancouver.ca/greennews

Have questions or ideas about Vancouver's goal to transition to 100 per cent renewable energy before 2050? Let's talk. vancouver.ca/100REtalks

Vancouver is leading the fight against climate change so that our kids and grandkids have a safe and healthy environment. We're already paying for the impacts of climate change. Investing in this plan now minimizes the costs in the years ahead.



For More Information:

Visit: vancouver.ca

Phone: 3-1-1 TTY: 7-1-1

Outside Vancouver: 604-873-7000

Hỏi chi tiết **Obtenga Información**

資料查詢 **ਜਾਣਕਾਰੀ ਲਵੋ** **3-1-1**