

CLIMATE ACTION IN BRITISH COLUMBIA

2014 PROGRESS REPORT





B.C. is continuing to work towards an economy that is prepared for climate change, and helping to reduce greenhouse gas emissions on a global scale.



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Climate action helps to create future opportunity, and build a green economy that will support a resilient and prosperous future for British Columbia.



Message from the Minister of Environment



Tackling climate change is the challenge of our time. The urgency to act has been reaffirmed in the Intergovernmental Panel on Climate Change's recent Fifth Assessment Report, in the U.S. National Climate Assessment and by the early effects of climate change, happening both here in B.C. and around the world. B.C. is continuing to work towards an economy that is prepared for climate change, and helping to reduce greenhouse gas emissions on a global scale.

Six years ago, B.C. launched a suite of ambitious measures in its Climate Action Plan, and set legislated targets for greenhouse gas emissions. The targets allow B.C. to assess whether policies and programs are delivering the transition needed to meet our climate goals and readjust efforts if needed.

I am pleased to report that the most recent emissions data show that B.C. has achieved its first interim target of a 6% emissions reduction below 2007 levels by 2012. This has been accomplished through the efforts of all British Columbians, businesses and levels of government. Investment in greenhouse gas reduction projects from forest management, which have mainly been purchased as offsets for government operations, have also been essential in helping B.C. to get to the target.

Offsets help to enable continued economic and population growth in a carbon-constrained world by investing in the lowest cost emissions reduction opportunities across the province.

We have attained our first target and more action is needed to continue moving toward our longer-term goals. B.C. will continue the internationally recognized leadership it began with the Climate Action Plan, including new actions that will help to further reduce emissions. Climate action helps to create future opportunity, and build a green economy that will support a resilient and prosperous future for British Columbia.

HONOURABLE MARY POLAK
MINISTER OF ENVIRONMENT



Attaining the 2012 Interim Target

B.C. HAS REACHED ITS INTERIM GREENHOUSE GAS TARGET OF A 6% REDUCTION BELOW 2007 LEVELS BY 2012.

This is a major milestone that marks the success of the 2008 Climate Action Plan and represents the first step in a longer journey toward achieving 2020 and 2050 targets.

That B.C.'s emissions have remained relatively stable during the economic recovery rather than resuming their prior growth path is a major success. It indicates that the recession alone was not the cause of B.C.'s emissions reductions, and that policy, behaviour change, and efficiency are having an impact.



B.C.'S LEGISLATED GREENHOUSE GAS TARGETS

- » 33% below 2007 levels for the 2020 calendar year.
- » 80% below 2007 levels for the 2050 calendar year.

Interim Targets

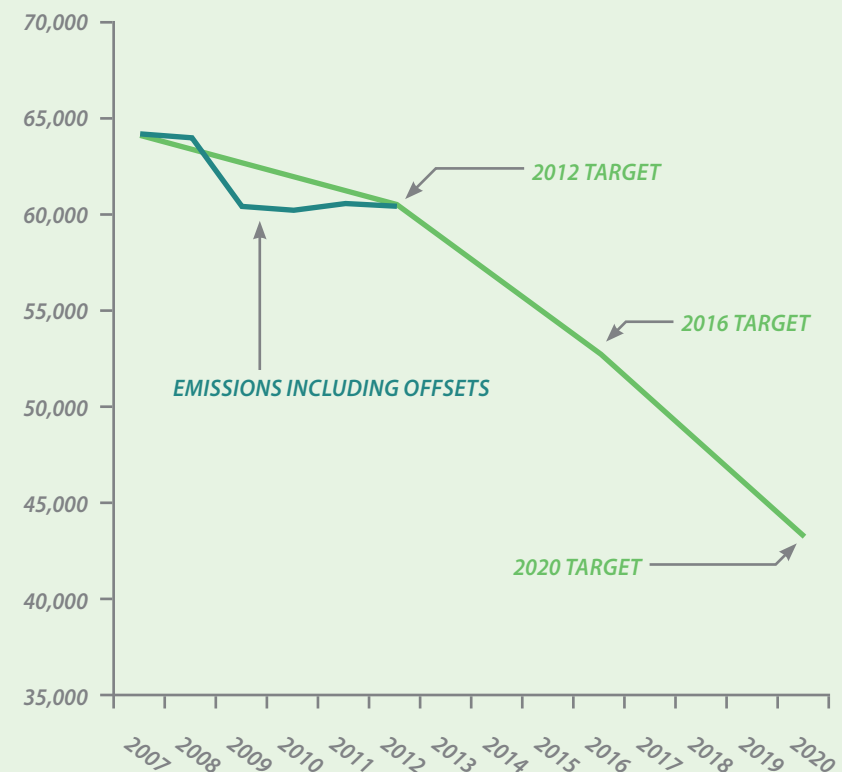
- » 6% below 2007 levels for the 2012 calendar year.
- » 18% below 2007 levels for the 2016 calendar year.

THIS RESULT WAS ACHIEVED THROUGH:

- » A range of leading policies and actions to both reduce and store greenhouse gases;
- » Some emissions reductions resulting from events outside B.C.'s control, such as the global economic downturn; and
- » Investment in forest management emissions reduction activities that improve our forests and create offsets that are counted toward targets.

B.C. GREENHOUSE GAS EMISSIONS 2007–2012 (RELATIVE TO TARGETS)

B.C. EMISSIONS
(THOUSANDS OF TONNES)



STRONG ACTION TO REDUCE GREENHOUSE GAS EMISSIONS

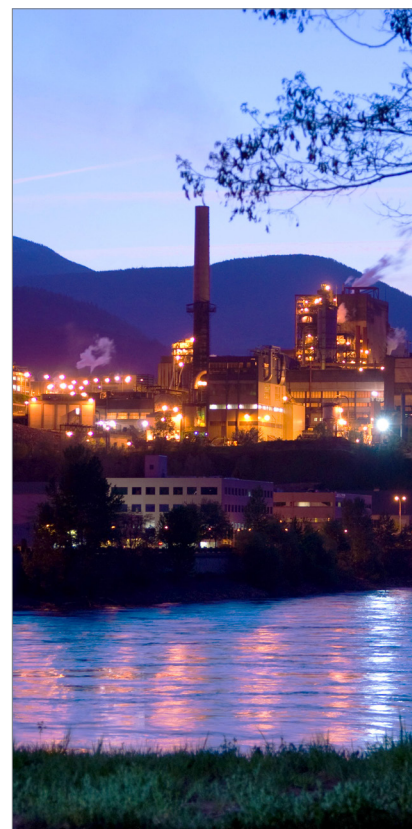
- » The revenue neutral carbon tax remains the most comprehensive and ambitious of its kind in North America, establishing a model for other jurisdictions around the world. New jurisdictions are introducing carbon pricing every year, most recently Mexico and France.
- » B.C.'s public sector is leading by example, with 2013 being the fourth year in a row that it has achieved carbon neutrality. Government buildings are able to showcase examples of clean energy solutions for hundreds of thousands of British Columbians when they access government services, go to work or attend school.
- » Actions in every sector have helped people, communities and businesses reduce their emissions and their costs, while helping communities prepare for evolving climate conditions over the coming decades. B.C.'s Clean Energy Vehicle Program, municipal landfill waste diversion programs, solutions to increase home energy efficiency, and tools and guidance on preparing for sea level rise, to name a few, have made a difference, and will continue to help reduce emissions and enhance community resilience over time.

- » B.C. is working with other jurisdictions through partnerships such as the Pacific Coast Collaborative to move forward innovative climate actions in a range of areas such as carbon pricing, clean fuels and clean energy vehicle deployment. Continued momentum in global action on climate change has been taking place with new carbon pricing systems, new partnerships, and new programs.

B.C.'S TARGETS ARE BASED ON A BROAD SCOPE OF EMISSIONS TYPES

B.C.'s total emissions are based on provincial-level sources and data collected by Environment Canada for the National Inventory Report (NIR). B.C. includes net deforestation emissions in the provincial emissions total and makes adjustments to individual line items where better data is available at the provincial level.

British Columbia's total emissions in 2012 add up to 61.5 million tonnes CO₂e, and with offsets from forest management projects, the total is 60.5 million tonnes CO₂e for a net reduction of 6.0% since 2007.



EMISSIONS ACCOUNTING — 2012 TARGET

B.C. GHG EMISSIONS (KILOTONNES)

	2007 EMISSIONS	2012 EMISSIONS
NATIONAL INVENTORY REPORT (NIR)	61,903	60,106
PROVINCIAL INVENTORY REPORT (PIR)	64,318	61,500
PIR + OFFSETS	64,318	60,487

SEQUESTRATION OF CARBON DIOXIDE THROUGH IMPROVED FOREST MANAGEMENT CONTRIBUTED TO THE ACHIEVEMENT OF THE INTERIM TARGET.

Forests are a major factor in determining greenhouse gases in the atmosphere, and can either emit or store carbon dioxide. While B.C. counts net deforestation in its targets, under international greenhouse gas accounting rules, CO₂ emissions and storage related to the health, composition and management of standing forests are not included in greenhouse gas inventory totals because of emissions volatility from natural forces such as pests and fires. As a result, forest management emissions are out of scope for B.C.'s emissions totals in the provincial inventory.



Projects that improve a forest's ability to store carbon do have a measurable effect on emissions. For example, the Great Bear Rainforest initiative reduces emissions and increases carbon sequestration by creating protected areas from forest previously available for commercial harvest, and imposing forest cover constraints in those areas still available for harvest.

British Columbia's extensive forests provide opportunities to reduce, through improved forest practices, the greenhouse gases flowing to the atmosphere. This is one of the most substantial options available in this province to mitigate climate change, while improving the quality of our forests and providing economic opportunity to forest-dependent communities.

To recognize this kind of emissions reduction activity, it is policy in B.C. to include emissions reductions realized through these forest management offsets as a reduction in the emissions totals that make up our progress to targets. Only those emissions reductions or sequestration projects that are appropriately quantified, verified by qualified third parties and procured according to the Emissions Offsets Regulation have been counted toward targets.

POLICIES IN PLACE HAVE GENERATED RESULTS ACROSS A RANGE OF SECTORS. WE HAVE DONE WELL, BUT HAVE MANY CHALLENGES TO FACE, AND MORE ACTION WILL BE NEEDED TO MOVE FROM EACH TARGET TO THE NEXT.

Real emissions reductions have been achieved through strong action on climate change, particularly by avoiding new emissions and preventing emissions from rebounding as the province's economy recovers. B.C.'s emissions have stabilized below 2007 levels. With current policies remaining as they are, B.C. greenhouse gas emissions may begin to increase.





British Columbians recognize that there are pressures pushing upward on emissions. Population is forecast to increase; economic opportunity will drive significant new potential emissions sources before 2050; and, in some sectors, British Columbia still has not yet succeeded in curbing emissions growth.

Some Climate Action Plan policies, such as the Landfill Gas Management Regulation, and net-zero greenhouse gas electricity, are scheduled to come into force in 2016 and will contribute to further emissions reductions. These alone will not allow us to reach the targets. Some policies lose effectiveness over time if they are not updated. For example, the carbon tax impact effectively diminishes if the rate remains unchanged, as inflation dampens the price signal.

Some emissions sources will require more or different attention as their growth patterns change. Other jurisdictions, including Alberta, have recognized the growing problem of non-combustion emissions, such as vented emissions in the natural gas sector, and have included them in their core emissions control and pricing mechanisms.

British Columbia has affirmed that climate action will require ongoing effort, including new actions. Emissions will continue to go up in some years and down in others, and policy will need to adjust to keep us on the longer-term emissions reduction trajectory.



"... More will need to be done. The challenge will be to continue finding innovative ways to reduce our emissions over time."

**MAKING PROGRESS ON B.C.'S
CLIMATE ACTION PLAN 2012**

"We know that we will need to be undertaking continued reductions in emissions if we are going to meet the targets out in front of us ... we would need to continue to press for new innovations and new initiatives as we go forward."

**HON. MARY POLAK,
2014 ESTIMATES DEBATE**

"Climate change is the challenge of our generation, and meeting that challenge will require long-term commitment. As we move forward, the government will update and advance this Climate Action Plan, building on the firm foundation laid during Phase One."

CLIMATE ACTION PLAN 2008

Real Outcomes for British Columbians

Climate action provides economic opportunities for communities and business to increase efficiency, reduce costs, drive innovation and develop green solutions for export. Climate actions provide access to technology, help build liveable communities, and have increased the options available for how we can run our lives and businesses sustainably.

A CLEAN ECONOMY

BY 2015, 239 NEW COMPRESSED NATURAL GAS & 123 LIQUEFIED NATURAL GAS MEDIUM & HEAVY DUTY VEHICLES WILL BE DEPLOYED THROUGH FORTISBC PROGRAMS



LEADING TO MORE THAN A 20% GREENHOUSE GAS IMPROVEMENT OVER THEIR DIESEL COUNTERPARTS



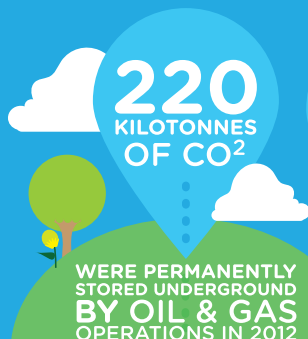
FROM 2007 TO 2012 B.C. REAL GDP WENT UP BY 6.1%

WHILE

GREENHOUSE GAS EMISSIONS WENT DOWN



220
KILOTONNES OF CO₂



WERE PERMANENTLY STORED UNDERGROUND BY OIL & GAS OPERATIONS IN 2012

HIGHEST
PER CAPITA
CLEAN-TECH
JOBS IN CANADA



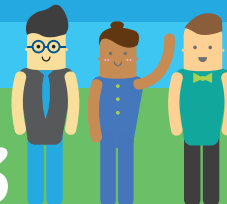
FROM 2008 TO 2013
4,460 GWh
OF ELECTRICITY SAVED
= 80,444,611
INCANDESCENT BULBS
SWITCHED TO CFLs

EFFICIENT AND LIVABLE COMMUNITIES



23% OF BRITISH COLUMBIANS COMMUTED BY ACTIVE OR PUBLIC TRANSIT IN 2011 UP FROM 21% IN 2006

1 IN 3



BRITISH COLUMBIANS LIVES IN A COMMUNITY WHERE THEIR LOCAL GOVERNMENT HAS CARBON NEUTRAL OPERATIONS

950



CLEAN ENERGY VEHICLES WERE PURCHASED IN B.C. THROUGH THE CLEAN ENERGY VEHICLE PROGRAM

975

ELECTRIC VEHICLE CHARGING STATIONS HAVE BEEN INSTALLED IN 77 B.C. COMMUNITIES

LIVSMART ENERGY EFFICIENCY RETROFIT PROGRAM PARTICIPANTS SAVE

15% TO 28%

ON THEIR ENERGY BILLS AFTER COMPLETING THE PROGRAM



64%

OF B.C.'S POPULATION WILL HAVE ACCESS TO ORGANIC WASTE DIVERSION PROGRAMS BY 2015



SINCE 2007

29%

OF NEW CANADIAN LEED GOLD & PLATINUM BUILDINGS HAVE BEEN BUILT IN B.C.

49% OF THOSE ARE PUBLIC SECTOR BUILDINGS

Progress in Managing Climate-Related Risk



NEW REPORTS PROVIDE STRONGER EVIDENCE THAT CLIMATE CHANGE IS BECOMING INCREASINGLY DISRUPTIVE, AND LACK OF PREPAREDNESS IS A MAJOR LONG-TERM RISK FACTOR.

The 2014 report of the Intergovernmental Panel on Climate Change confirms that ‘many climate stresses that carry risk — particularly related to severe heat, heavy precipitation and declining snowpack — will increase in frequency and/or severity in North America.’ The 2014 U.S. National Climate Assessment warns that in the Pacific Northwest:

- » Reduced summer water supply will have far-reaching ecological and socioeconomic consequences;
- » Sea level rise and increasing ocean acidity pose major threats to coastal habitat and infrastructure;

- » Increasing wildfire, insect outbreaks and tree diseases will transform forest landscapes; and
- » Agriculture will struggle with the cost of managing for reduced water and other climate risks.

Both reports conclude that while governments and the private sector have developed plans to manage these and other climate-related risks, they have been slow to implement these plans.

BRITISH COLUMBIA HAS THE KNOWLEDGE AND TOOLS IN PLACE TO PREPARE FOR CLIMATE CHANGE IMPACTS.

In 2010, government released *Preparing for Climate Change: British Columbia's Climate Adaptation Strategy*, a plan to:

- » Increase knowledge about climate change and its impacts on key economic sectors, and government programs and services; and
- » Produce tools to help governments, businesses, and communities find out how climate change will affect them, and what they can do now to prepare.

Government has delivered on both goals, in partnership with business, non-governmental organizations, researchers and other governments.

- » Climate change assessments for the agriculture, forestry, mining and hydroelectricity sectors identify climate-related risks and actions that can help these sectors prepare for climate change.
- » The new *Water Sustainability Act* will protect aquatic ecosystems during times of water scarcity, and allow water for essential household use during droughts.



- » Guidance on sea dike design and coastal development will enable local governments and qualified professionals to protect people, buildings and infrastructure from sea level rise.
- » Guidance on tree species selection and reforestation will help ensure that future forests are resilient to future damage from fire, pests and disease in a changing climate.
- » A suite of tools will help local governments manage climate-related risk in water and watershed planning, land-use planning, infrastructure development and management, urban forest management, flood hazard management, and other business areas.



GOVERNMENT MINISTRIES, COMMUNITIES AND BUSINESSES IN B.C. HAVE BEEN TAKING ACTION.

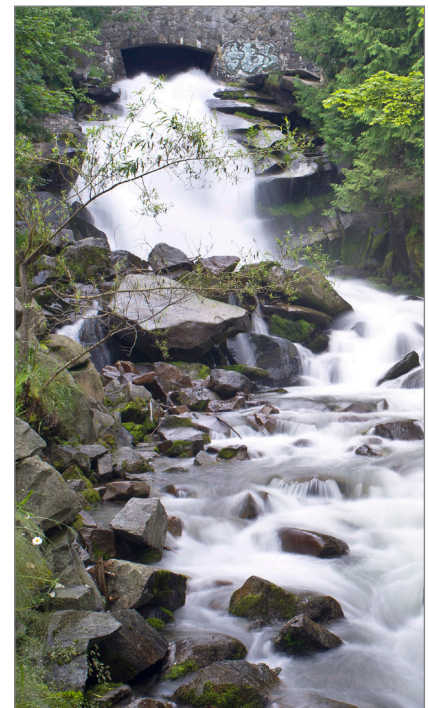
Decision-makers are using the knowledge and tools developed over the past five years to make changes on the ground — changes that mean British Columbia is better prepared for the impacts of climate change.

- » Provincial ministries are taking climate change into account in designing and maintaining highways, managing parks and forest landscapes, and financing agricultural innovation.
- » 26 local governments in British Columbia are planning ahead for climate change; some have already started to implement their plans.
- » The agriculture sector is implementing pilot programs to help farmers in Cowichan, Delta, and the Peace region prepare for climate change.

FUTURE WORK WILL BUILD ON THE SUCCESS OF THE LAST FIVE YEARS AND INCREASINGLY MOVE FROM CLIMATE RISK MANAGEMENT PLANNING TO IMPLEMENTATION.

Government will manage climate-related risk to provincial assets and services, support the evolution of knowledge and tools, and establish policies that enable local governments and business to manage their own risk.

Future success depends on action by all levels of government, the private sector and civil society. The goal is a resilient British Columbia that continues to thrive in a changing climate.



Moving Forward on Climate Action



Meeting long-term climate action objectives will require many phases of effort over time. The most recent phase, laid out in the Climate Action Plan, has established the foundation and helped B.C. reach its first greenhouse gas reduction target. B.C.'s Adaptation Strategy has provided the knowledge and tools for British Columbians around the province to begin to manage the risks they face.

All of the steps to 2050 are not yet clear, but government has laid out a vision in *Growing Green Jobs: B.C.'s Green Economy Update 2014* of what a sustainable, prosperous, clean and resilient B.C. that has met the 80% greenhouse gas reduction target would look like:

- » A transportation system that reduces distances driven and is powered by the cleanest possible energy option.
- » Efficient buildings and communities that use clean energy without waste.
- » A forest sector with more trees that are growing faster and living longer.
- » An innovative waste system with full recycling and composting, and complete landfill gas capture.
- » Electricity that's 100% clean.
- » Environmentally sensitive industries that are efficient, use clean energy and capture their own emissions.
- » Households, businesses and communities that are prepared for and minimize the costs of climate change impacts.

British Columbia will continue to adjust to changing circumstances over time. New economic opportunities will arise. New emissions sources will emerge. New options to mitigate greenhouse gas emissions will be adopted. Emissions will go up and down. Climate change impacts will increasingly be felt. There remain big challenges. B.C.'s commitment to having the world's cleanest LNG facilities is world-leading, but will still bring about an overall emissions increase for the province.

We can choose how to anticipate and respond to the opportunities and challenges before us. There are tools available to help to manage the emissions challenge: emissions benchmarks; technology funds; and offsets are all ways to allow for clean economic development while enabling emissions reductions in other parts of the economy.

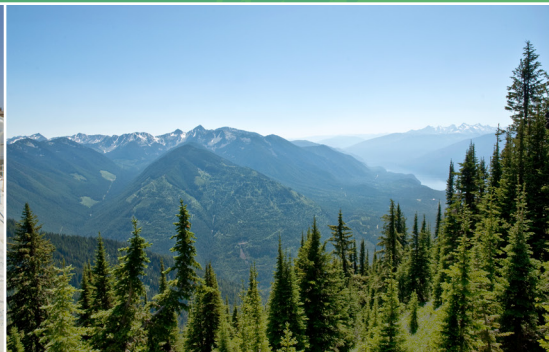
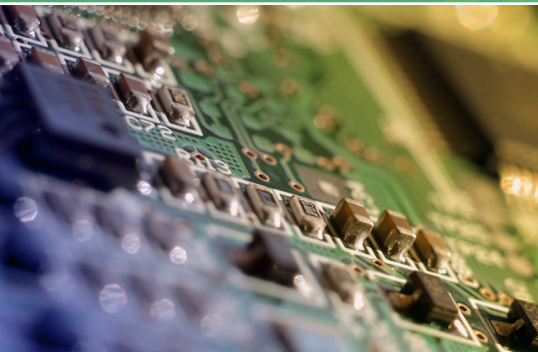
The 2050 outcomes will require continued effort over the next decades. New actions will address today's hurdles, take B.C. one step further toward our goals and expand the range of choices available for the next big decisions on climate action. They will stimulate economic activity and create jobs. They also solidify B.C.'s climate action leadership, encouraging other jurisdictions to take more action on climate change. Achieving the 2050 vision for a clean, resilient and innovative B.C. is within our power.



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Ministry of
Environment