

# Discussion Paper

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CLIMATE LEADERSHIP PLAN  
*JULY 2015*





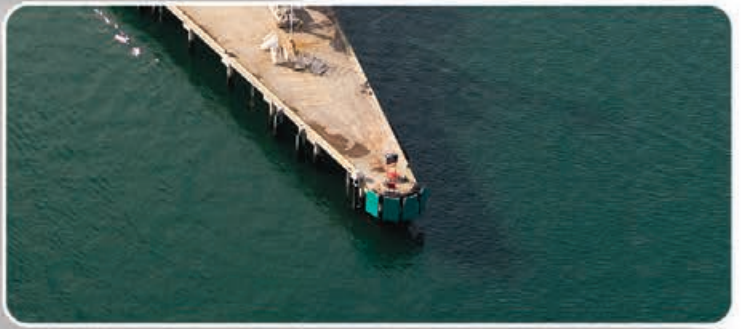
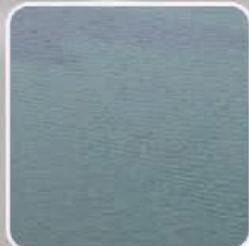
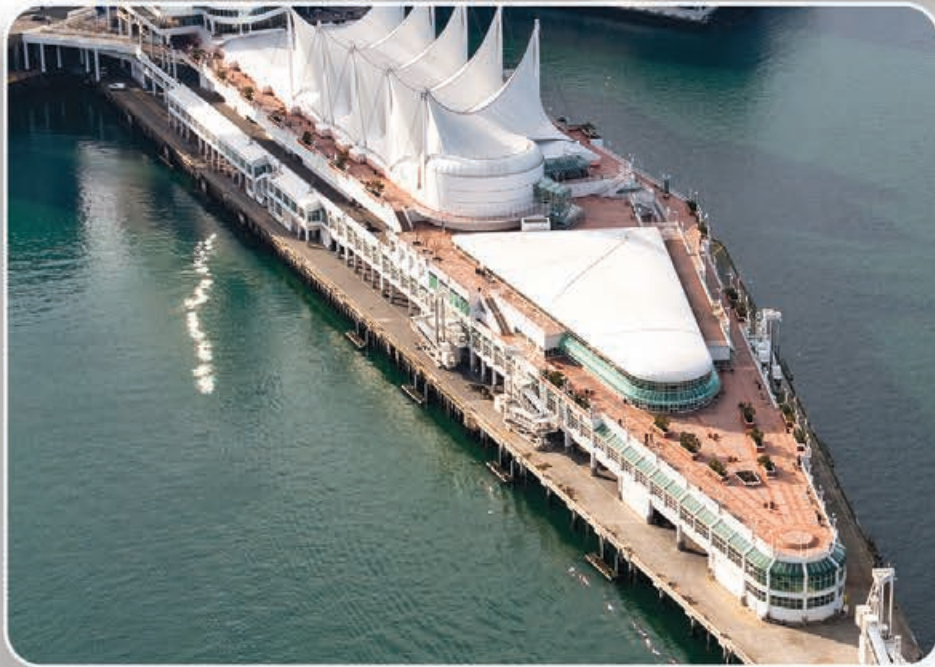


GOVERNMENT WELCOMES YOUR FEEDBACK ON THIS PAPER FOR A ONE-MONTH CONSULTATION PERIOD, FROM JULY 17, 2015 TO AUGUST 17, 2015.

*To share your views on the discussion paper:*

- » Review the questions in this document and how they fit within the four goals regarding how we live, travel, work and what we value.
- » Click on **Take the Survey** to submit your feedback: [engage.gov.bc.ca/climateleadership/](http://engage.gov.bc.ca/climateleadership/)
- » Organizations who wish to send additional information can email: [climateleadershipplan@gov.bc.ca](mailto:climateleadershipplan@gov.bc.ca)

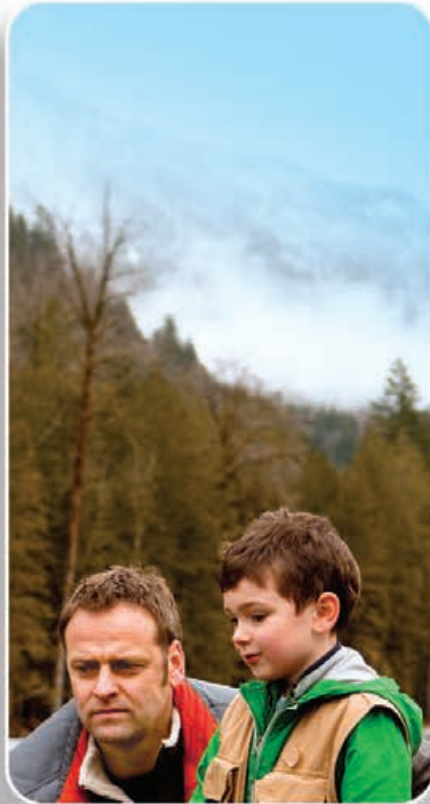




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# Message from the Minister of Environment

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B.C. has reached significant milestones in addressing climate change. In 2007, we set our greenhouse gas reduction targets based on the findings of the Intergovernmental Panel on Climate Change, the world's

foremost authority on the subject, drawing on the expertise of more than 2,500 scientists.

We introduced North America's first revenue-neutral carbon tax and have achieved carbon neutral government every year since 2010. These initiatives are putting us on a path to a low-carbon future for B.C.

Since setting our targets, much has been accomplished. We achieved our first emission reduction goal, 95 per cent of communities are making progress on climate action commitments, and B.C. has seen a 48 per cent growth in clean technology sales. More than 200 B.C. companies operating in this sector generate over \$2.5 billion in annual revenues.

It's now time to strengthen our collaboration and efforts with business and community leaders who are developing the solutions we need. The climate-related challenges that lie ahead are sizeable, equalled by the rewards of acting on them now.

As we refresh and revitalize B.C.'s climate plan, our focus remains firmly on our commitment to reach our legislated emission reduction targets for 2020 and 2050. Periodic reviews, as recommended by the International Energy Agency, ensure we keep pace with our changing world.

B.C. is moving climate action forward with the advice of the Climate Leadership Team and through public consultation.

People, governments, organizations, businesses — all of us are facing choices in the next few years that will take us into the next phase of our climate change journey. Your input is essential to this process. I want to hear from you before government makes decisions on next steps. You have two opportunities for this: now in response to this discussion paper, and again in December, in providing feedback on a draft climate plan.

This is an important year for international action on climate change. In December, leaders from around the world will gather in Paris to collaborate on new global efforts to reduce greenhouse gas emissions. As a climate leader, we look forward to making a meaningful contribution to those discussions and we are hopeful they will create positive results for all.

Here in B.C., our new plan will help shape how future British Columbians will work, travel and live for decades to come. Together, we can do this. We can address climate change, protect our ecosystems and improve our quality of life.

Thank you for participating in this important process, and I very much look forward to hearing your thoughts and suggestions.

A handwritten signature in black ink that reads "Mary Polak". The signature is fluid and cursive, with a large loop at the end of the last name.

HONOURABLE MARY POLAK  
MINISTER OF ENVIRONMENT





# Discussion Paper: Climate Leadership Plan

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## *Purpose of Paper*

In 2008, government launched the Climate Action Plan to take B.C. part way to meeting its greenhouse gas emission reduction targets. Earlier this year, the province announced plans to build on that work by developing a new Climate Leadership Plan to move B.C. closer to its long-term goals.

The purpose of this discussion paper is to seek British Columbians' ideas, values and priorities to help shape the Climate Leadership Plan. To help stimulate discussion, the paper provides a framework for public comment on potential solutions as outlined below. Please lend your voice to this important issue.

### **PRINCIPLES:**

Principles guide the discussion and will inform government decisions regarding priorities for climate action over the coming years.

### **GOALS:**

Four goals present a vision of B.C. in 2050 — regarding how we live, travel and work, and what we value.

### **OBJECTIVES:**

Specific objectives identify pathways to the goals.

### **APPROACHES:**

Potential approaches are suggested to help achieve the objectives.

### **SURVEY:**

Each section poses a series of questions to encourage British Columbians to express their priorities. These are recapped in an online survey for your response.

## *How to Participate*

There are two opportunities for British Columbians to participate in shaping new climate policies in B.C. — now in response to this discussion paper, and again in December, in providing feedback on a draft climate plan. We invite all to contribute, including citizens, organizations, businesses, First Nations, and other governments.

Each response to this discussion paper will be reviewed by the B.C. government and considered in developing options for a draft Climate Leadership Plan.

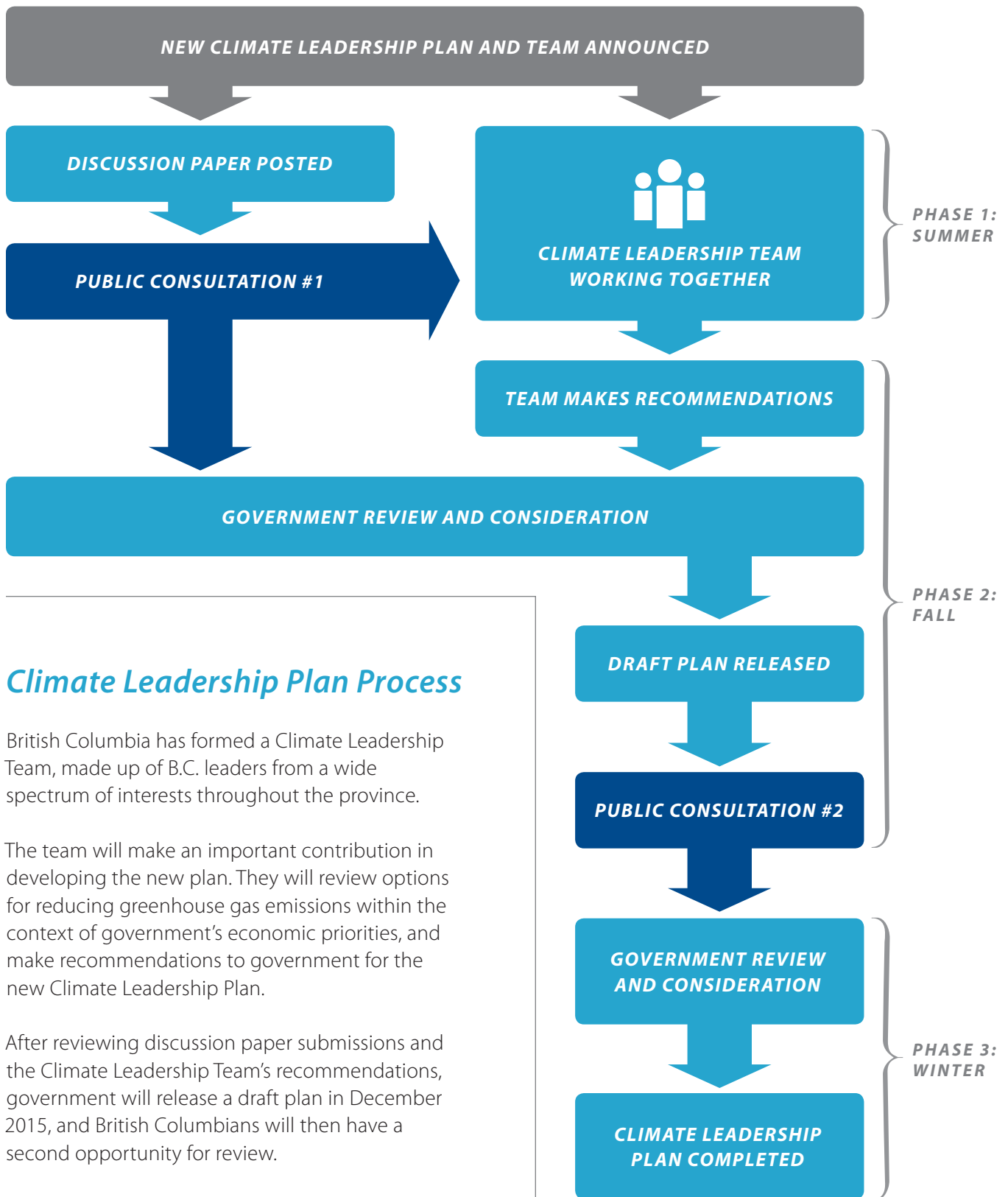
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- » Organizations who wish to send additional information can email: [climateleadershipplan@gov.bc.ca](mailto:climateleadershipplan@gov.bc.ca)
- » Respond by post to:  
Climate Leadership Discussion Paper  
Ministry of Environment  
Climate Action Secretariat  
P.O. Box 9486, Stn Prov Govt  
Victoria, B.C. V8W 9W6

Please note that all separate attachments submitted will be **posted publicly** on the government website. Individual surveys will be kept confidential.

## THE CLIMATE LEADERSHIP PLAN PROCESS

This process will help determine the actions needed to reach our climate goals.



### Climate Leadership Plan Process

British Columbia has formed a Climate Leadership Team, made up of B.C. leaders from a wide spectrum of interests throughout the province.

The team will make an important contribution in developing the new plan. They will review options for reducing greenhouse gas emissions within the context of government's economic priorities, and make recommendations to government for the new Climate Leadership Plan.

After reviewing discussion paper submissions and the Climate Leadership Team's recommendations, government will release a draft plan in December 2015, and British Columbians will then have a second opportunity for review.

The draft plan will seek input on specific potential policies and actions regarding climate change. The final plan is expected to be released in March 2016.

## The Need for Action

Climate change is our new reality. Science tells us increasing greenhouse gas emissions caused by human behaviour are changing our climate and affecting every aspect of our lives. Science also tells us that we must act now to make a difference.

In our province, we have legislated greenhouse gas emission reduction targets for 2020 and 2050, and we have a responsibility to meet them. This means we must transform the way we live, work and travel.

Our future planning is embracing a broader mindset — protecting our communities from climate change means changing the way we think about and do many things, while creating new economic opportunities.

Adapting to this changing climate means using scientific knowledge about what lies ahead to adjust things like community planning, highway construction, and tree species selection.

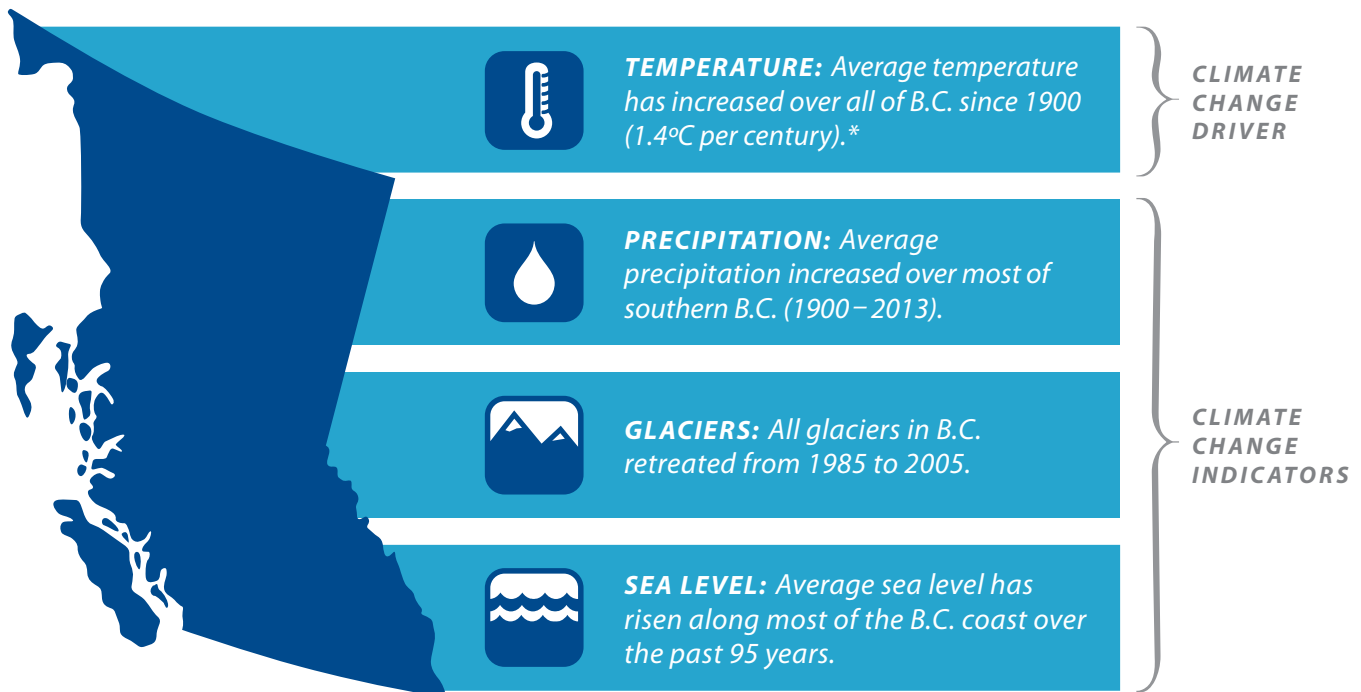
By integrating climate change considerations into our everyday lives, we are reducing unnecessary costs that can result from turning a blind eye to our future climate.

We must decrease our emissions to lessen the severity of climate change. Communities that act to embrace change and minimize use of energy and resources will prosper.

We will transition to patterns of urban development that consume less energy and land. In B.C. and around the world, many city cores are already being revitalized as families embrace liveable neighbourhoods, where people can easily live and work, without the need to drive a car every day. Linked systems of parks and nature that keep our rivers and streams healthy can absorb carbon and offer healthy, active lifestyles.

By incorporating natural features such as green roofs, permeable paving and natural shorelines, we add to our communities' ability to adapt to a changing climate.

### ENVIRONMENTAL CHANGE IN BRITISH COLUMBIA



\* Winter is warmer on average than it was 100 years ago. Higher temperatures drive other climate systems and affect our environment and ecosystems.

Increasing energy efficiency in our industries, buildings, and transportation systems is essential to transform energy use. Super-efficient buildings in our communities will run on clean energy, and waste will become more common as an energy source. Better connected communities, low carbon fuels, and efficient, clean vehicles will all be needed to cut emissions.

Like other governments and communities around the world we are sharing new ideas, creating partnerships and reaching agreements. In 2013, global greenhouse gas emissions reached 32.3 billion tonnes of CO<sub>2</sub>e. Countries like China and India face increasing emissions from coal and oil use, and many developed countries continue to see growth in emissions from transportation and buildings.

B.C.'s policies, technologies and innovation have established this province as a climate solution leader. Globally, governments and communities are managing their emissions, many with the aid of carbon pricing, and the demand for clean fuels and climate solutions will continue to grow. With countries coming together in December 2015 to sign a new climate agreement, small jurisdictions like B.C. can make a significant difference in dealing with global climate change, while creating new economic opportunities.

Our economy will continue to transition through major shifts in technology adoption, energy use and economic structure. This will require a transformation of energy systems and a steep decline in carbon emissions in all sectors of the economy. The decisions we make today are affecting our planet and quality of life well into the future.

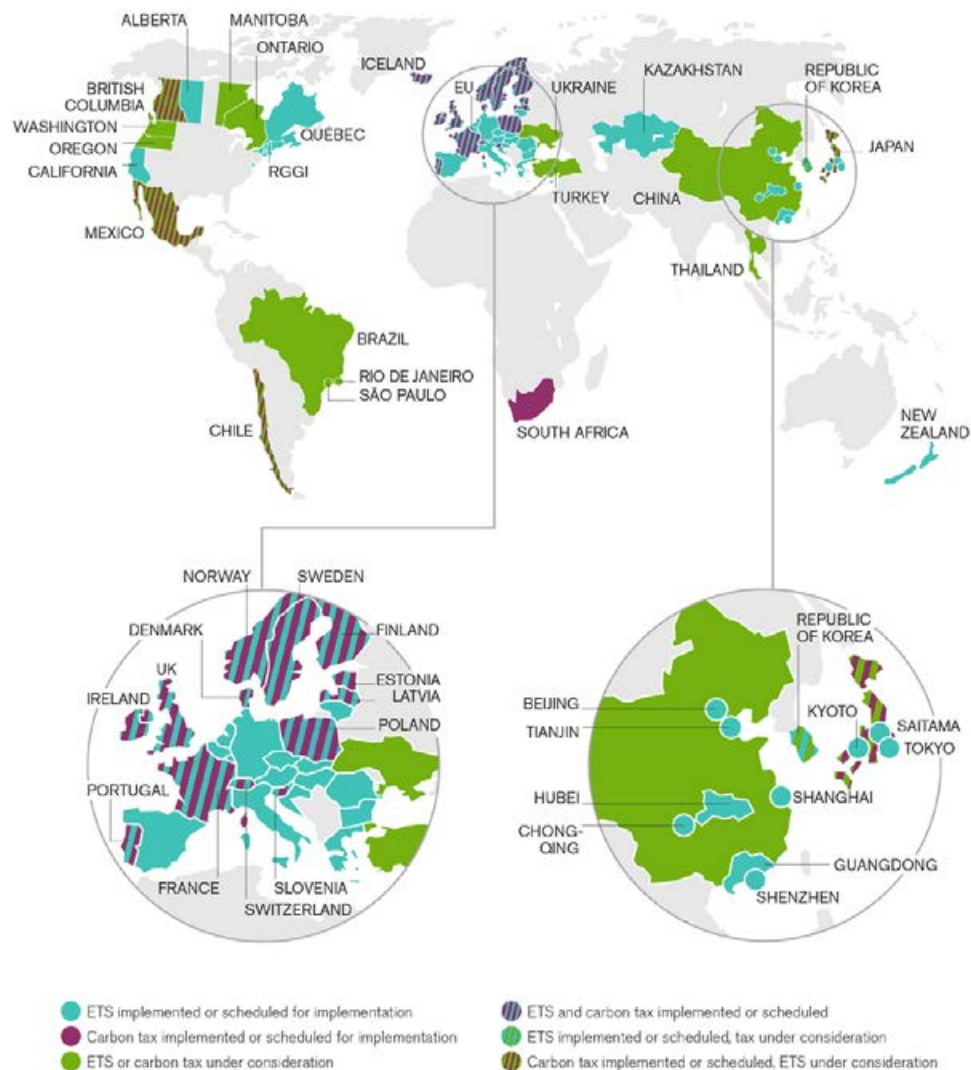
### B.C. A WORLD LEADER ON CARBON PRICING

B.C. established a revenue-neutral carbon tax in 2008 to encourage individuals and organizations to reduce fossil fuel use. The policy has been successful and continues to be a world-leading example of how to build a strong economy in a carbon-constrained world. In 2015, about 40 national and over 20 subnational jurisdictions, representing almost a quarter of global greenhouse gas emissions, are putting a price on carbon, as illustrated in the map.\* This includes carbon taxes, emissions trading systems or other levies. See the next section "Action in British Columbia" for more information on B.C.'s carbon tax.

ETS – Emissions Trading System

\*Carbon Pricing Watch 2015; developed by World Bank and Ecofys.

Source: © 2015 International Bank for Reconstruction and Development / The World Bank



## Action in British Columbia

In 2007, B.C. established greenhouse gas reduction targets. The targets are to reduce our emissions to 33 per cent below 2007 levels by the year 2020, and to 80 per cent below 2007 levels by 2050.

In 2008, B.C. launched a comprehensive Climate Action Plan with measures that would take B.C. about 70 per cent of the way to achieving the 2020 target, if fully implemented. The plan included a carbon tax that applies widely across B.C.'s economy together with numerous other climate actions across all sectors.

British Columbia met its first interim target of reducing emissions by 6 per cent below 2007 levels by 2012. Achieving this target is a major milestone. It shows that emissions can be reduced through carbon pricing while still maintaining a strong economy.

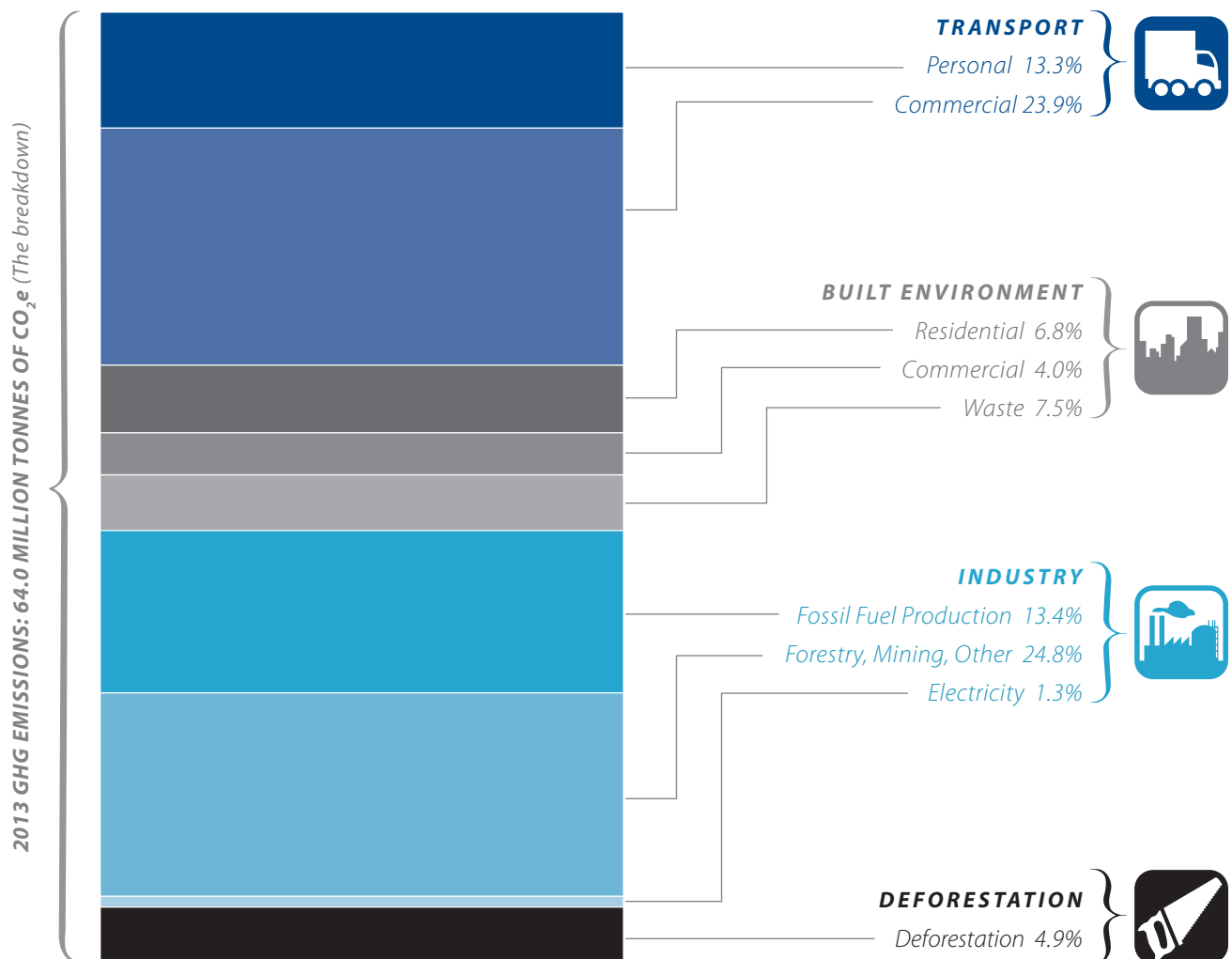
Putting a price on carbon is vital in addressing its impact on climate and future climate change costs.

The price encourages companies and consumers to choose cleaner and more efficient ways to operate, and creates opportunities for low-carbon innovation.



### B.C.'S GREENHOUSE GAS EMISSIONS

In 2013, British Columbia's emissions were 64.0 million tonnes of CO<sub>2</sub>e (Mt CO<sub>2</sub>e). Most emissions can be grouped into three categories: transportation, the built environment, and industry. Each provides opportunity for reductions. B.C. can also store or sequester more carbon in forests.



Organizations such as the World Bank, Organisation for Economic Co-operation and Development and the United Nations identify B.C.'s revenue-neutral carbon tax as a model to follow. The carbon tax, introduced in 2008 at \$10 per tonne of carbon dioxide equivalent emissions (CO<sub>2</sub>e), was increased gradually by \$5/tonne annually until it reached \$30/tonne in 2012. B.C. has committed to keep the rate at \$30/tonne until 2018.

Carbon pricing, together with other climate actions have not only helped the province meet its 2012 GHG reduction targets, but have created a foundation of low carbon and clean technology expertise that will help B.C. remain competitive in the changing global economy.

The British Columbia government recognizes that more actions are needed to keep pace and achieve our targets, as our economy grows and diversifies. For example, the province is preparing to develop a liquefied natural gas industry over the next decade. LNG could reduce global emissions by replacing the use of coal in fast growing economies such as China and India.

British Columbia can play a role producing this transition fuel as cleanly as possible, and will also use LNG as the province's economy transitions to cleaner fuels.

**ONCE YOU HAVE FINISHED THIS PAPER, BE SURE TO TAKE THE SURVEY ON OUR WEBSITE. THE SURVEY IS OPEN JULY 17 TO AUGUST 17.**

**BRITISH COLUMBIA** | Climate Action Leadership | Services & Forms | Contact Government | A A A

Home | Climate 101 | Engagement Process | Ways to Participate

# Join the Discussion

Welcome to B.C.'s climate action consultation, open from **July 17th to August 17th at 4pm.**

This is an opportunity to contribute your ideas and priorities for this next phase of climate action. Your input will be invaluable in helping us to develop the **Climate Leadership Plan**.

In December, you will have another chance to participate, in providing feedback on a more detailed draft plan.

In 2007, B.C. set greenhouse gas reduction targets based on the findings of the Intergovernmental Panel on Climate Change, the world's foremost authority on the subject.

Since then, much has been accomplished. We have introduced North America's first revenue-neutral carbon tax and achieved carbon neutral government every year since 2010. We have started down a path to a low-carbon future.

In 2008, government launched the Climate Action Plan to take B.C. part way to meeting its reduction targets. The Climate Leadership Plan will build on that work and move the province closer to its long-term goals.

So please go ahead, read the [Discussion Paper](#) and take the [survey](#).

**Read the Discussion Paper**

**Take the Survey**

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Another key consideration for British Columbians is a decision on the future direction of the carbon tax.

Governments, companies, organizations and citizens can also do many other things to keep British Columbia on track to the 2050 target.

It will take a comprehensive approach to meet this target and reduce emissions to 13 million tonnes from 62 million tonnes over that time frame in a way that maintains a strong economy.

Development of this second phase of climate action builds on a solid foundation – climate action already in place, experience and expertise throughout British Columbia, and a strong carbon pricing mechanism.



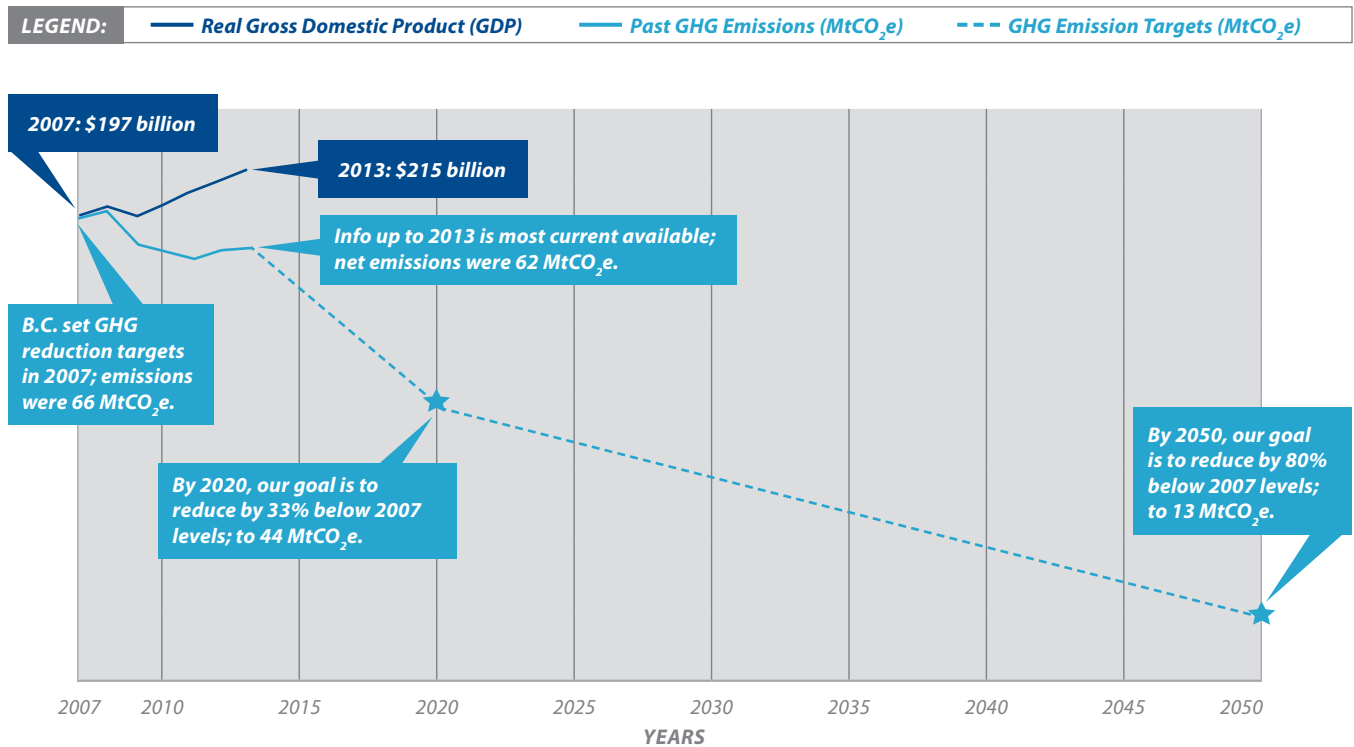
**CLIMATE ACTION**

For more information on B.C. climate action, click here:

[engage.gov.bc.ca/climateleadership/climate-101/](http://engage.gov.bc.ca/climateleadership/climate-101/)

**BRITISH COLUMBIA’S HISTORIC GHG EMISSIONS, GDP AND FUTURE TARGETS**

Since 2007, our action has been successful in controlling greenhouse gas emissions while maintaining a strong economy. In the absence of increased action, we can expect emissions to rise to 2050 as our population and economy grow.



Sources: Real GDP (Statistics Canada); and B.C. GHG Emissions (Ministry of Environment: 2013 - 62 MtCO<sub>2</sub>e net emissions after offsets).

Chart is for illustrative purposes.





# Principles

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With your help, government is developing the Climate Leadership Plan to reduce emissions, adapt to climate change and improve the lives of British Columbians. Like the greenhouse gas reduction targets announced in 2007, policies in the Climate Leadership Plan will be informed by science. The plan will also align with the following principles, which will help meet targets, ensure public safety and protect our environment.

1

GOVERNMENT TAKES ACTIONS NOW THAT WILL RESULT IN BOTH SHORT- AND LONG-TERM EMISSION REDUCTIONS.

2

ACTIONS BALANCE OUTCOMES ACROSS ECONOMIC, ENVIRONMENTAL, AND SOCIAL OBJECTIVES.

3

THE APPROACH RECOGNIZES WE ALL HAVE RESPONSIBILITY — IN B.C. AND GLOBALLY.

4

DECISION MAKING AND REPORTING ON PROGRESS ARE TRANSPARENT.

5

THE APPROACH ADDRESSES THE NEEDS OF THOSE INDIVIDUALS AND FAMILIES LEAST ABLE TO RESPOND.

6

COLLABORATION AND PARTNERSHIPS ARE CRITICAL TO LONG-TERM SUCCESS.



# Goals, Objectives and Approaches

## Areas of Action and Goals

Government would like you to help define B.C.'s priority climate actions. This is important as we all will need to make choices to effectively address climate change.

This section outlines four areas relating to a vision of British Columbia in 2050. Each area — the way we live, travel and work, and what we value — has a specific goal, followed later in the discussion paper by objectives and potential approaches to curb emissions and address climate change.

AREA OF ACTION	THE FOCUS	THE GOAL
 1. The Way We Live	Buildings, community design, and waste.	Communities are thriving and resilient in the face of climate change.
 2. The Way We Travel	Movement of people and goods.	People and goods move efficiently and reliably, using clean transportation.
 3. The Way We Work	Business, industry, products and services.	B.C.'s economy remains strong, and jobs continue to be created, while greenhouse gas emissions fall.
 4. What We Value	How we consider the cost of climate change to society when making decisions.	The cost of climate change for society is considered whenever British Columbians make important decisions.

## Objectives and Approaches

On the next page, we outline objectives and approaches to meet our four goals for consideration in developing the draft Climate Leadership Plan. After reading the section, please provide feedback through the online survey. We will need to act in all four areas to meet our targets. Government will chart actions over time to address various challenges, such as technological, financial, and other constraints. Because of this, we would like you to consider the following questions for each goal within the four areas of action. The questions will be included in the online survey.

### QUESTIONS TO CONSIDER:

*In the short term, which of the four goals needs the most immediate attention in order for B.C. to achieve its 2020 targets? Why?*

*In the long term, which of the four goals needs the most immediate attention in order for B.C. to achieve its 2050 targets? Why?*



## 1. THE WAY WE LIVE

### **Goal 1: Communities are thriving and resilient in the face of climate change.**

*Objectives and approaches to support this goal:*

#### **1.1 People live, work and play in their local community, to minimize energy consumption.**

- » People live in healthy, integrated communities requiring less travel between work, homes, schools, services, shops and parks. Communities plan for the best use of marine and land resources. Products and food are produced as close as practically possible.
- » Having many different facilities closely located creates efficiencies between operations, such as using waste heat from a rink to heat the nearby swimming pool, a central heating plant for a district, or a plant heating offices in the day and residential buildings at night.

#### **1.2 Buildings and communities produce as much or more energy than they consume; waste is a source of energy.**

- » Consistent information on energy performance and efficiency targets for new and existing buildings allows people to make informed decisions regarding energy costs and the carbon content of energy sources when purchasing or renting space. Communities track where energy is used, wasted, generated and transported to efficiently link energy sources with needs.
- » District and distributed energy systems allow buildings to use energy as efficiently as possible, for example, by generating heat at a central plant or reclaiming waste heat from sewers, and water and waste systems.

#### **1.3 Planning decisions prepare communities to anticipate and recover from extreme weather events.**

- » To make communities safer, land development considers climate change risks, such as increased wildfires, more extreme flooding, avalanches and landslides.
- » Integrating natural systems into community infrastructure provides protection and makes communities more liveable. (Examples of natural systems include wetland restoration to protect against flooding and low-impact development such as permeable parking lots to absorb water run-off.)

#### **ONLINE SURVEY FOR GOAL 1: COMMUNITIES ARE THRIVING AND RESILIENT IN THE FACE OF CLIMATE CHANGE.**

In the online survey, you will be asked to indicate your level of support for each of the following statements as they relate to achieving Goal 1:

- » Minimizing travel and energy use needs to be a priority for community planning.
- » Regulations and incentives should require more energy-efficient buildings and greater uptake of clean energy technologies.
- » Governments need to invest more in building resilience to extreme weather events and provide stronger direction regarding appropriate places to build.
- » Local food supply and low-carbon businesses should be strongly supported by communities.



## 2. THE WAY WE TRAVEL

### **Goal 2: People and goods move efficiently and reliably, using clean transportation.**

*Objectives and approaches to support this goal:*

#### **2.1 Energy efficient transportation systems provide clean travel options that are interconnected and accessible.**

- » People and organizations have easy access to clean transportation systems.
- » People and organizations choose clean and safe travel modes to reach destinations or move goods.
- » Community design allows for less travel on a daily basis.

#### **2.2 Almost all vehicles have no emissions, running on clean energy produced regionally.**

- » People and organizations have access to affordable zero emission and other clean energy vehicles when travel and transport of goods are required.
- » Renewable fuels like hydro-electricity and biodiesel are available where needed.

#### **2.3 Transportation and energy transmission infrastructure is safe and reliable in a changing climate.**

- » Infrastructure is located, designed and maintained to withstand extreme weather conditions.

### **ONLINE SURVEY FOR GOAL 2: PEOPLE AND GOODS MOVE EFFICIENTLY AND RELIABLY, USING CLEAN TRANSPORTATION.**

In the online survey, you will be asked to indicate your level of support for each of the following statements as they relate to achieving Goal 2:

- » Increasing use of clean, coordinated transportation such as public transit, carpooling, shared travel, bicycles and walking should be a government priority.
- » People should be encouraged to drive less through incentives or increased costs (e.g. for using fossil fuels).
- » Regulations and incentives should be expanded to increase the use of cleaner vehicles and fuels.
- » Public and private investments should be directed towards infrastructure designed to withstand extreme weather conditions.



### 3. THE WAY WE WORK

#### **Goal 3: B.C.'s economy remains strong, and jobs continue to be created, while greenhouse gas emissions fall.**

*Objectives and approaches to support this goal:*

##### **3.1 Organizations and employees embrace opportunities to contribute to B.C.'s climate goals.**

- » Businesses reduce waste, increase productivity and switch to lower carbon energy sources.
- » B.C.'s workforce has the technology, skills and knowledge to drive the transition to the low-carbon economy.

##### **3.2 Competitive companies drive innovation and adopt technology to cut their carbon costs.**

- » Businesses ready to adopt innovation achieve the highest productivity while cutting emissions.
- » Companies are successful, while reducing emissions and saving money when they consider carbon and climate in business decisions.

##### **3.3 Clean technology and storing carbon in forests and underground are important, growing sectors of the economy.**

- » The technology sector is an important pillar of B.C.'s economy, attracting investment and exporting innovation worldwide.
- » B.C. businesses, governments, First Nations, and organizations are vigorous participants in global carbon offset markets.

#### **ONLINE SURVEY FOR GOAL 3: B.C.'S ECONOMY REMAINS STRONG, AND JOBS CONTINUE TO BE CREATED, WHILE GHG EMISSIONS FALL.**

In the online survey, you will be asked to indicate your level of support for each of the following statements as they relate to achieving Goal 3:

- » Governments, businesses, universities and colleges need to accelerate development of a workforce that excels in a low-carbon economy.
- » Consumers should use their purchasing power to encourage organizations to reduce their emissions.
- » Government should use regulations and incentives to drive organizations to innovate and cut their emissions while growing their business.
- » New major sources of emissions in the province should be required to align with B.C.'s climate plan.
- » Government and business should collaborate to expand technology exports and access to global carbon markets and investments.



## 4. WHAT WE VALUE

**Goal 4: The cost of climate change for society is considered whenever British Columbians make important decisions.**

*Objectives and approaches to support this goal:*

### **4.1 The price of carbon encourages businesses, organizations and people to reduce carbon emissions.**

- » The price of carbon considers multiple factors such as the long-term cost of damage to the environment, the cost to change to the best alternative, or the cost to change behaviours.
- » Carbon prices may differ by group or sector to reach emission reduction goals while maintaining a strong economy.

### **4.2 Climate change risks to people, infrastructure and our natural environment are considered in important decisions.**

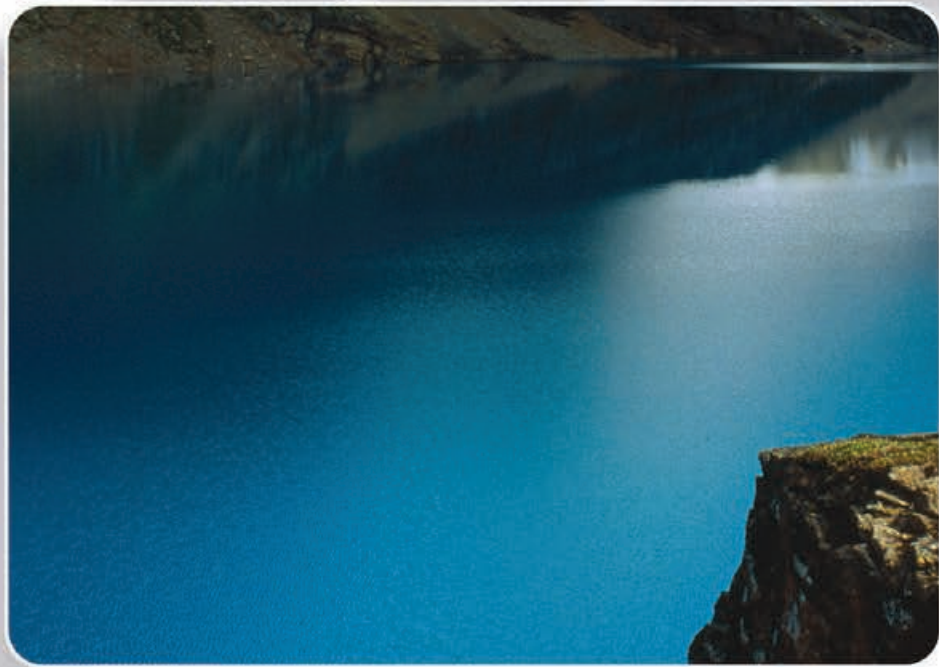
- » Monitoring the impacts of climate change informs decisions regarding natural resources (e.g. agriculture, forestry, fisheries, protected areas, available drinking water).
- » Considering future climate change in decisions, such as land management and major projects, improves long-term outcomes.

**ONLINE SURVEY FOR GOAL 4:  
THE COST OF CLIMATE CHANGE FOR SOCIETY  
IS CONSIDERED WHENEVER BRITISH  
COLUMBIANS MAKE IMPORTANT DECISIONS.**

In the online survey, you will be asked to indicate your level of support for each of the following statements as they relate to achieving Goal 4:

- » Government should expand the use of carbon pricing to stimulate business and consumer decisions that reduce emissions.
- » Government should improve the affordability of solutions that allow business and consumers to reduce emissions and prepare for climate change.
- » Government should set targets for types of emissions (e.g. transportation, industry, buildings, etc.) to get reductions.
- » Government should use regulations and incentives to drive organizations and people to consider costs of adapting to climate change in important decisions.

\* *Putting a price on carbon recognizes its impact on our environment and future climate change costs. Carbon pricing reduces GHG emissions by encouraging companies and consumers to choose cleaner and more efficient ways to operate. B.C.'s carbon tax rate is \$30 per tonne of carbon dioxide equivalent emissions (CO<sub>2</sub>e). It is revenue neutral, with revenues returned to British Columbians through personal and business tax reductions.*





# Summary

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Earlier in the document we outlined six guiding principles. And we've presented specific goals for further discussion within four areas of action: the way we live, the way we travel, the way we work, and what we value. We also provided objectives and potential approaches to achieving those goals, and ultimately our greenhouse gas reduction targets by 2050. Now it's your chance to provide input.

We all contribute to climate change and we are all affected by its impacts. Our decisions today affect how we will live tomorrow. That's why it is very important that we all have a voice in shaping that future.

This document is posted for a one-month consultation period, from **July 17, 2015 to August 17, 2015**. So please take the survey!

## *How to Participate*

Government wants to understand British Columbians' ideas, values and priorities for climate action for development of the Climate Leadership Plan.

*To share your views on the discussion paper:*

- » Review the questions in this document and how they fit within the four goals regarding how we live, travel, work and what we value.
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Climate Action Secretariat  
P.O. Box 9486, Stn Prov Govt  
Victoria, B.C. V8W 9W6

Please note that all separate attachments submitted will be **posted publicly** on the government website. Individual surveys will be kept confidential.

# Appendix

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## Resources

### SCIENCE OF CLIMATE CHANGE

IPCC Fifth Assessment Report (AR5) Climate Science Headline Statements:  
[http://www.ipcc.ch/news\\_and\\_events/docs/ar5/ar5\\_wg1\\_headlines.pdf](http://www.ipcc.ch/news_and_events/docs/ar5/ar5_wg1_headlines.pdf)

2014 National Climate Assessment US Pacific NW Chapter:  
<http://nca2014.globalchange.gov/report/regions/northwest>

Natural Resources Canada: Canada in a Changing Climate: Sector Perspectives on Impacts and Adaptation (Overview of Canada's Changing Climate):  
[http://www.nrcan.gc.ca/sites/www.nrcan.gc.ca/files/earthsciences/pdf/assess/2014/pdf/Chapter2-Overview\\_Eng.pdf](http://www.nrcan.gc.ca/sites/www.nrcan.gc.ca/files/earthsciences/pdf/assess/2014/pdf/Chapter2-Overview_Eng.pdf)

For informative and accessible videos about the current climate science please see; Pacific Institute for Climate Solutions 101 Climate Science Courses: Observable Changes:  
[http://pics.uvic.ca/education/climate-insights-101#quicktabs-climate\\_insights\\_101=0](http://pics.uvic.ca/education/climate-insights-101#quicktabs-climate_insights_101=0)

### ADAPTATION

Natural Resources Canada: Canada in a Changing Climate: Sector Perspectives on Impacts and Adaptation (Synthesis):  
[http://www.nrcan.gc.ca/sites/www.nrcan.gc.ca/files/earthsciences/pdf/assess/2014/pdf/Synthesis\\_Eng.pdf](http://www.nrcan.gc.ca/sites/www.nrcan.gc.ca/files/earthsciences/pdf/assess/2014/pdf/Synthesis_Eng.pdf)

ReTooling for Climate Change — a comprehensive website on climate change adaptation in British Columbia:  
<http://www.retooling.ca/>

Plan2Adapt – an online tool describing projected future climate conditions for regions throughout B.C.:  
<http://www.pacificclimate.org/analysis-tools/plan2adapt>

For accessible and informative videos about Climate Change Impacts and Adaptation in B.C., see the Climate Insights 101 Course on Adaptation presented by the Pacific Institute for Climate Solutions:  
[http://pics.uvic.ca/education/climate-insights-101#quicktabs-climate\\_insights\\_101=1](http://pics.uvic.ca/education/climate-insights-101#quicktabs-climate_insights_101=1)

### CLIMATE ACTION EMISSIONS

2014 Progress to Targets Report:  
[www2.gov.bc.ca/assets/gov/environment/climate-change/policy-legislation-and-responses/2014-progress-to-targets.pdf](http://www2.gov.bc.ca/assets/gov/environment/climate-change/policy-legislation-and-responses/2014-progress-to-targets.pdf)

B.C. Provincial Greenhouse Gas Inventory Report:  
[www2.gov.bc.ca/assets/gov/environment/climate-change/reports-and-data/provincial-ghg-inventory-report-bcs-pir/pir-2012-full-report.pdf](http://www2.gov.bc.ca/assets/gov/environment/climate-change/reports-and-data/provincial-ghg-inventory-report-bcs-pir/pir-2012-full-report.pdf)

B.C. Government Climate Policy, Legislation and Programs:  
<http://www2.gov.bc.ca/gov/content/environment/climate-change/policy-legislation-programs>

2008 BC Climate Action Plan:  
[www2.gov.bc.ca/assets/gov/environment/climate-change/policy-legislation-and-responses/climateaction\\_plan\\_web.pdf](http://www2.gov.bc.ca/assets/gov/environment/climate-change/policy-legislation-and-responses/climateaction_plan_web.pdf)

## GREEN ECONOMY

B.C.'s Green Economy Update 2014: Growing Green Jobs:  
[http://bcge.ca/wp-content/uploads/2014/03/GreenEconomy\\_2014.pdf](http://bcge.ca/wp-content/uploads/2014/03/GreenEconomy_2014.pdf)

BC Green Technology Report Card, KPMG 2014:  
[www.kpmg.com/Ca/en/IssuesAndInsights/ArticlesPublications/Documents/6943-BC-Tech-Report-card-FY14-web.pdf](http://www.kpmg.com/Ca/en/IssuesAndInsights/ArticlesPublications/Documents/6943-BC-Tech-Report-card-FY14-web.pdf)

Cleantech Report Card for British Columbia, KPMG 2011:  
[http://www.ballard.com/files/PDF/Media/Cleantech\\_Report\\_Card\\_for\\_BC.pdf](http://www.ballard.com/files/PDF/Media/Cleantech_Report_Card_for_BC.pdf)

ICE Fund: <http://www2.gov.bc.ca/gov/content/industry/electricity-alternative-energy/energy-efficiency-conservation/innovative-clean-energy-ice-fund>

B.C.'s Offset Projects:  
<http://www2.gov.bc.ca/gov/content/environment/climate-change/reports-data/carbon-neutral-action-reports/carbon-offset-projects>

## INTERNATIONAL CLIMATE ACTION

Background on the UNFCCC and agreements: [http://unfccc.int/essential\\_background/items/6031.php](http://unfccc.int/essential_background/items/6031.php)

Information on Canada's climate action: <http://www.climatechange.gc.ca/default.asp?lang=En&n=E18C8F2D-1>

Information on the Pacific Coast Collaborative Action Plan on Climate and Energy:  
<http://www.pacificcoastcollaborative.org/Documents/Pacific%20Coast%20Climate%20Action%20Plan.pdf>

Information on the Compact of States and Regions:  
<http://www.theclimategroup.org/what-we-do/programs/compact-of-states-and-regions/>

International Emissions Trading Association, GHG Report, 2014: <http://www.ieta.org/ghgmarket2014>

## COMMUNITIES AND CLIMATE ACTION

Climate Action Revenue Incentive Program (CARIP) Summary Report, 2013. CARIP is a provincial grant program, providing funds to local government signatories to the Climate Action Charter. Local governments must submit their list of actions yearly. <http://www.cscd.gov.bc.ca/lgd/greencommunities/carip.htm>

Federation of Canadian Municipalities (FCM) National Measures Report. A joint FCM and ICLEI-Canada report on municipal GHG reduction initiatives, ranging from simple energy efficiency retrofits at municipal facilities to large-scale investments in district energy systems.  
[http://www.fcm.ca/Documents/reports/PCP/2014/PCP\\_National\\_Measures\\_Report\\_2013\\_EN.pdf](http://www.fcm.ca/Documents/reports/PCP/2014/PCP_National_Measures_Report_2013_EN.pdf)

Integrated Community Energy Solutions: Progress Report, B.C., August 2013. The QUEST BC report summarizes the significant momentum across BC related to integrated approaches to energy at the community level, across silos of land use and community, housing and buildings, local community services, transportation, energy supply and distribution, and industry. <http://www.questcanada.org/caucus/bc>

Exploring Transformational Change. This paper draws on the modelling experiences of a select number of BC communities targeting GHG reductions beyond 2040 to better understand the characteristics of a low carbon future for BC communities. <http://www.toolkit.bc.ca/Resource/Transformational-Change-LG-Pathways-2050>

## Glossary

**Adaptation:** The process of adjustment to actual or expected climate and its effects. In human systems, adaptation seeks to moderate or avoid harm or exploit beneficial opportunities. In some natural systems, human intervention may facilitate adjustment to expected climate and its effects.

**Anthropogenic Emissions:** Emissions of greenhouse gases (GHGs), aerosols, and precursors of a GHG or aerosol caused by human activities. These activities include the burning of fossil fuels, deforestation, land use changes (LUC), livestock production, fertilization, waste management, and industrial processes.

**Bioenergy:** Energy derived from any form of biomass such as recently living organisms or their metabolic by-products.

**Carbon Market:** A market where emission allowances and/or offsets are traded to facilitate countries, companies, and organizations in managing their greenhouse gas emissions.

**Carbon Footprint:** Measure of the exclusive total amount of emissions of carbon dioxide (CO<sub>2</sub>) that is directly and indirectly caused by an activity or is accumulated over the life stages of a product (Wiedmann and Minx, 2008).

**Carbon Price:** The price for avoided or released carbon dioxide (CO<sub>2</sub>) or CO<sub>2</sub>-equivalent emissions. This may refer to the rate of a carbon tax, or the price of emission permits. In many models that are used to assess the economic costs of mitigation, carbon prices are used as a proxy to represent the level of effort in mitigation policies.

**Clean Tech Sector:** Clean technology companies refer to clean tech firms involved in the research, development or deployment of technological innovations in energy generation, transmission and storage; energy use in transportation; energy efficiency and resource management.

**Climate:** Climate in a narrow sense is usually defined as the average weather, or more rigorously, as the statistical description in terms of the mean and variability of relevant quantities over a period of time ranging from months to thousands or millions of years. The classical period for averaging these variables is 30 years, as defined by the World Meteorological Organization. The relevant quantities are most often surface variables such as temperature, precipitation and wind. Climate in a wider sense is the state, including a statistical description, of the climate system.

**Climate Change:** Climate change refers to a change in the state of the climate that can be identified (e. g., by using statistical tests) by changes in the mean and / or the variability of its properties, and that persists for an extended period, typically decades or longer. Climate change may be due to natural internal processes or external forces such as modulations of the solar cycles, volcanic eruptions and persistent anthropogenic changes in the composition of the atmosphere or in land use.

*The United Nations Framework Convention on Climate Change (UNFCCC), in its Article 1, defines climate change as: 'a change of climate which is attributed directly or indirectly to human activity that alters the composition of the global atmosphere and which is in addition to natural climate variability observed over comparable time periods'. The UNFCCC makes a distinction between climate change attributable to human activities altering the atmospheric composition, and climate variability attributable to natural causes.*

**Community Resilience:** Community resilience is a measure of the sustained ability of a community to use available resources to respond to, withstand, and recover from adverse situations.

**Co-benefits:** The positive effects that a policy or measure aimed at one objective might have on other objectives, without yet evaluating the net effect on overall social welfare. Co-benefits are often subject to uncertainty and depend on, among others, local circumstances and implementation practices. Co-benefits are often referred to as ancillary benefits.

**Decarbonization:** The process by which countries or other entities aim to achieve a low-carbon economy, or by which individuals aim to reduce their carbon consumption.

**Ecosystem:** A functional unit consisting of living organisms, their nonliving environment, and the interactions within and between them. The components included in a given ecosystem and its spatial boundaries depend on the purpose for which the ecosystem is defined: in some cases they are relatively sharp, while in others they are diffuse. Ecosystem boundaries can change over time. Ecosystems are nested within other ecosystems, and their scale can range from very small to the entire biosphere. In the current era, most ecosystems either contain people as key organisms, or are influenced by the effects of human activities in their environment.

**Emission Standard:** An emission level that, by law or by voluntary agreement, may not be exceeded. Many standards use emission factors in their prescription and therefore do not impose absolute limits on the emissions.

**Energy:** The power of 'doing work' possessed at any instant by a body or system of bodies. Energy is classified in a variety of types and becomes available to human ends when it flows from one place to another or is converted from one type into another.

**Energy Efficiency (EE):** The ratio of useful energy output of a system, conversion process, or activity to its energy input. In economics, the term may describe the ratio of economic output to energy input.

**Fossil Fuels:** Carbon-based fuels from fossil hydrocarbon deposits, including coal, peat, oil, and natural gas.

**Global Warming:** Global warming refers to the gradual increase, observed or projected, in global surface temperature, as one of the consequences of radiative forcing caused by anthropogenic emissions.

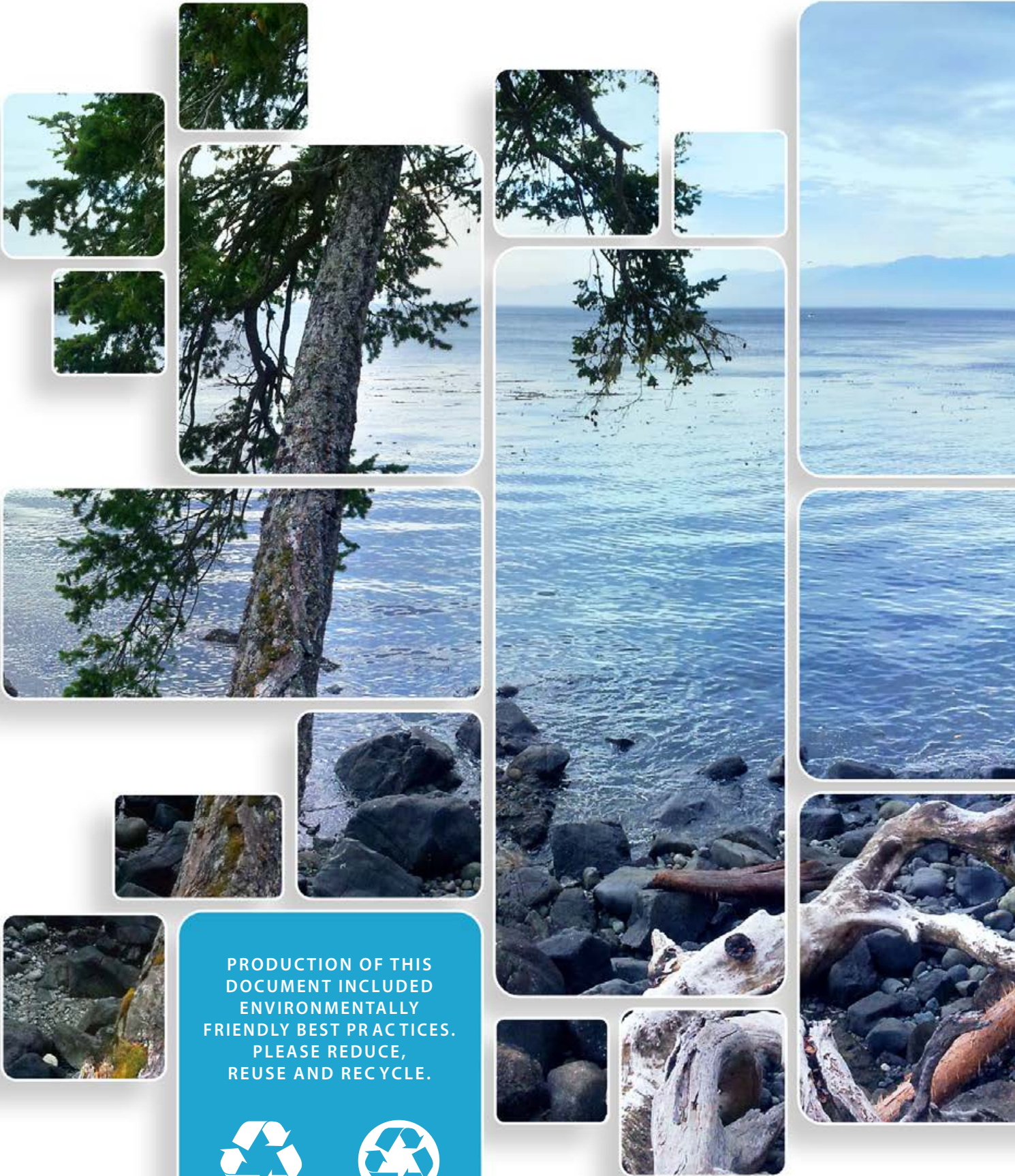
**Greenhouse Gas (GHG):** GHGs are those gaseous constituents of the atmosphere, both natural and anthropogenic, that absorb and emit radiation at specific wavelengths within the spectrum of terrestrial radiation emitted by the earth's surface, the atmosphere itself, and by clouds. This property causes the greenhouse effect. Water vapour (H<sub>2</sub>O), carbon dioxide (CO<sub>2</sub>), nitrous oxide (N<sub>2</sub>O), methane (CH<sub>4</sub>) and ozone (O<sub>3</sub>) are the primary GHGs in the earth's atmosphere. Moreover, there are a number of entirely human-made GHGs in the atmosphere, such as the halocarbons and other chlorine- and bromine containing substances, dealt with under the Montreal Protocol. Beside CO<sub>2</sub>, N<sub>2</sub>O and CH<sub>4</sub>, the Kyoto Protocol deals with the GHGs sulphur hexafluoride (SF<sub>6</sub>), hydro-fluorocarbons (HFCs) and perfluorocarbons (PFCs).

**Gross Domestic Product (GDP):** The sum of gross value added, at purchasers' prices, by all resident and non-resident producers in the economy, plus any taxes and minus any subsidies not included in the value of the products in a country or a geographic region for a given period, normally one year. GDP is calculated without deducting for depreciation of fabricated assets or depletion and degradation of natural resources.

**Integrated Communities:** Rural and urban communities that are complete, compact, and energy efficient. These communities have mechanisms in place to foster a built environment that supports a reduction in car dependency and energy use, implement policies and processes that support fast tracking of green development projects, and adopt zoning practices that encourage land use patterns that increase density and reduce sprawl.

**Land Use Change:** Land use change (LUC) refers to a change in the use or management of land by humans, which may lead to a change in land cover. Land cover and LUC may have an impact on the surface albedo, evapotranspiration, sources and sinks of GHGs, or other properties of the climate system and may thus give rise to radiative forcing and / or other impacts on climate, locally or globally.

**Low-carbon Business:** A business whose direct activities, inputs, and outputs produce little to no greenhouse gas emissions.



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*To share your views on the discussion paper:*

- » Review the questions in this document and how they fit within the four goals regarding how we live, travel, work and what we value.
- » Click on **Take the Survey** to submit your feedback: [engage.gov.bc.ca/climateleadership/](http://engage.gov.bc.ca/climateleadership/)
- » Organizations who wish to send additional information can email: [climateleadershipplan@gov.bc.ca](mailto:climateleadershipplan@gov.bc.ca)



FOR MORE INFORMATION VISIT THE WEBSITE:  
[ENGAGE.GOV.BC.CA/CLIMATELEADERSHIP/](http://ENGAGE.GOV.BC.CA/CLIMATELEADERSHIP/)

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