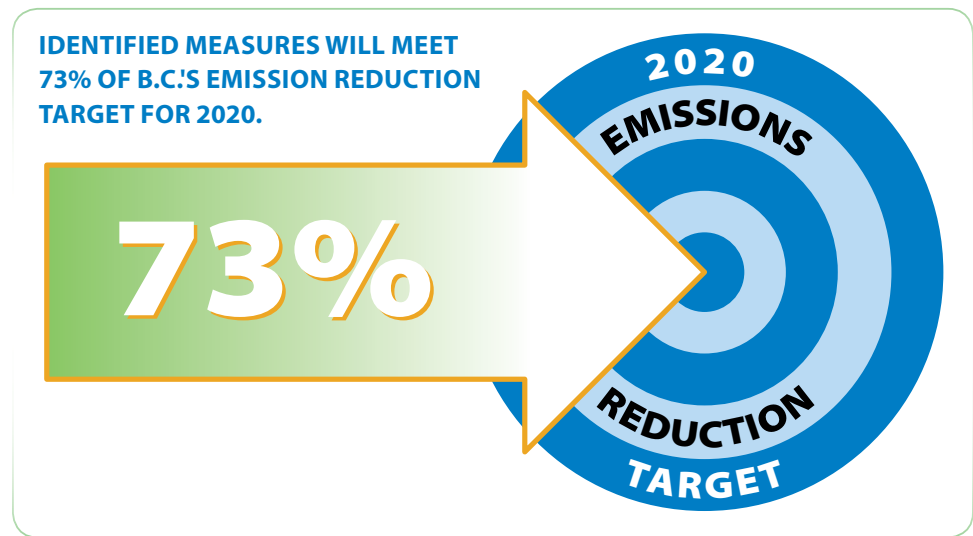


# Section Three: Charting Our Progress

This Climate Action Plan includes a wide range of initiatives designed to reduce greenhouse gas emissions in every sector of the Province's economy. So how will they affect our overall emissions?

According to independent economic analysis and modelling based on standard practices, the **initiatives included in this plan will take us 73 per cent of the way to our 2020 emissions reduction target.**

This represents significant progress, and is a testament to what we can achieve through early and decisive action.



## What does this really mean?

When scientists and economists measure greenhouse gas emission reductions, they do so in relation to what is called the “business as usual” scenario. This scenario represents what experts believe emissions would be if left to grow unchecked. In British Columbia's case, the “business as usual” scenario would result in emissions of approximately 78 million tonnes by 2020 (over 9 million tonnes more per year than today). This represents a 13 per cent increase in emissions over current levels, and can largely be accounted for by projected growth in population, economy and energy demand.

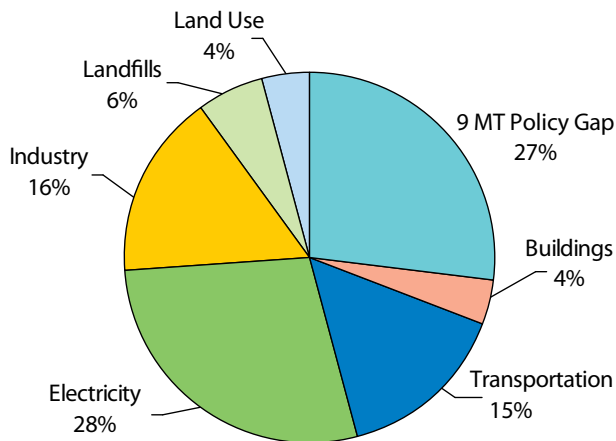
Policies already announced as part of the B.C. Climate Action Plan are expected to result in a significant change from the “business as usual” scenario, resulting in an estimated emissions level of 55 million tonnes (instead of 78) by 2020.

To achieve a 33 per cent reduction, we must reduce emission levels even further – to 46 million tonnes by 2020. That means we have a 9 million tonne emissions “gap” left to fully reach our goal, above and beyond the policy measures already identified for reducing emissions province-wide.



*The roof of the Green Roof Research Facility at BCIT Centre for Architectural Ecology in Burnaby.*

### Percentage of Target Reductions Achieved by Sector



### How do we know?

British Columbia's population and economy will continue to grow, create jobs, and create wealth. This does not mean that our greenhouse gas emissions will also have to grow. Rather, we can preserve and even expand economic growth while taking steps to reduce greenhouse gas emission related to fossil fuel consumption.

Predicting future greenhouse gas emissions will depend on the kinds of assumptions we make about how our population, economy, and energy sector may evolve over the coming years. And predicting the future is never easy.

The best we can do is to make realistic estimates based on probable assumptions. For example, B.C.'s population can reasonably be predicted to grow to 5 million by 2020. Other key assumptions are highly uncertain however. For example, oil prices are difficult to predict, having ranged from about \$30 a barrel to over \$135 a barrel over the past five years alone.

The assumptions we make about energy prices, population growth, and economic activity influence what kinds of cars and homes people are likely to buy and what technologies will be developed. This in turn has a significant impact on levels of greenhouse gas emissions. For example, the modelling used for this Climate Action Plan assumes an oil price of \$US85/barrel, a forecast that is significantly below the current price of oil, but higher than the long-term price forecasts of many leading international agencies. If that assumption changes, so does the estimated size of our gap: \$50/barrel oil increases our gap by 15 million tonnes, while \$120 oil would decrease it to 5 million tonnes.

Models to assess greenhouse gas emissions scenarios must take multiple variables into account, while also recognizing the uncertain effects of policies on behaviour.

This is further complicated by the fact that many policies designed to reduce greenhouse gas emissions have overlapping effects and interact with each other in complex and sometimes unpredictable ways.

A number of models have been developed to achieve greater clarity and certainty in predicting future emissions scenarios. Over the past few decades, comparative research has fostered a convergence whereby leading models used by governments in Canada and the U.S. have become quite similar – based on experience with what works best.

This Climate Action Plan uses the CIMS model, which was developed right here in British Columbia. Using baseline measurements of greenhouse gas emissions from Environment Canada, CIMS allows users to simulate the impacts of various changes over time, including the adoption of new technologies and the introduction of energy-environment policies (like those included in this Climate Action Plan).

Technical support, analysis and modelling for the **BC Climate Action Plan** was provided by MK Jaccard and Associates Inc. using the CIMS model. This Vancouver-based consulting group is associated with Simon Fraser University. Since 1990, the company has undertaken national and international research in areas related to resource and environmental management, with a focus on energy.

The actions described in this Climate Action Plan provide an integrated package to reduce greenhouse gas emissions. Many of the actions reinforce each other; some actions apply across a range of sectors of our economy, while others are more focused. Therefore, estimating the impact of individual actions necessarily misses important interactions between policies.

This model is based on the implementation of many of the key policies outlined in this plan as follows:

- the revenue-neutral carbon tax at \$30/ tonne in 2012 and subsequent years
- regulations on new residential and commercial buildings to be more efficient
- key transportation policies including – California tailpipe standards (including post-2016); renewable content in gasoline and diesel, a public transit system as announced in the Transit Plan
- landfill gas regulation
- a directive to BC Hydro for zero emissions from electricity generation
- a cap and trade system

It is important to note that the CIMS model outlined in Appendix I is an energy-technology model and does not include emissions associated with land use change. As a result, the baseline emissions used here are approximately 4 million

tonnes greater than those reflected in the results from the CIMS model. The B.C. government included emissions associated with land use change in its baseline data in order to accurately recognize their environmental impact, and to ensure that this impact is addressed through policy (in this case, through a commitment to net zero deforestation).

## How will we close the 9-million tonne gap?

The British Columbia Climate Action Team - a diverse group of British Columbians with expertise in areas including science, business, First Nations and community development – was created to advise government on this critical question. It will recommend interim targets for 2012 and 2016 and identify the most efficient and economically viable means to fill the gap between existing policy measures and the 2020 reduction target. The team will also make recommendations related to the government's commitment to achieve a carbon-neutral public sector by 2012.

The entire independent modelling report commissioned by the B.C. government is provided in Appendix I. Here, more detail on the model's methodology and specific sector assumptions is available.



*Members of the The Climate Action Team with Premier Gordon Campbell and Minister Barry Penner (Top Row: John Robinson, Teresa Coady, Premier Gordon Campbell, Sean Atleo, Minister Barry Penner, Cheryl Slusarchuk (Chair), Joe Van Belleghem, Andrew Weaver. Bottom Row: Lyn Brown, Donna Barnett, Naomi Divine, Ian Tostenson)*