Climate Policy Options

Learn about the different options for climate policy. Explore two real-world examples, and investigate local policies in your region.

A climate policy typically includes various instruments used synonymously, reinforcing each other and achieving the overall target of emissions reduction. Below are some climate policy options that may be part of a climate policy portfolio:

Carbon Pricing

Carbon pricing includes policy tools that impose a cost to emitting greenhouse gases. There are three main kinds of Carbon Pricing options - **carbon tax**, **cap-and-trade system**, and a **hybrid** of the two options (Canada's Ecofiscal Commission, 2019).

Carbon Tax

A carbon tax puts a direct price on emitting greenhouse gas emissions. Typically set as $ per tonne of emissions, this policy tool reduces emissions as there is a direct cost associated (Canada's Ecofiscal Commission, 2019).

A common myth about carbon tax is that it is a "cash grab" for governments. This is incorrect, as the funds generated from carbon pricing are typically reinvested into the society for clean tech initiatives and building a greener economy. In 2016, the Canadian government introduced carbon pricing under the Pan Canadian Framework for Climate Change which gives provinces and territories a chance to develop their own carbon pricing mechanism.

In the absence of that, the federal carbon pricing is imposed; where the direct proceeds from the tax are returned back to the jurisdiction (Environment and Climate Change Canada, 2016).

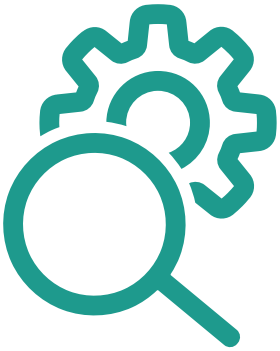
Cap-and-Trade System

In an Emissions Trading System (ETS), or "cap-and-trade system", the government puts a cap on the amount of emissions released and distributes permits equal to an allowed level of emissions to each party. Parties that emit below the cap can trade their excess permits with parties that emit over the cap. This exchange happens in the trading market, where the price of carbon is set according to the overall demand and supply of permits (Center for Sustainable Systems, University of Michigan, 2019).

Hybrid Approach

A hybrid approach uses a combination of both carbon tax and cap-and-trade system. For instance, this approach might involve setting up a carbon tax plan that accepts emission reduction units to lower tax liability.

Mitigation Regulations



Mitigation regulations aim to eliminate the causes of climate change by introducing measures that will reduce emissions. This may include technology and performance standards, product bans, research and development programs, and government investment into cleaner technology such as energy efficiency programs (Center for Sustainable Systems, University of Michigan, 2019).

R&D and Technology Fund Programs

Programs dedicated to the research and development of innovative technological solutions to a low carbon future. For instance, the government of Canada's Clean Growth Hub Fund supports the transition to a low-carbon and low-pollution economy (Environment and Climate Change Canada, 2020).

Conservation Programs

Programs that aim to protect communities and natural resources vulnerable to the negative effects of climate change. For instance, the government of Canada's Aboriginal Fund for Species at Risk supports the conservation, protection, and recovery of species at risk and their habitats on Indigenous lands or traditionally used territories (Environment and Climate Change Canada, 2020).

Energy Efficiency Programs

Energy saving programs supported by the government, incentivize the adoption of energy efficient consumer products, residential and commercial buildings, efficiency retrofits and alternative fuel vehicles. Below are some examples of energy saving measures supported by governments across North America:

- Installation of LED lighting across residential and commercial buildings.
- Commercial and residential building upgrades to make them energy efficient by installing energy efficient appliances, weather proofing to improve the building envelope, and installing high efficiency HVAC systems.
- Installation of residential renewable energy systems, such as solar panels by providing incentives.
- Utility demand side management programs by incentivizing the use of electricity at non-peak times (e.g., consumers of a participating utility will receive a better electricity rate if they do their laundry at a non-peak hour).
- Adoption of electric and low emissions-vehicles by providing incentives to buy such vehicles and providing free public charging stations, and/or providing incentives for installing a residential garage charging unit.

Jurisdictional Scan - Implementation of Climate Policy Options

Country Example - Morocco

The Paris Agreement is an international treaty on climate change, with the goal to hold "the increase in the global average temperature to well below 2°C above pre-industrial levels" and pursue efforts "to limit the temperature increase to 1.5°C above pre-industrial levels." This legally binding agreement was adopted by 196 parties at the UN Climate Change Conference (COP21) in 2015 (UNFCCC, 2015).

Each party to the Paris Agreement is required to establish a Nationally Determined Contribution (NDC), which is a climate action plan that outlines how the party will cut emissions and adapt to climate impacts. Nearly four years after the Paris Agreement was signed, Morocco was one of only two countries (alongside The Gambia), to have a CO2 emission reduction plan that will limit temperature increase to 1.5 degrees Celsius (National Geographic, 2019).

In the last decades, Morocco has developed several policies that focus on climate change resilience. A large proportion of Morocco's population, and key sectors of its economy are vulnerable to rising temperatures, changes in precipitation patterns, and increasing climatic aridity. In terms of human and economic impact, the most significant concern are floods and droughts. The most significant in terms of potential human and economic impact economic impact are floods and droughts, which can affect many parts of the country (Morocco, 2022). Therefore, climate change mitigation and adaptation are a top priority for Morocco.

View the NDCs of the various Paris Agreement parties here:
https://unfccc.int/NDCREG

The Climate Action Tracker (CAT) is a tool that tracks government climate action, and measures it against the Paris Agreement:
https://climateactiontracker.org/

Morocco's climate change strategy puts a large emphasis on their energy sector, and is a central focus of its mitigation efforts. This country is dedicated on working toward an "expansion of renewable electricity generation from a share of 17.6% in 2020 to of 52% by 2030" (IEA, 2023). This strategy seems appropriate; Morocco is a leader in concentrated solar energy, home to the world's largest concentrated solar energy farm – the 580 megawatts Noor-Ouarzazate complex located in the Sahara Desert (image beside) – the farm has the potential to offset over 760,000 tonnes of carbon emissions from our planet (CNN, 2019).

By ESA / Copernicus Sentinel-2A - S2A_tile_20190320_29RQQ, CC BY-SA 3.0 igo, https://commons.wikimedia.org/w/index.php?curid=77547802

Municipality Example - Calgary, Alberta

In 2021, the Calgary City Council voted to declare a Climate Emergency. This means that Calgary is on record in support of the necessary and emergency actions that are needed to respond to climate change (City of Calgary, 2024).

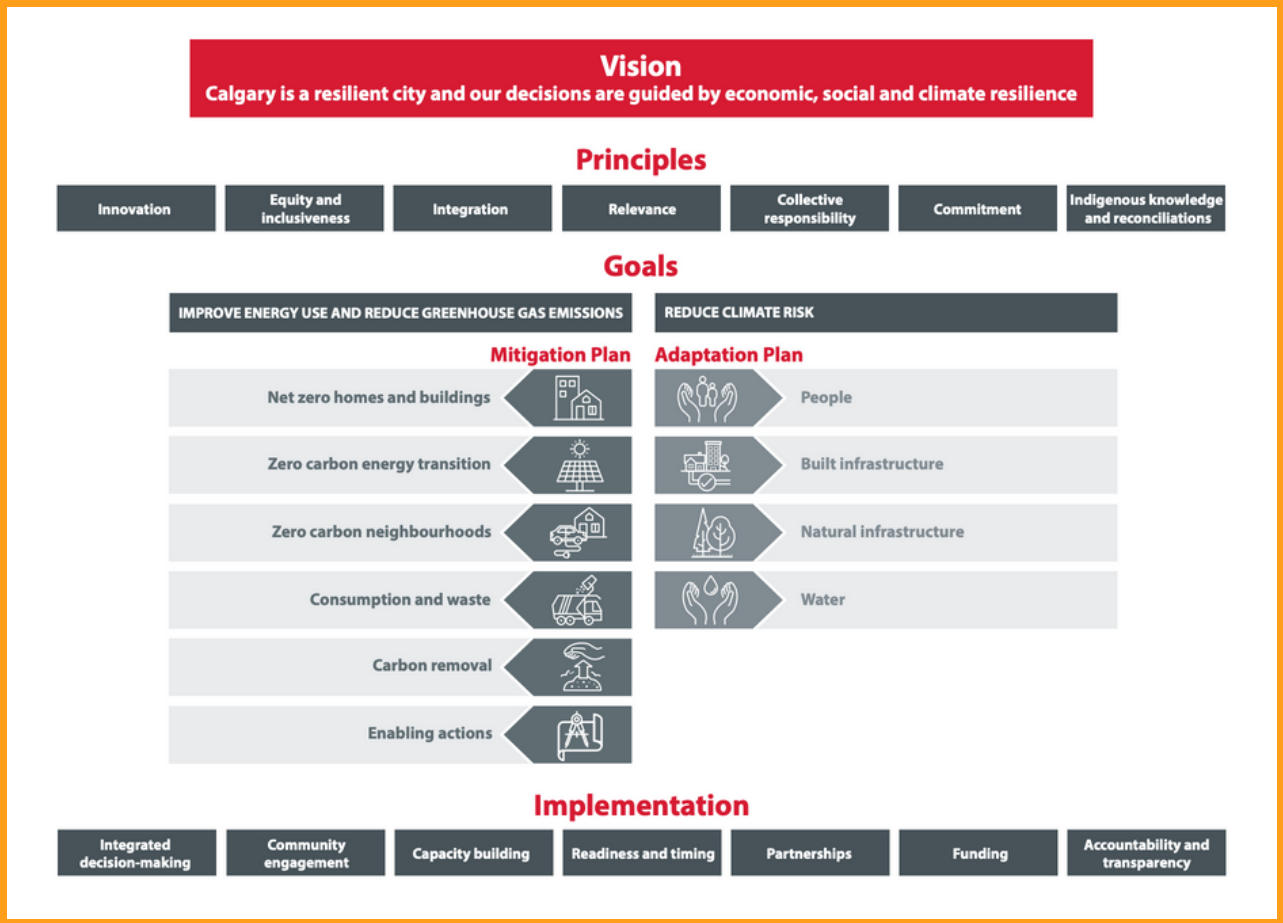
The City of Calgary originally introduced its Climate Resilience Strategy in 2018, which builds on two main pillars of addressing climate change: climate mitigation and climate adaptation. In 2022, the Calgary City Council approved the Calgary Climate Strategy to adjust the pace and scale of the City's plans to achieve net zero emissions by 2050 (City of Calgary, 2024). This new strategy is similar to the original from 2018, but takes into account the urgency of the Council Climate Emergency declaration.

The Climate Strategy framework (below) gives a quick overview of how the City plans to move forward.

The City's Climate Resilience Strategy can be reviewed here in detail:

https://www.calgary.ca/environment/climate.html

Calgary's Climate Strategy Framework



City of Calgary, 2024

Federal Climate Action Policies

Over the years, the Canadian government has implemented various policies to tackle climate change. To meet the targets set out in the Paris Agreement, the Canadian government implemented the Pan Canadian Framework on Clean Growth and Climate Change in 2016. This federal policy aims to reduce emissions, along with growing the economy and building resilience to tackle climate change —including pricing carbon pollution, addressing market barriers for adoption of energy efficient products, and building resiliency to adapt to a changing climate (Environment and Climate Change Canada, 2016).

Under the Pan-Canadian Framework on Clean Growth and Climate Change, all the provinces and territories of Canada are required to have carbon pricing in place, with the choice of introducing a carbon tax or a cap-and-trade system. The revenue generated from carbon pricing stays within the provinces and territories, and is used to transition to a low carbon and diversified energy future (MillerThomson, 2016). This is accomplished by pricing carbon pollution and investing the funds generated from the tax towards clean technology and innovation, which in turn will drive an increase in jobs and diversify the economy.

Where carbon pricing is not sufficient to drive change, the government will introduce tighter performance standards such as improved vehicle emissions standards and building codes. Under this framework, the government also intends to make communities and infrastructure adaptive and resilient to the effects of climate change (such as preparing for increased risks of floods, wildfires, and other extreme weather events). The government also identifies the rights of Indigenous Peoples as it implements all the stated measures to combat climate change under this framework(Environment and Climate Change Canada, 2016).

To further investigate the federal climate action plan, visit the link below:

https://www.canada.ca/en/services/environment/weather/climatechange/climate-plan/climate-plan-overview.html

On the next page are some of the current provincial and municipal policies that work together to achieve this federal commitment.

Provincial Climate Policies

Provinces across Canada have different climate action policies to meet the federal climate action requirements under the Pan-Canadian Framework on Clean Growth and Climate Change.Through provincial laws and regulations, provinces implement frameworks to address climate change, typically working in conjunction with federal laws and regulations. Below are some resources that can be used to further understand all the current provincial climate policies in place:

- British Columbia - Climate Planning & Action
  - www2.gov.bc.ca/gov/content/environment/climate-change/planning-and-action
- Alberta - Emissions Reduction and Energy Development Plan
  - www.alberta.ca/emissions-reduction-and-energy-development-plan
- Saskatchewan's Climate Change Strategy
  - https://www.saskatchewan.ca/business/environmental-protection-and-sustainability/a-made-in-saskatchewan-climate-change-strategy/saskatchewans-climate-change-strategy
- Made-in-Manitoba Climate and Green Plan
  - https://www.gov.mb.ca/climateandgreenplan/index.html
- Made-in-Ontario Environment Plan
  - https://www.ontario.ca/page/climate-change
- Quebec's 2023 Plan for a Green Economy
  - https://www.quebec.ca/en/government/policies-orientations/plan-green-economy/implementation
- New Brunswick's Climate Change Action Plan
  - https://www2.gnb.ca/content/dam/gnb/Departments/env/pdf/Climate-Climatiques/TransitioningToALowCarbonEconomy.pdf
- Climate Change Nova Scotia
  - https://climatechange.novascotia.ca/
- Newfoundland and Labrador Climate Action Plan
  - https://www.gov.nl.ca/ecc/occ/
- PEI Climate Adaptation Plan
  - https://www.princeedwardisland.ca/en/information/environment-energy-and-climate-action/climate-adaptation-plan
- Climate Change Action in Yukon
  - https://yukon.ca/en/climate-change-yukon#how-were-taking-action-on-climate-change
- North West Territories 2030 Climate Change Strategic Framework
  - https://www.gov.nt.ca/ecc/en/services/climate-change/2030-nwt-climate-change-strategic-framework
- Climate Change Secretariat Nunavut - Mitigation Information
  - https://climatechangenunavut.ca/en/climate-change/climate-change-mitigation

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