

ASSESSING CLIMATE PROTECTION PERFORMANCE:
G20 COUNTRY PROFILE

Canada

This Country Profile assesses Canada's past and present actions to help mitigate climate change, and its Intended Nationally Determined Contribution (INDC) towards future global action. The profile summarises the respective findings of the Climate Change Performance Index (CCPI)ⁱ and Climate Action Tracker (CAT)ⁱⁱ.



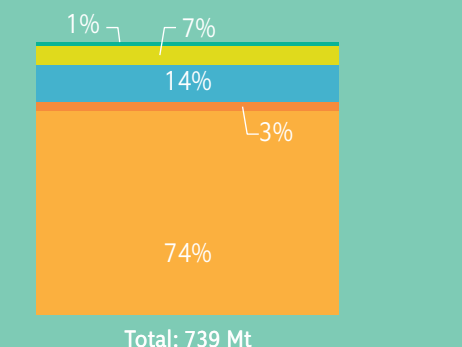
COUNTRY CHARACTERISTICS

KEY INDICATORS*	CANADA	G20
Population [million]	34	4,587
GDP per capita (PPP) [US\$]	37,017	14,505
Share of global GHG emissions	1.4%	74.2%
Share of global GDP	1.6%	80.3%
Share of global population	0.5%	64.7%
GHG per capita [t CO ₂ e/cap]	21.2	7.2
Energy intensity of the economy (TPES/GDP [MJ/US\$])	8.3	6.6
Carbon intensity of energy supply (CO ₂ /TPES [t CO ₂ /TJ])	50.8	63.1
Carbon intensity of the economy (CO ₂ /GDP [kg CO ₂ /US\$])	0.41	0.42
Share of fossil fuels in primary energy supply	73.4%	83.4%
Share of coal in electricity production	10.0%	35.7%
Share of renewables in primary energy supply	18.3%	11.1%

*year 2012 (unless stated otherwise)
 GDP = gross domestic product
 GHG = greenhouse gas emissions (net emissions including sinks from agriculture, forestry, and other land uses)
 TPES = total primary energy supply
 PPP = purchasing power parity in prices of 2005

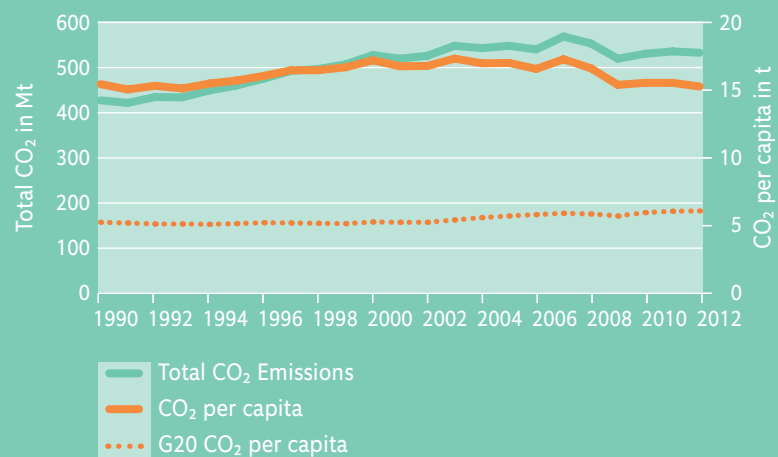
EMISSIONS AND EMISSIONS TRENDS

COMPOSITION OF GHG – CANADA 2012



■ F-Gases
■ N₂O
■ CH₄
■ CO₂ from LULUCF
■ CO₂ excl. LULUCF*
 * from Energy & Industry
 ** including LULUCF

ENERGY-RELATED CO₂-EMISSIONS – CANADA



Source: UNFCCC 2015

Source: IEA 2014

In Canada, carbon dioxide (CO₂) accounts for three quarters of greenhouse gas (GHG) emissions. Both total energy-related CO₂ emissions and per capita CO₂ emissions are at a high level, compared with other countries. Per capita emissions are more than double

the G20 average. On a positive note, both indicators have fallen slightly compared with 2007 levels. Canada's emission level is ranked very poor by the CCPI, in comparison with other G20 countries. There is a weak trend towards lower emissions in the last five years.

CCPI EVALUATION OF CANADA'S EMISSIONS



Source: CCPI 2015

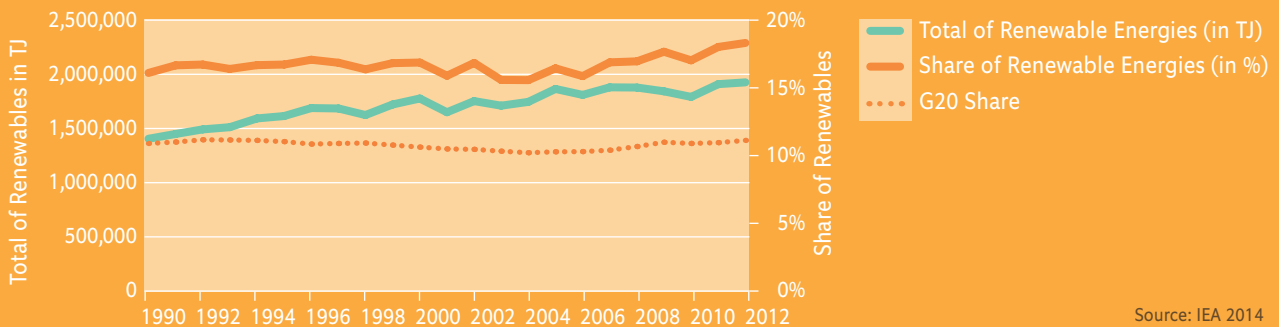
DECARBONISATION

Decarbonisation of the global economy will be a crucial element for staying below the 2°C threshold. Two important steps towards achieving such decarboni-

sation are a shift from fossil fuels to renewable energy sources, and a reduction in carbon and energy intensityⁱⁱⁱ.

RENEWABLE ENERGY

RENEWABLE ENERGIES IN CANADA



Source: IEA 2014

Total annual renewable energy production has increased gradually over the past several decades. The share of renewables has been relatively stable,

with a small increase in the past decade. Canada is ranked as a medium performer with a slightly positive trend.

CCPI EVALUATION OF CANADA'S RENEWABLE ENERGY



Source: CCPI 2015

ENERGY- AND CARBON INTENSITY

The measurement of carbon and energy intensity uses macroeconomic data. A country's progress towards decarbonisation is indicated by decoupling of its GDP growth from growth in carbon and energy

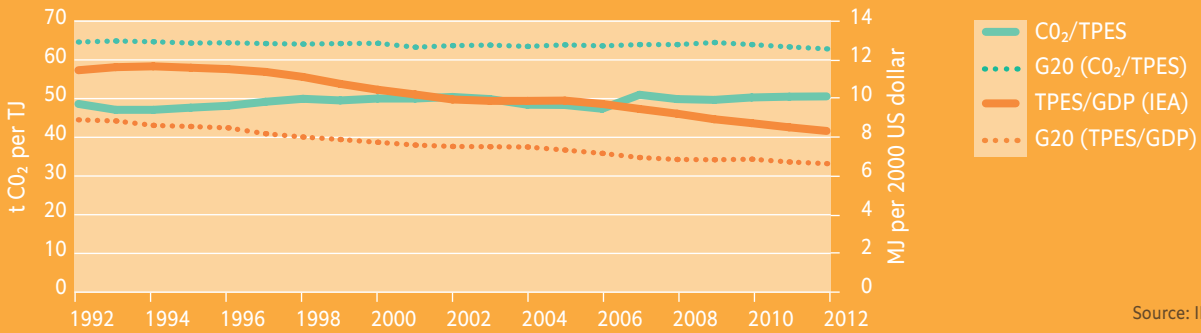
intensity. The latter are measured as CO₂ emissions per unit of Primary Energy Supply (CO₂/TPES) and Primary Energy Supply per unit of GDP (TPES/GDP) respectively.

ii Climate Change Performance Index is jointly published by Germanwatch and Climate Action Network Europe, a coalition of over 120 member organizations. The Index is 80% based on objective indicators of emissions trend and level, renewable energies and energy efficiency and 20% on national and international climate policy assessments by more than 300 experts from the respective countries. www.germanwatch.org/en/ccpi

ii Climate Action Tracker is an independent scientific analysis produced by four research organizations: Climate Analytics, Ecofys, the Potsdam Institute for Climate Impact Studies and the NewClimate Institute. www.climateactiontracker.org

iii Another indicator is energy efficiency. However, energy efficiency is complex to measure, requiring a sector by sector analysis, where comparable data sources across G20 countries are not available at present.

ENERGY- AND CARBON INTENSITY IN CANADA



Source: IEA 2014

There have not been visible changes in the carbon intensity of Canada's energy supply (CO₂/TPES). Since 1992, the indicator has remained at a level of about 50 tonnes of CO₂ per terajoule (TJ), which is

just below the G20 average. The energy intensity of the economy (TPES/GDP) is declining in line with the G20 average. Canada's energy and carbon intensity is ranked as poor with a slightly positive trend.

CCPI EVALUATION OF CANADA'S ENERGY AND CARBON INTENSITY



Source: CCPI 2015

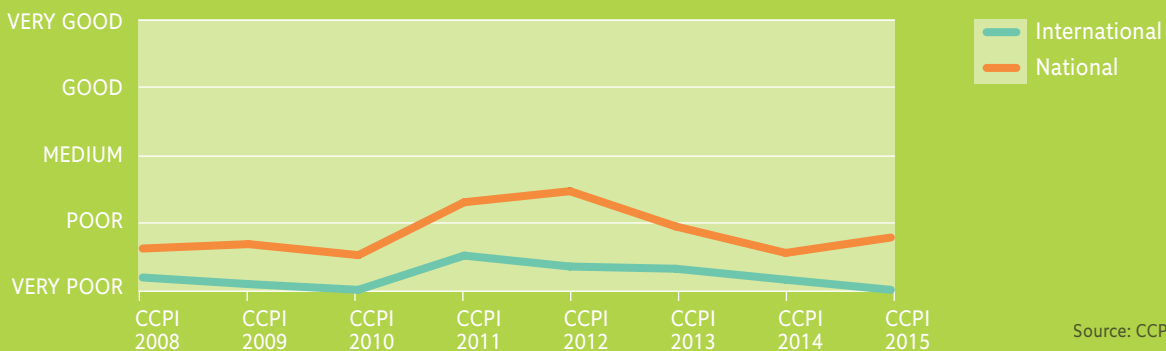
CLIMATE POLICY PERFORMANCE

EVALUATION OF RECENT CLIMATE POLICY

The CCPI evaluates a country's performance in national and international climate policy through feedback from national energy and climate experts.

The experts assess the country's performance in international negotiations, national policy making and in the implementation of climate policies.

CANADA'S CLIMATE POLICY



Source: CCPI 2008-2015

Canada's climate policy performance on both the national and international levels is ranked as very poor to poor by the CCPI country experts. Canada left the Kyoto Protocol in 2011. In the following years,

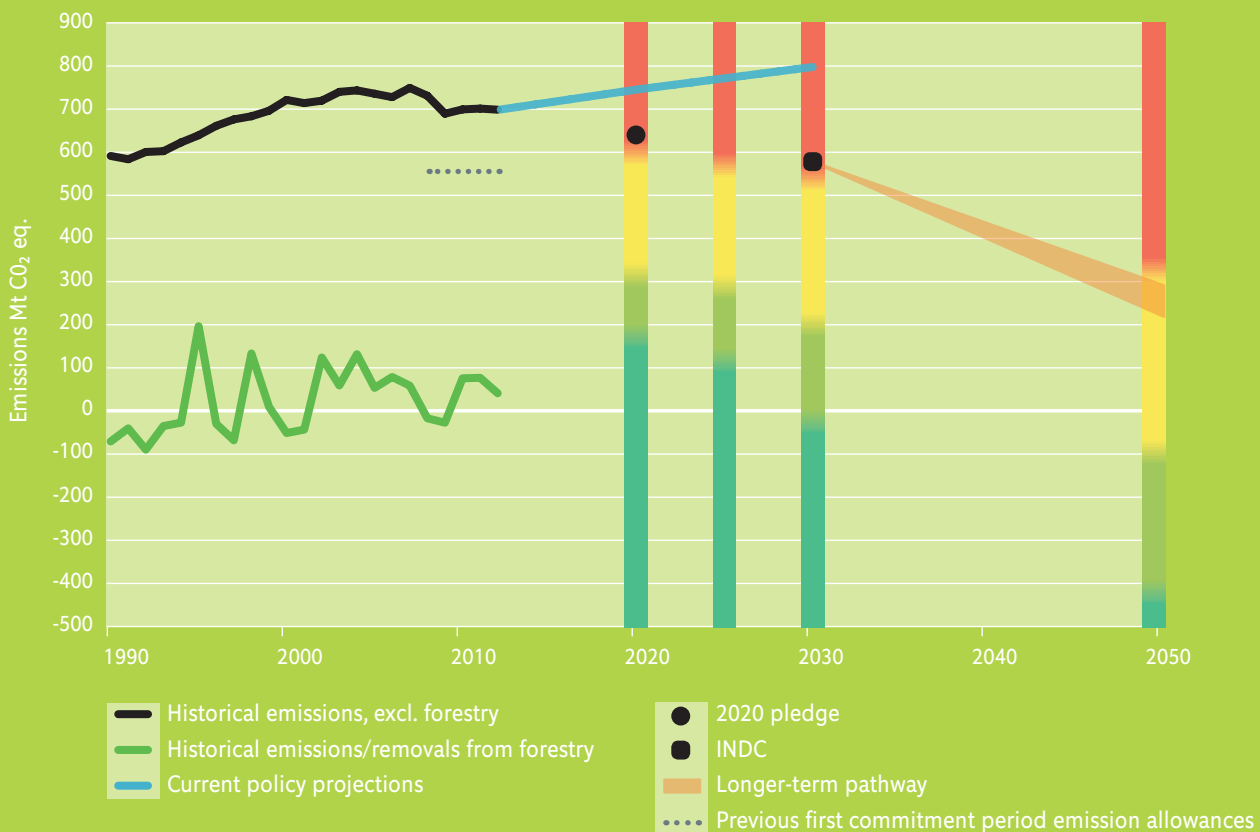
there have been no positive developments. Performance at the national level is slightly better, but still ranges between poor and very poor. Positive developments can be observed on a regional level.

CCPI EVALUATION OF CANADA'S CLIMATE POLICY



Source: CCPI 2015

COMPATIBILITY OF NATIONAL CLIMATE TARGETS WITH 2°C



Source: © www.climateactiontracker.org/Climate Analytics/Ecofys/ NewClimate/PIK

Canada submitted its Intended Nationally Determined Contribution (INDC) on 15 May 2015, communicating an economy-wide target to reduce greenhouse gas (GHG) emissions by 30% below 2005 levels in 2030. After accounting for forestry, the Climate Action Tracker (CAT) estimates that this is a reduction of 21% below 2005 levels of industrial GHG emissions. That is equivalent to a reduction of just 2% below 1990 industrial GHG emissions levels. According to the effort-sharing principles considered in the CAT methodology, this INDC is rated “inadequate”. Such a rating indicates that Canada’s INDC is not consistent with various interpretations of an equitable approach to reach a 2°C pathway, meaning that if all governments showed such low ambition levels warming would likely exceed 3–4°C.

Canada’s INDC confirms the inclusion of Land Use, Land Use Change and Forestry (LULUCF) accounting (based on a net-net approach) in its 2030 GHG mitigation framework. CAT estimates that net-net accounting in the LULUCF sector is likely to provide credits of 63Mt CO₂e, and therefore increase the allowed level of industrial GHG emissions in 2030 by an amount equivalent to about 11% of 1990 industrial GHG emissions. Under current policy projections, Canada is not expected to meet its targets. In 2030, emissions are projected to increase by 35% above 1990 levels, to 798 Mt CO₂e.

CAT EVALUATION OF CANADA’S INTENDED NATIONALLY DETERMINED CONTRIBUTIONS (INDC)

