

## BROWN TO GREEN:

### THE G20 TRANSITION TO A LOW-CARBON ECONOMY | 2018

# CANADA

GREENHOUSE GAS (GHG) EMISSIONS  
(INCL. FORESTRY) PER CAPITA  
(tCO<sub>2</sub>e/capita)



Data from 2015 | Source: PRIMAP 2018



#### The gap:

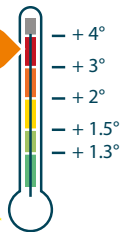
Is Canada on track to stay below the Paris Agreement temperature limit?

Based on implemented policies, Canada's **GHG emissions** are projected to increase to between 636 and 775 MtCO<sub>2</sub>e (excl. forestry) in 2030. This emission pathway is not compatible with the Paris Agreement.<sup>1</sup>

Canada's **NDC** is not consistent with the Paris Agreement's temperature limit but would lead to a warming between 3°C and 4°C (CAT 2018).<sup>2</sup>

Canada's sectoral **policies** are still falling short of consistency with the Paris Agreement, but the country's ambitious policy on coal phase-out is promising.<sup>3</sup>

Current NDC<sup>2</sup>



Source: CAT 2018

#### Recent developments:

What has happened since the Paris conference?



The introduction of the carbon tax was postponed by a year, now set to take effect in January 2019.



The Government of Canada has decided to purchase the Kinder Trans Mountain Expansion Project and related pipeline and terminal assets for US\$4.5bn.



The Pan-Canadian Framework on Clean Growth and Climate Change contains proposals for economy-wide measures, including a carbon pricing plan and a plan to phase out traditional coal plants.

#### Brown and green performance:

Where does Canada lead or lag compared to G20 countries?

BUILDING EMISSIONS PER CAPITA  
(tCO<sub>2</sub>/capita)



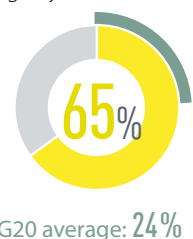
Data from 2016 | Source: Enerdata 2018

TRANSPORT EMISSIONS PER CAPITA  
(tCO<sub>2</sub>/capita)



Data from 2017 | Source: Enerdata 2018

SHARE OF RENEWABLES IN  
POWER GENERATION  
(incl. large hydro)

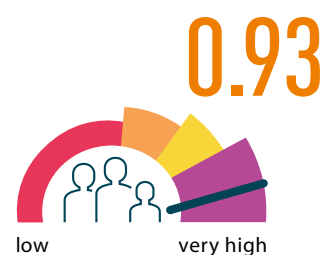


Data from 2017 | Source: Enerdata 2018

This country profile is part of the **Brown to Green 2018** report. The full report and other G20 country profiles can be downloaded at: <http://www.climate-transparency.org/g20-climate-performance/g20report2018>

BACKGROUND INDICATORS:  
CANADAGDP PER CAPITA<sup>4</sup>  
(PPP US\$ const. 2015, international)

Source: World Bank 2017

HUMAN DEVELOPMENT INDEX<sup>5</sup>

Data from 2017 | Source: UNDP 2018

CANADA'S EXPOSURE TO CLIMATE IMPACTS<sup>6</sup>

This indicator shows the extent to which human society and its supporting sectors are affected by the future changing climate conditions based on an approximately 2°C scenario. This sectoral exposure will be even higher given that the efforts depicted in current NDCs will lead to an approximately 3°C scenario.



## FOOD



Projected climate impacts on cereal yields



Projected increase of food demand due to population growth



## WATER



Projected climate impacts on annual run-off



Projected climate impacts on annual groundwater recharge



## HEALTH



Projected climate impacts on a spread of malnutrition and diarrhoeal diseases



Projected climate impacts on spread of vector-borne diseases

ECOSYSTEM  
SERVICE

Projected climate impacts on biomes occupying the countries



Projected climate impacts on marine biodiversity



## HUMAN HABITAT



Projected climate impacts on frequency of high temperature periods



Projected climate impacts on frequency and severity of floods



## INFRASTRUCTURE



Projected climate impacts on hydropower generation capacity



Proportion of coastline impacted by sea level rise

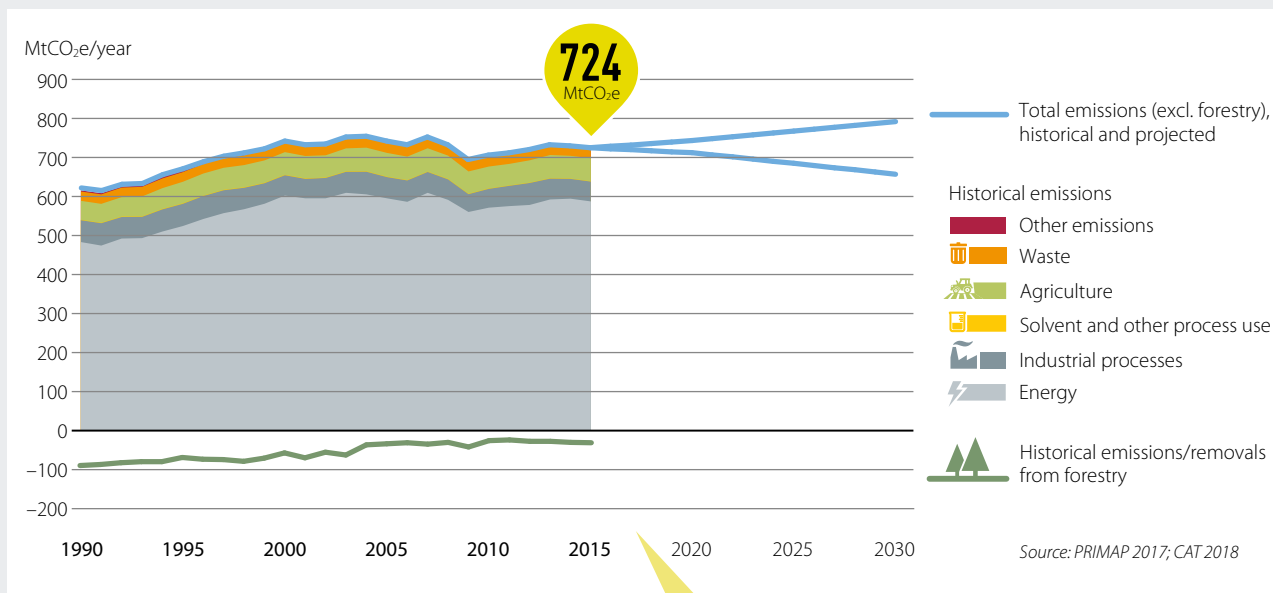


Own composition based on ND-GAIN 2017 (based on data for 2016)



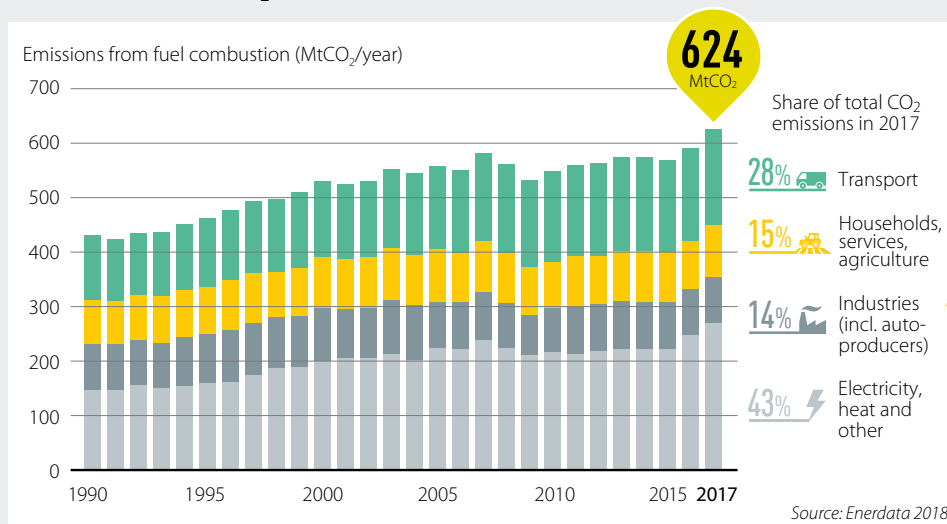
## GREENHOUSE GAS (GHG) EMISSIONS

CANADA

TOTAL GHG EMISSIONS ACROSS SECTORS<sup>7</sup>CCPI PERFORMANCE RATING OF GHG EMISSIONS PER CAPITA<sup>8</sup>

Source: CCPI 2018

Canada's emissions increased by 18% between 1990 and 2015. Different emissions scenarios for 2030 indicate that emissions might further increase or slightly decrease but are not expected to fall below 1990 levels. The energy sector contributes most to overall emissions.

ENERGY-RELATED CO<sub>2</sub> EMISSIONS<sup>9</sup>

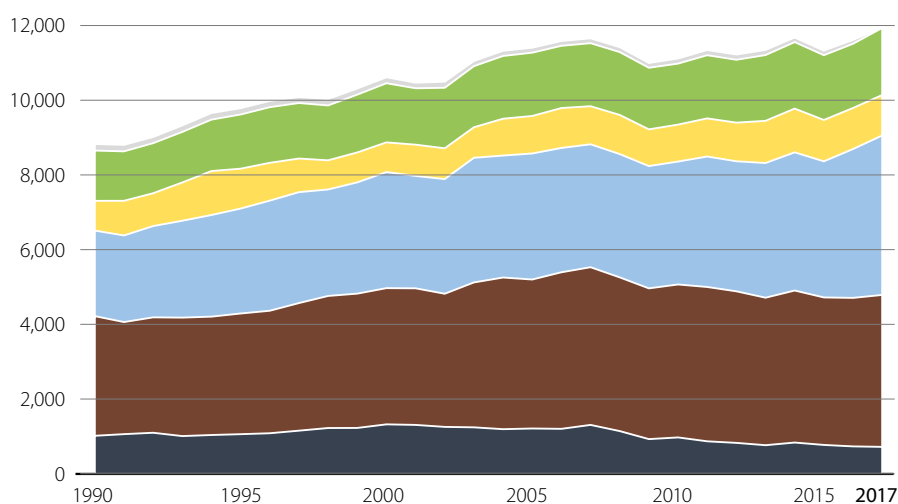
CO<sub>2</sub> emissions from energy are the largest driver for overall GHG emissions. Since 2016, these emissions started to increase again in Canada. The largest share stems from electricity and heat, and transport.

## DECARBONISATION

## CANADA

### ENERGY MIX<sup>10</sup>

Total primary energy supply (PJ)

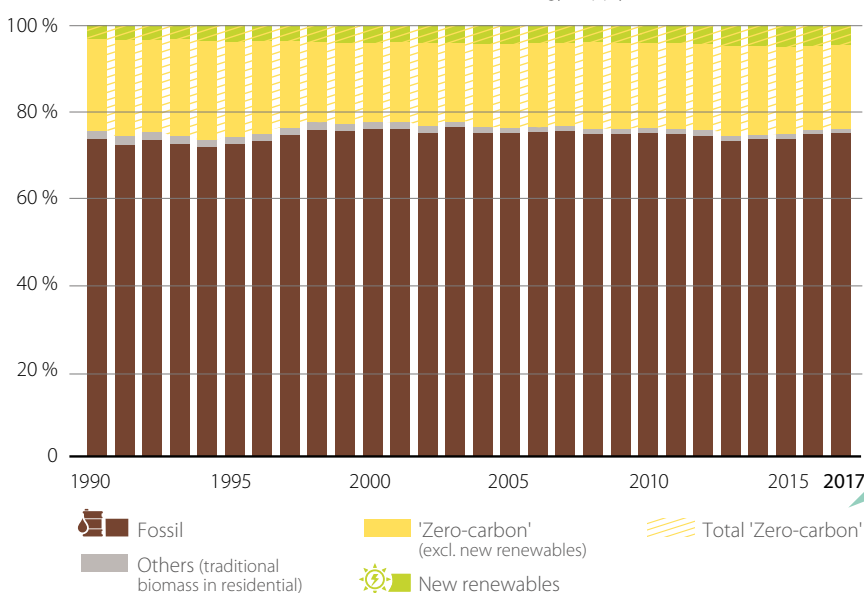


Source: Enerdata 2018

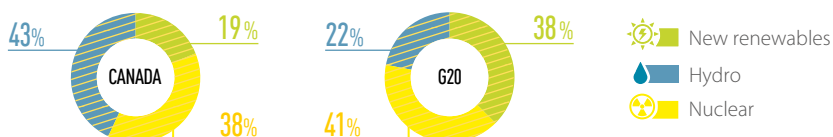
Note: numbers might not add up to 100% due to exclusion of residential biomass from the share of renewables.

### SHARE OF FOSSIL FUELS AND 'ZERO-CARBON' FUELS IN ENERGY SUPPLY<sup>11</sup>

Share of fossil, 'zero-carbon', new renewables and others in energy supply (%)



#### 'ZERO-CARBON' SHARES



Source: Enerdata 2018

### PERFORMANCE RATING OF SHARE OF FOSSIL FUELS<sup>12</sup>



Source: own evaluation

Zero-carbon fuels include nuclear, hydropower, new renewables. In Canada, the share of these sources in the energy mix has decreased to 24%, which is still above the G20 average (14%).

### PERFORMANCE RATING OF SHARE OF ZERO-CARBON TECHNOLOGY<sup>12</sup>

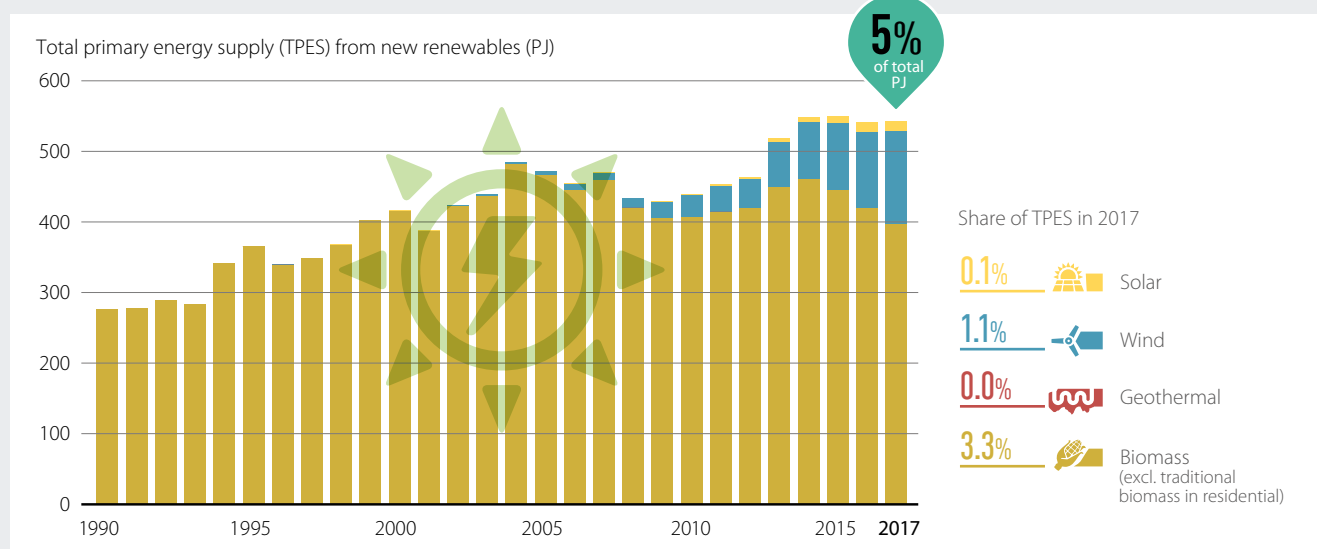


Source: own evaluation

## DECARBONISATION

## CANADA

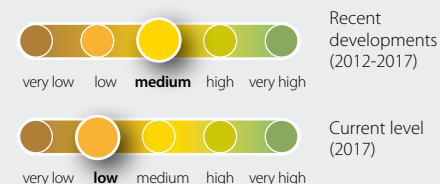
### NEW RENEWABLES<sup>13</sup>



Source: Enerdata 2018

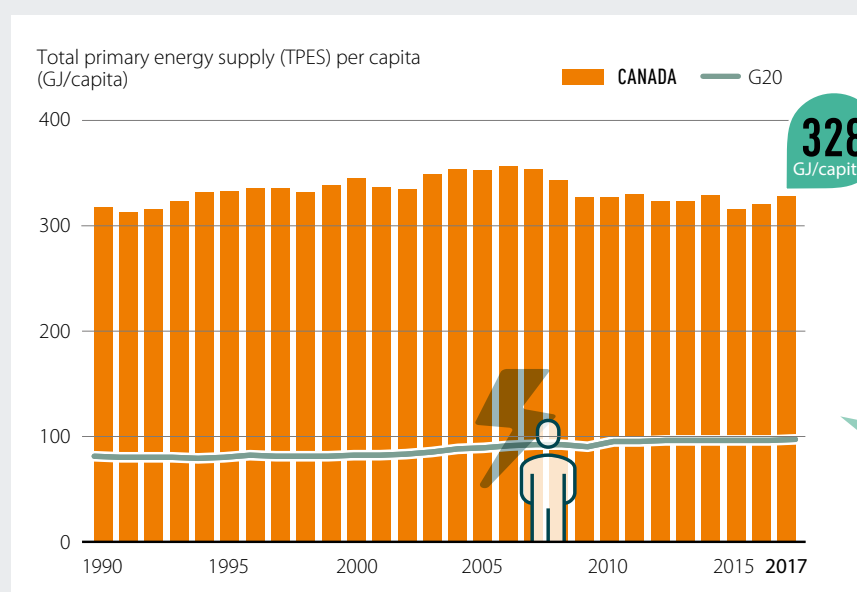
"New renewables" excludes unsustainable renewable sources such as large hydropower. Canada sources 5% of its energy supply from new renewable sources and this share has only increased by 9% (2012–2017), which is at the lower end of the G20. Wind and solar energy are the main drivers.

### PERFORMANCE RATING OF NEW RENEWABLES<sup>12</sup>



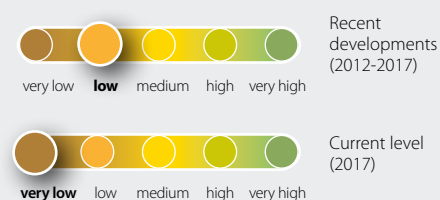
Source: own evaluation

### ENERGY USE PER CAPITA<sup>14</sup>



Source: Enerdata 2018

### PERFORMANCE RATING OF ENERGY USE PER CAPITA<sup>12</sup>



Source: own evaluation

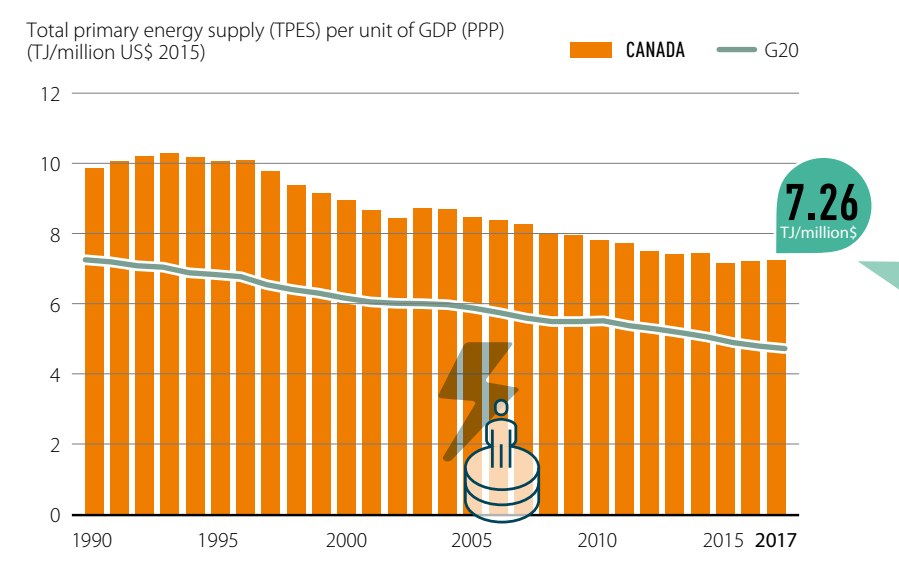
Canada has the G20's highest energy use per capita. The level peaked in 2007, remaining relatively stable with small ups and downs (+2%, 2012–2017).

CO<sub>2</sub>

DECARBONISATION

CANADA

ENERGY INTENSITY OF THE ECONOMY<sup>15</sup>



Source: Enerdata 2018

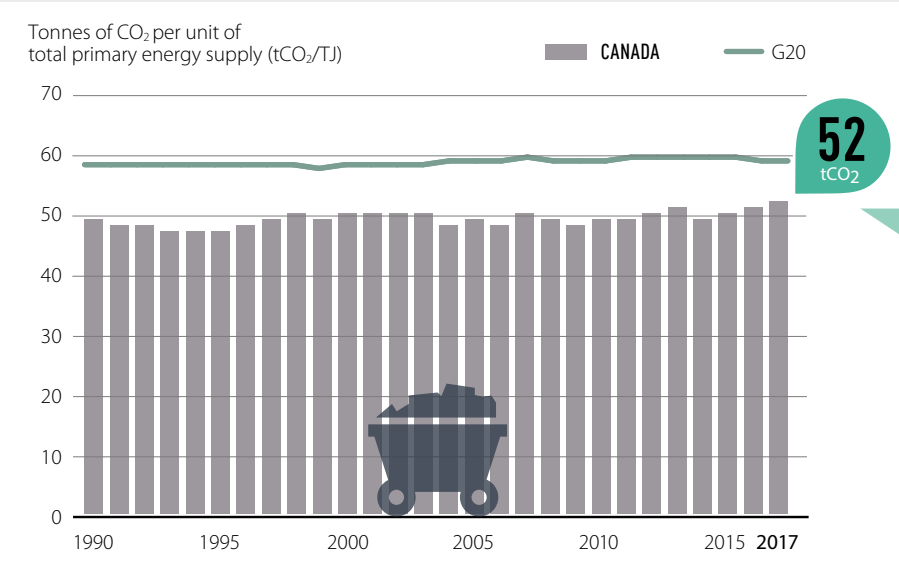
Canada's energy intensity is well above the G20 average and decreases at a smaller rate (-3%, 2012-2017) than the G20 (-11%).

PERFORMANCE RATING OF ENERGY INTENSITY<sup>12</sup>



Source: own evaluation

CARBON INTENSITY OF THE ENERGY SECTOR<sup>16</sup>



Source: Enerdata 2018

The carbon intensity of Canada's energy sector is below the G20 average but has recently increased – in contrast to the G20's downwards trend. This reflects the increasing share of fossil fuels.

PERFORMANCE RATING OF CARBON INTENSITY<sup>12</sup>



Source: own evaluation

# DECARBONISATION

## CANADA

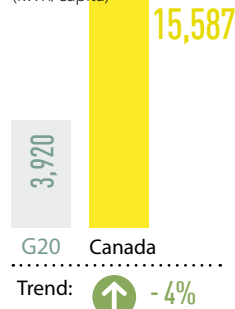
### SECTOR-SPECIFIC INDICATORS

Legend for trend: negative positive

The trend number shows developments over the past five years, where data is available

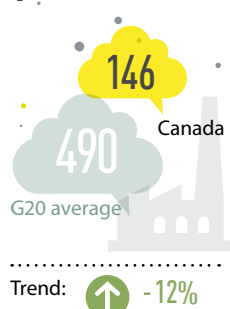
#### POWER SECTOR

ELECTRICITY DEMAND PER CAPITA  
(kWh/capita)



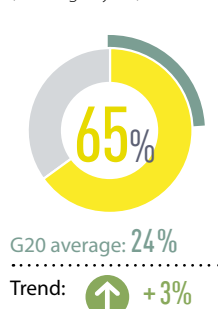
Data from 2017  
Source: Enerdata 2018

EMISSIONS INTENSITY OF THE POWER SECTOR  
(gCO<sub>2</sub>/kWh)



Data from 2016  
Source: Enerdata 2018

SHARE OF RENEWABLES IN POWER GENERATION  
(incl. large hydro)



Data from 2017  
Source: Enerdata 2018

SHARE OF POPULATION WITH ACCESS TO ELECTRICITY



Data from 2016  
Source: World Bank 2018

SHARE OF POPULATION WITH BIOMASS DEPENDENCY



Data from 2014  
Source: IEA 2016

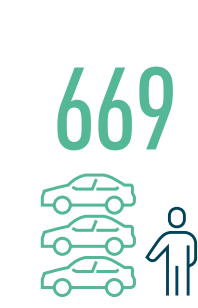
#### TRANSPORT SECTOR

TRANSPORT EMISSIONS PER CAPITA  
(tCO<sub>2</sub>/capita)



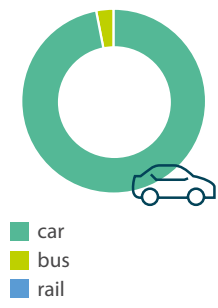
Data from 2017  
Source: Enerdata 2018

MOTORISATION RATE  
(Vehicles per 1000 inhabitants)



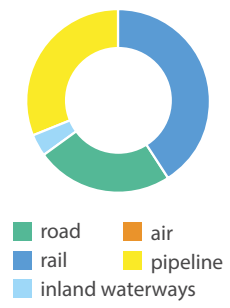
Data from 2016 | Source: Agora Verkehrswende 2018

PASSENGER TRANSPORT  
(modal split in % of passenger-km)



Data from 2016 | Source: Agora Verkehrswende 2018

FREIGHT TRANSPORT  
(modal split in % of tonne-km)



Data from 2015 | Source: Agora Verkehrswende 2018

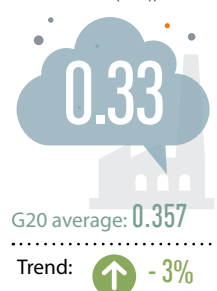
MARKET SHARE OF ELECTRIC VEHICLES IN NEW CAR SALES (%)



Data from 2017  
Source: IEA 2018

#### INDUSTRY SECTOR

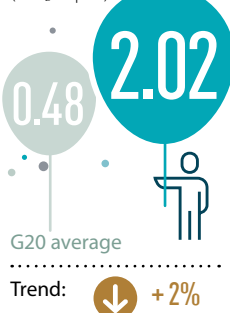
INDUSTRY EMISSIONS INTENSITY  
(tCO<sub>2</sub>e/thousand US\$2015 sectoral GDP (PPP))



Data from 2015  
Source: PRIMAP 2018

#### BUILDING SECTOR

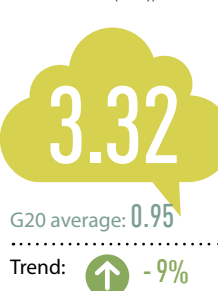
BUILDING EMISSIONS PER CAPITA  
(tCO<sub>2</sub>/capita)



Data from 2016  
Source: Enerdata 2018

#### AGRICULTURE SECTOR

AGRICULTURE EMISSIONS INTENSITY  
(tCO<sub>2</sub>e/thousand US\$2015 sectoral GDP (PPP))



Data from 2015  
Source: PRIMAP 2018

#### FOREST SECTOR

FOREST AREA COMPARED TO 1990 LEVEL (%)

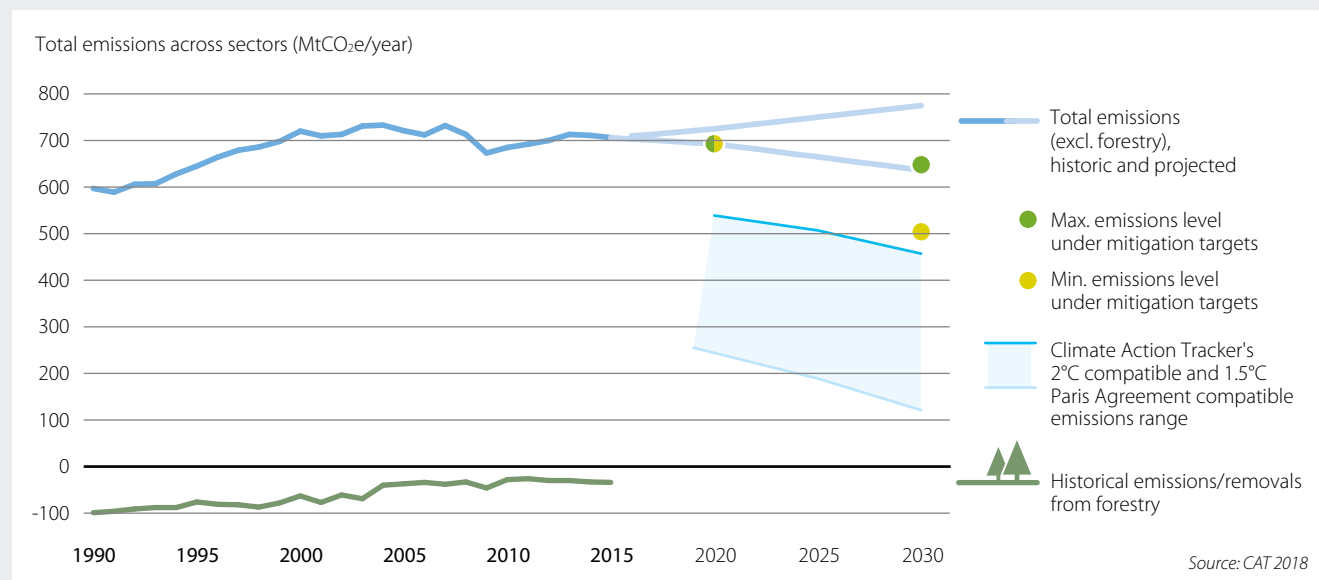


Data from 2015  
Source: PRIMAP 2018

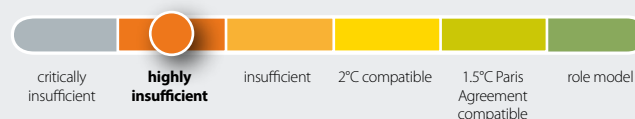


## CLIMATE POLICY

## CANADA

COMPATIBILITY OF CLIMATE TARGETS WITH THE PARIS AGREEMENT<sup>2</sup>

The CAT rates Canada's NDC "highly insufficient", as it is inconsistent with holding warming to below 2°C, let alone limiting to 1.5°C. Based on the 2016 Pan-Canadian Framework on Clean Growth and Climate, with proposals for carbon pricing and traditional coal power plant phase-out, Canada is likely to miss its NDC target to reduce economy-wide GHG emissions by 30% below 2005 levels by 2030. It remains unclear if Canada will rely on carbon sinks in forests, soils and wetlands to achieve its NDC.

CLIMATE ACTION TRACKER (CAT) EVALUATION OF NDC<sup>2</sup>

Source: CAT 2018

## NATIONALLY DETERMINED CONTRIBUTION (NDC)

Canada revised its first NDC in May 2017.

## MITIGATION

<b>Targets</b>	<b>Overall targets</b> To reduce GHG emissions by 30% below 2005 levels by 2030  <b>Coverage</b> 100% of emissions covered (all sectors and gases)
<b>Actions</b>	Actions specified (sectors: energy, transport, buildings, industry, agriculture, land use and forestry, waste)

## ADAPTATION

<b>Targets</b>	Not mentioned
<b>Actions</b>	Actions specified (sectors: infrastructure, health)

Source: own compilation based on UNFCCC 2018

## FINANCE

<b>Conditionality</b>	Not applicable
<b>Investment needs</b>	Not specified
<b>Actions</b>	National actions to align financial flows specified (fiscal policy levers and public spending)
<b>International market mechanisms</b>	Canada will explore the use of international mechanisms in the overall effort to achieve its 2030 target







## CLIMATE POLICY

## CANADA

POLICY EVALUATION<sup>17</sup>

The ratings evaluate a selection of policies that are essential pre-conditions for the longer-term transformation required to meet the 1.5°C limit. They do not represent a complete picture of what is necessary.

Legend:

**low** No action**medium** Some action**high** Significant action and a long-term vision**frontrunner** Significant action, and a long-term vision that is compatible with 1.5°C

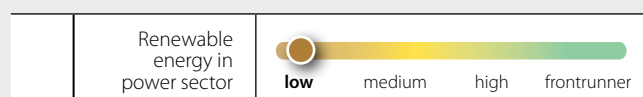
! most important measures based on share of emissions and political relevance



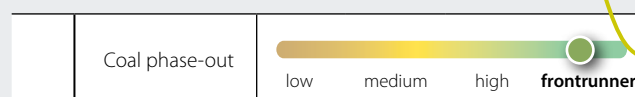
Canada does not have an official 2050 target. The document Canada submitted as its long-term strategy under the UNFCCC explores options for and implications of reducing emissions to

80% below 2005 levels by 2050. The 2016 Pan-Canadian Framework for Clean Economy and Climate Change offers more concrete steps to reduce emissions until 2030.

## POWER

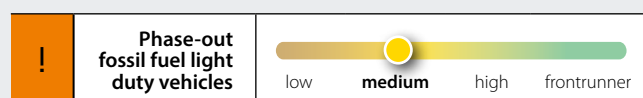


Canada has a high share of hydropower in its electricity mix but has not set itself a 100% renewable target, and the share of other renewable sources is still very low. Responsibility for renewable support schemes lies at provincial level.



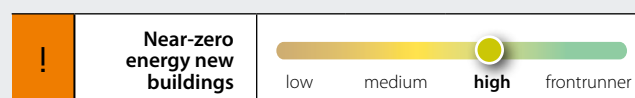
Canada has announced the phase-out of coal by 2030.

## TRANSPORT



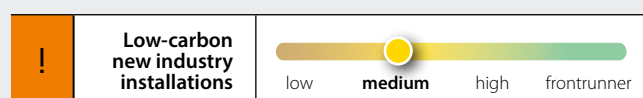
The government has adopted emissions and fuel standards for LDVs. Some provinces provide financial incentives on the purchase of electric vehicles, although some have been recently scrapped, but taxes on transport fuel remain very low compared to other OECD countries. Canada is currently developing a national Zero-Emissions Vehicle Strategy, to be published in 2018, and a Clean Fuel Standard.

## BUILDINGS



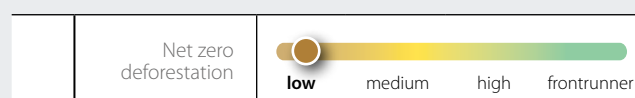
The different government levels are working together to adopt a "net-zero energy ready" code for new buildings by 2030 (2017 Buildings Strategy), and country-wide building code for existing buildings by 2022. Labelling of energy use of buildings will be mandatory from 2019.

## INDUSTRY



GHG emissions from industry are mainly driven by the oil and gas industry. Canada has various support schemes in place to strengthen energy efficiency in industry but has not set mandatory standards or low-carbon targets for emission-intensive industry.

## FORESTS



Deforestation rates in Canada are close to zero but forest degradation and forest fires are a major problem. Canada's approach to LULUCF accounting under the UNFCCC excludes "natural disturbance" so these substantial emissions are excluded from national accounts.

Source: own evaluation



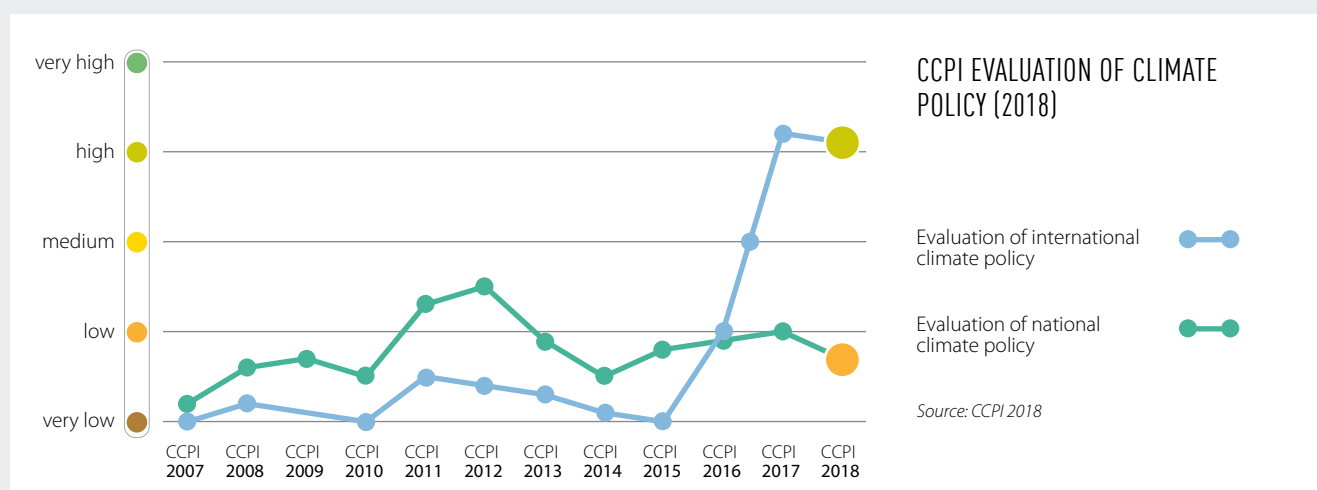
## CLIMATE POLICY

## CANADA

CCPI EXPERTS' POLICY EVALUATION<sup>18</sup>

Canada's experts rate the country's performance in national climate policy very low. Domestically, experts praise the leadership of several provinces for ambitious 2030 targets for their per capita emissions and energy supply from renewable sources. However, experts criticise the lack of joined-up climate responsibility at the national level and demand more specific strategies to progress with decarbonising the country's economy.

Experts give Canada's international climate policy a very high rating. They note its leading role in the international climate negotiations.

JUST TRANSITION<sup>19</sup>

Canada's fossil fuels industry accounts for 1% of the national workforce, concentrated in Alberta, Saskatchewan and Newfoundland and Labrador provinces. Alberta is particularly vulnerable to a low-carbon economic transition, with 6% of its workers in fossil fuels extraction.

The Pan-Canadian Framework calls for "a commitment to skills and training to provide Canadian workers with a just and fair transition to opportunities in Canada's clean growth economy". A federal task force has since begun work on developing a just transition plan for coal workers and communities. Similar work has yet to be initiated for oil and gas workers.

Canadian unions have continued to campaign for just transition implementation, providing proposals for programmes on skills development, worker retraining and employment insurance, while calling for clean energy investment to be targeted at indigenous, remote and rural communities.





## FINANCING THE TRANSITION

## CANADA

## FINANCIAL POLICIES AND REGULATIONS

Through policy and regulation governments can overcome challenges to mobilising green finance, including: real and perceived risks, insufficient returns on investment, capacity and information gaps.

APPROACHES TO IMPLEMENTING THE RECOMMENDATIONS OF THE TASK FORCE ON CLIMATE-RELATED FINANCIAL DISCLOSURES (TCFD)<sup>20</sup>

This indicator establishes the degree of government engagement with the recommendations of the G20 Financial Stability Board's Task Force on Climate-Related Financial Disclosure.

No formal engagement with TCFD	Political and regulatory engagement	Formal engagement with private sector	Publication of guidance and action plans	Encoding into law

Source: CISL 2018

Canadian provinces regulate securities or require disclosure. However, the government and Bank of Canada have expressed support for TCFD implementation. The Canadian Securities Administrators have also reviewed disclosure of risks and financial impacts associated with climate change; consulting with investors and reporting issuers in the process.

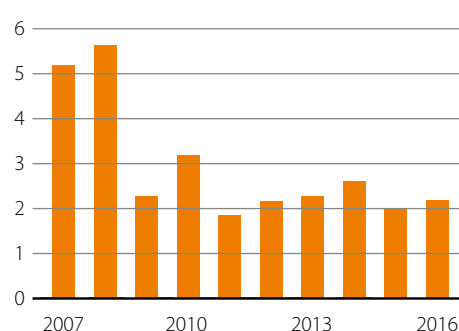
## FISCAL POLICY LEVERS

Fiscal policy levers raise public revenues and direct public resources. Critically, they can shift investment decisions and consumer behaviour towards low-carbon, climate-resilient activities by reflecting externalities in prices.

## FOSSIL FUEL SUBSIDIES

In 2016, Canada provided US\$2.2bn in fossil fuel subsidies (from US\$5.2bn in 2007). Between 2007 and 2016, subsidies were lower (US\$0.002) than the G20 average (US\$0.003) per unit of GDP. Provided through direct budget support and tax exemptions, subsidies targeted both consumption and production (49% and 51%, respectively). As of 2018, the largest subsidy is for the bail-out and expansion of Kinder Morgan's trans mountain tar sands pipeline.

Fossil fuel subsidies (US\$ billions)



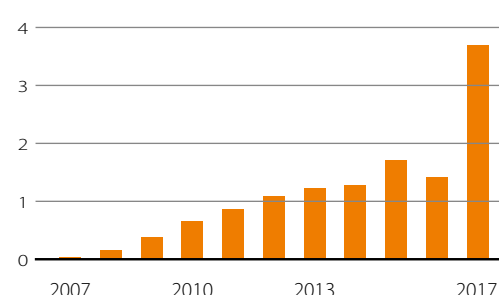
Source: OECD/IEA 2018



## CARBON REVENUES

Since 2007, subnational carbon taxes and emissions trading schemes have emerged. Emissions are priced at US\$15 to US\$27/tCO<sub>2</sub>, with US\$3.7bn revenues generated in 2017 (some estimates are missing). In 2019, the government will introduce a national carbon tax and emission trading scheme. From 2007 to 2017, carbon revenues were lower (US\$0.0000007) than the G20 average (US\$0.0002) as a share of GDP.

Carbon revenues (US\$ billions)



Source: I4CE 2018



FINANCING THE TRANSITION

CANADA

PUBLIC FINANCE

Governments steer investments through their public finance institutions including via development banks, both at home and overseas, and green investment banks. Developed G20 countries also have an obligation to provide finance to developing countries and public sources are a key aspect of these obligations under the UNFCCC.

NATIONAL AND INTERNATIONAL PUBLIC FINANCE IN THE POWER SECTOR<sup>21</sup>

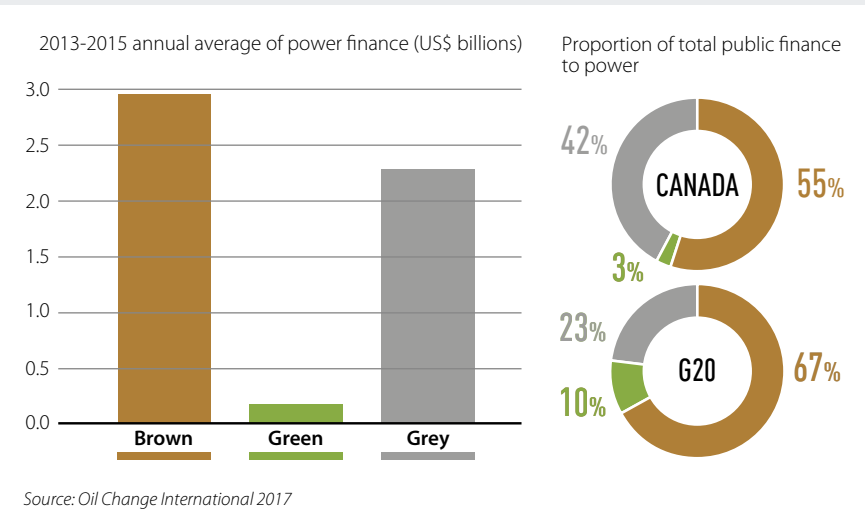
From 2013 to 2015, public finance institutions spent an annual average of US\$2.9bn brown, US\$0.2bn green and US\$2.3bn grey financing in the power sector, domestically and internationally. The largest transactions were the Government loan guarantee (US\$4.7bn) for the Lower Churchill large-scale hydropower project, and the Export Development Canada loan (US\$0.5bn) to oil and gas extraction by Reliance Industries.

- coal, oil and gas projects  
(and associated infrastructure)

brown
- large-scale hydropower, biofuels, biomass,  
nuclear, incineration, transmission,  
distribution, storage, energy efficiency,  
other general electricity support

grey
- renewable energy projects  
(excluding grey financing)

green



PROVISION OF INTERNATIONAL PUBLIC SUPPORT

Canada has the smallest flow of bilateral finance of the G20 countries obligated to provide climate finance, yet is the fourth largest contributor to multilateral climate funds. High mitigation spending via the multilateral climate funds is balanced by high bilateral spending on adaptation. While bilateral flows are predominantly provided on a grant basis, Canada's finance pledged to multilateral climate funds is less concessional than some donors; its GCF pledge is 56% grant-based. While Canada may channel international public finance towards climate change via multilateral development banks, it has not been included in this report.

OBLIGATION TO PROVIDE CLIMATE FINANCE UNDER UNFCCC

YES

NO

CONTRIBUTIONS THROUGH THE MAJOR MULTILATERAL CLIMATE FUNDS<sup>22</sup>

Note: See Technical Note for multilateral climate funds included and method to attribute amounts to countries

Source: Climate Funds Update 2017

Annual average contribution (mn US\$, 2015-2016)	Theme of support		
	Adaptation	Mitigation	Cross-cutting
62.76	29%	59%	12%

BILATERAL CLIMATE FINANCE CONTRIBUTIONS<sup>23</sup>

Source: Country reporting to the UNFCCC

Annual average contribution (mn US\$, 2015-2016)	Theme of support			
	Mitigation	Adaptation	Cross-cutting	Other
42.65	13%	81%	6%	0%



## ANNEX



For more detail on sources and methodologies, please refer to the Technical Note at:

[https://www.climate-transparency.org/wp-content/uploads/2018/11/Technical-Note\\_data-sources-and-methodology.pdf](https://www.climate-transparency.org/wp-content/uploads/2018/11/Technical-Note_data-sources-and-methodology.pdf)

- 1) The 2030 projections of the future development of greenhouse gas (GHG) emissions under current policies are based on the Climate Action Tracker (CAT) estimates.
- 2) The CAT is an independent scientific analysis that tracks progress towards the globally agreed aim of holding warming to well below 2°C, and pursuing efforts to limit warming to 1.5°C. The CAT "Effort Sharing" assessment methodology applies state-of-the-art scientific literature on how to compare the fairness of government efforts and (Intended) Nationally Determined Contribution (I) NDC proposals against the level and timing of emission reductions consistent with the Paris Agreement. The assessment of the temperature implications of a country's NDC is based on the assumption that all other governments would follow a similar level of ambition.
- 3) This assessment is based on the policy evaluation on page 9 of this Country Profile.
- 4) Gross Domestic Product (GDP) per capita is calculated by dividing GDP with mid-year population figures. GDP is the value of all final goods and services produced within a country in a given year. Here GDP figures at purchasing power parity (PPP) are used. Data for 2017.
- 5) The Human Development Index (HDI) is a composite index published by the United Nations Development Programme (UNDP). It is a summary measure of average achievement in key dimensions of human development. A country scores higher when the lifespan is higher, the education level is higher, and GDP per capita is higher.
- 6) The ND-GAIN index summarises a country's vulnerability to climate change and other global challenges in combination with its readiness to improve resilience. This report looks only at the exposure indicators as part of the vulnerability component of the ND-GAIN index for six sectors. It displays the exposure scores provided by the ND-GAIN on a scale from low (score: 0) to high (score: 1).
- 7) The indicator covers all Kyoto gases showing historic emissions in each of the IPCC source categories (energy, industrial processes, agriculture, etc.). Emissions projections (excl. forestry) under a current policy scenario until 2030 are taken from the Climate Action Tracker and scaled to the historical emissions from PRIMAP (see Brown to Green Report 2018 Technical Note).
- 8) The ratings on GHG emissions are taken from the Climate Change Performance Index (CCPI) 2018. The rating of "current level compared to a well below 2°C pathway" is based on a global scenario of GHG neutrality in the second half of the century and a common but differentiated convergence approach.
- 9) CO<sub>2</sub> emissions cover only the emissions from fossil fuels combustion (coal, oil and gas) by sector. They are calculated according to the UNFCCC methodology (in line with the 2006 IPCC Guidelines for National Greenhouse Gas Inventories).
- 10) Total primary energy supply data displayed in this Country Profile does not include non-energy use values. Solid fuel biomass in residential use has negative environmental and social impacts and is shown in the category "other".
- 11) Zero-carbon fuels include nuclear, hydropower and new renewables (non-residential biomass, geothermal, wind, solar).
- 12) Climate Transparency ratings assess the relative performance across the G20. A high scoring reflects a good effort from a climate protection perspective but is not necessarily 1.5°C compatible.
- 13) New renewables include non-residential biomass, geothermal, wind and solar energy. Hydropower and solid fuel biomass in residential use are excluded due to their negative environmental and social impacts.
- 14) Total primary energy supply (TPES) per capita displays the historical, current and projected energy supply in relation to a country's population. Alongside the intensity indicators (TPES/GDP and CO<sub>2</sub>/TPES), TPES per capita gives an indication on the energy efficiency of a country's economy. In line with a well-below 2°C limit, TPES per capita should not grow above current global average levels. This means that developing countries are still allowed to expand their energy use to the current global average, while developed countries have to simultaneously reduce it to that same number.
- 15) TPES per GDP describes the energy intensity of a country's economy. This indicator illustrates the efficiency of energy usage by calculating the energy needed to produce one unit of GDP. Here GDP figures at PPP are used. A decrease in this indicator can mean an increase in efficiency but also reflects structural economic changes.
- 16) The carbon intensity of a country's energy sector describes the CO<sub>2</sub> emissions per unit of total primary energy supply and gives an indication of the share of fossil fuels in the energy supply.



## ANNEX (continued)

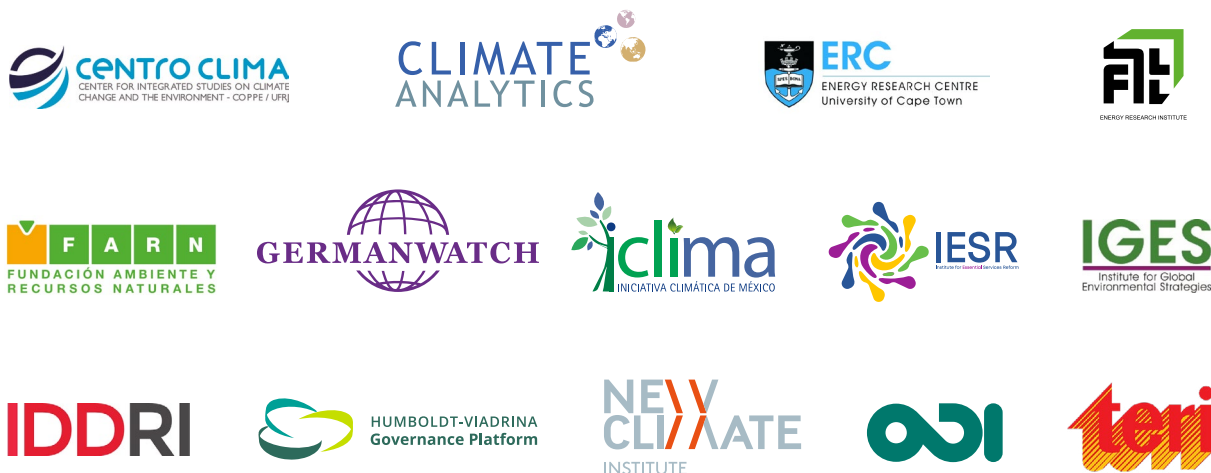


- 17) The selection of policies rated and the assessment of 1.5°C compatibility are informed by the Paris Agreement and the Climate Action Tracker (2016): "The ten most important short-term steps to limit warming to 1.5°C". The table below displays the criteria used to assess a country's policy performance. See the Brown to Green Report 2018 Technical Note for the sources used for this assessment.
- 18) The CCPI evaluates a country's performance in national climate policy, as well as international climate diplomacy through feedback from national experts from non-governmental organisations to a standardised questionnaire.
- 19) See the Brown to Green 2018 Technical Note for the sources used for this assessment.
- 20) The University of Cambridge Institute for Sustainability Leadership (CISL) in early 2018 reviewed the progress made by the national regulatory agencies of G20 members in making the Task Force on Climate-related Financial Disclosures (TCFD) recommendations relevant to their national contexts. See the Brown to Green Report 2018 Technical Note for more information on the assessment.
- 21) This data includes bilateral public finance institutions such as national development banks and other development finance institutions, overseas aid agencies, export credit agencies, as well as key multilateral development banks. The analysis omits most finance delivered through financial intermediaries and significant volumes of multilateral development bank (MDB) development policy finance (due to a lack of clarity on power finance volumes). Given a lack of transparency, other important multilateral institutions in which G20 governments participate are not covered. See the Brown to Green Report 2018 Technical Note for further details.
- 22) Finance delivered through multilateral climate funds comes from Climate Funds Update, a joint ODI/Heinrich Boell Foundation database that tracks spending through major multilateral climate funds. See the Brown to Green Report 2018 Technical Note for multilateral climate funds included and method to attribute approved amounts to countries.
- 23) Bilateral finance commitments are sourced from Biennial Party reporting to the UNFCCC. Financial instrument reporting is sourced from the OECD-DAC; refer to the Brown to Green Report 2018 Technical Note for more detail. Figures represent commitments of Official Development Assistance (ODA) funds to projects or programmes, as opposed to actual disbursements.

On endnote 17)	Criteria description			
	● Low	● Medium	● High	● Fronrunner
<b>GHG emissions target for 2050 or beyond</b>	No emissions reduction target for 2050 or beyond	Existing emissions reduction target for 2050 or beyond	Existing emissions reduction target for 2050 or beyond and clear interim steps	Emissions reduction target to bring GHG emissions to at least net zero by 2050
<b>Long-term low emissions development strategy</b>	No long-term low emissions strategy	Existing long-term low emissions strategy	Long-term low emissions strategy includes interim steps and/or sectoral targets	Long-term low emissions strategy towards full decarbonisation in the second half of the century; includes interim steps and/or sectoral targets, plus institutions and measures in place to implement and/or regularly review the strategy
<b>Renewable energy in power sector</b>	Allianz Monitor 2018 Category 1.2 (targets) and 2 (policies), average 0-25	Allianz Monitor 2018 Category 1.2 (targets) and 2 (policies), average 26-60	Allianz Monitor 2018 Category 1.2 (targets) and 2 (policies), average 61-100	Allianz Monitor 2018 Category 1.2 (targets) and 2 (policies), 61-100 plus 100% renewables in the power sector by 2050 in place
<b>Coal phase-out</b>	No consideration or policy in place for phasing out coal	Significant action to reduce coal use implemented or coal phase-out under consideration	Coal phase-out decided and under implementation	Coal phase-out date compatible with 1.5°C
<b>Phase-out of fossil fuel light duty vehicles (LDVs)</b>	No policy or emissions performance standards for LDVs in place	Energy/emissions performance standards or support for efficient LDVs	National target to phase out fossil fuel LDVs in place	Ban on new fossil-based LDVs by 2025/30
<b>Near zero-energy new buildings</b>	No policy or low emissions building codes and standards in place	Building codes, standards or fiscal/financial incentives for low emissions options in place	National strategy for near zero-energy buildings (at least for all new buildings)	National strategy for near zero-energy buildings by 2020/25 (at least for all new buildings)
<b>Low-carbon new industry installations</b>	No policy or support for energy efficiency in industrial production in place	Support for energy efficiency in industrial production (covering at least two of the country's sub-sectors (e.g. cement and steel production))	Target for new installations in emissions-intensive sectors to be low-carbon	Target for new installations in emissions-intensive sectors to be low-carbon after 2020, maximising efficiency
<b>Net zero deforestation</b>	No policy or incentive to reduce deforestation in place	Incentives to reduce deforestation or support schemes for afforestation / reforestation in place	National target for reaching zero deforestation	National target for reaching zero deforestation by 2020s or for increasing forest coverage

# CLIMATE TRANSPARENCY

Partners:



Funders:



Data Partners:



<http://www.climate-transparency.org/g20-climate-performance/g20report2018>

