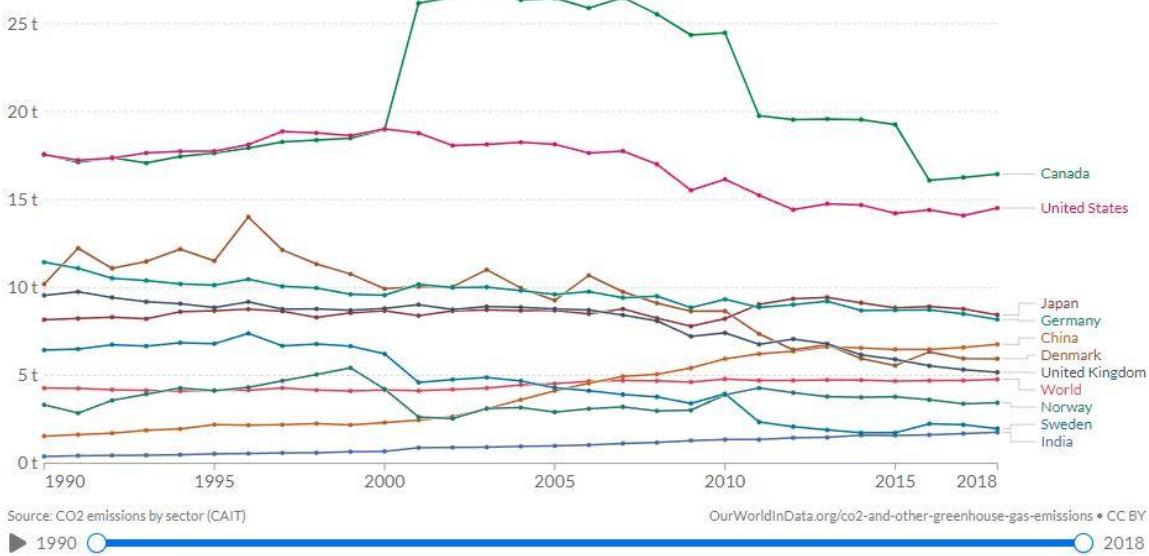


GREENHOUSE GAS EMISSIONS

Per capita greenhouse gas emissions

Greenhouse gas emissions – from carbon dioxide, methane, nitrous oxide, and F-gases – are summed up and measured in tonnes of carbon-dioxide equivalents (CO₂e), where “equivalent” means “having the same warming effect as CO₂ over a period of 100 years”. Emissions from land use change – which can be positive or negative – are taken into account.

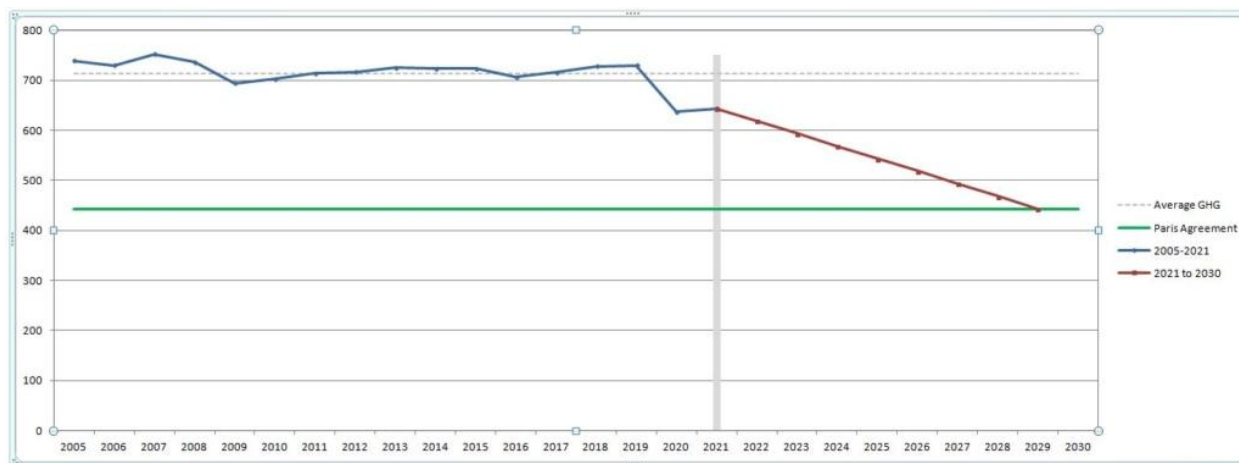


Per capita GHG emissions from 1990 to 2018

Canada is one of the world's leading producers of per capita GHG emissions. The chart to the left shows the per capita emissions of CO₂e from 1990 to 2018 ^[1].

The majority of our CO₂e comes from the production of oil and natural gas from the tar sands. Furthermore, Canada is the largest supplier of oil to the U.S. In 2019, Canada exported 3.7 million barrels of oil per day ^[2]. The GHG emitted from the tar sands represents the embodied CO₂e (ie: the pollution released in the extraction and transportation of tar sands oil and gas), it does not include the emitted CO₂e released when the natural gas or gasoline is burnt in the U.S. (the emitted CO₂e is included in the U.S. GHG emissions).

Under the Paris Agreement of 2015, Canada has committed to reducing our GHG emissions by 40% to 45% below 2005 levels by 2030 and to zero by 2050.



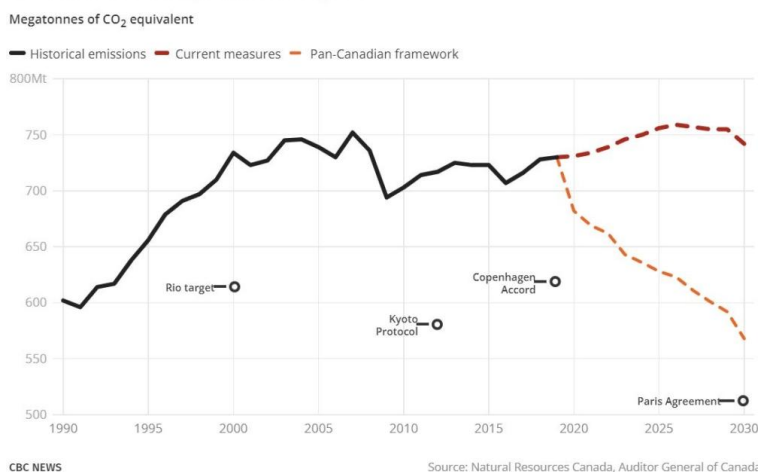
Reduction needed to meet 2030 target

The graph above shows the data published by Environment and Climate Change Canada in its Greenhouse Gas Emissions Report of April 2021 ^[3] for 2005 to 2019 and the cut in GHG emissions necessary, starting in 2021, to reach the 2030 target of 40% below 2005 levels. Our emissions have remained steady at an average of 720 megatonnes (MT) of Carbon Dioxide Equivalent (CO₂e) between 2005 and 2019. Emissions have dropped to about 637 MT due to the pandemic restrictions and are increasing as restrictions are lifting. Emissions are estimated to be 664 MT at the end of 2020.

As of 2021, we have 8 years to reduce our GHG by 221 MT from our current levels of CO₂e to reach the 40% target and 238 MT of CO₂e to reach the 45% target. GHG will be reduced by carbon pricing, the switch to Electric Vehicles and changes to the National Building Code, however, much more has to be done.

CLIMATE AGREEMENTS

Canada's climate goals of the past



Canada's climate goals

The Kyoto Protocol of 2002 committed Canada to reduce our GHG emissions by 6% from 1990 levels between 2008 and 2012. Canada withdrew from Kyoto in 2011 and by then, our emissions had grown by 30% ^[4].

At the Copenhagen Accord of 2009, Canada agreed to reduce GHG emissions to 17% below 2005 by 2020. We managed to reduce our emissions by 1.2% ^[5].

Under the Glasgow Agreement of 2021, Canada committed to reducing our GHG emissions by 40% to 45% below 2005 levels by 2030.

Under the Paris Agreement of 2015, Canada committed to zero by 2050 ^[6].

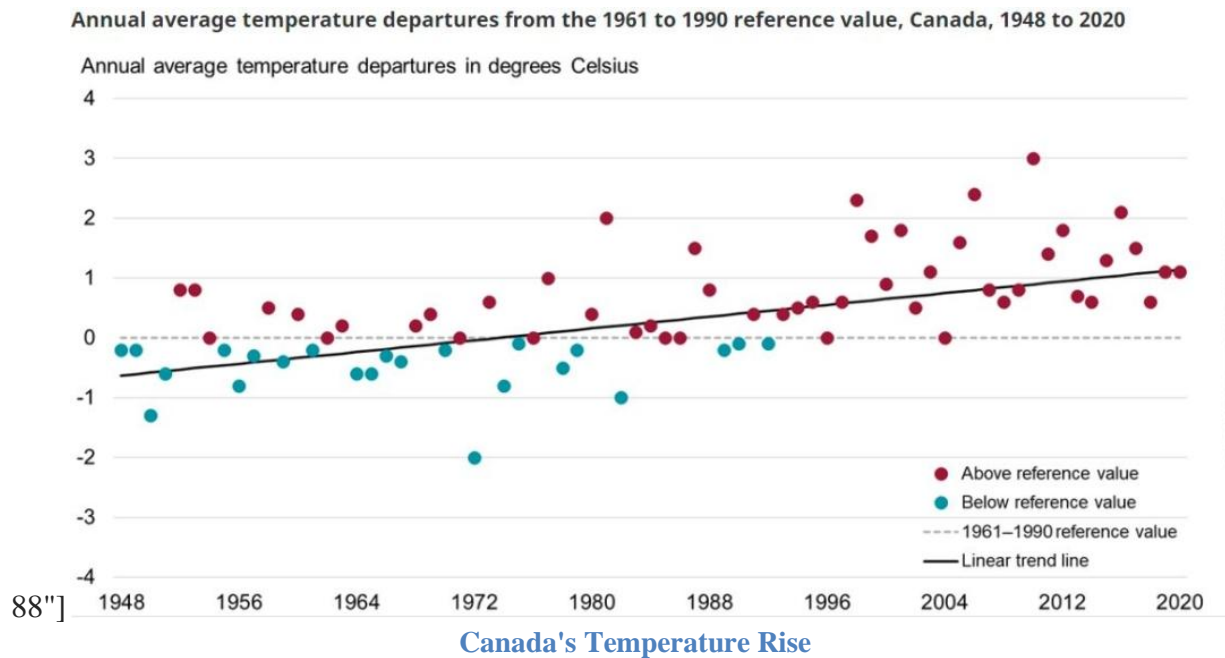
Canada has never reached any of its climate targets.

CANADIAN NET-ZERO EMISSIONS ACCOUNTABILITY ACT (JUNE 2021)

In June, 2021, the Federal Government passed the Net-Zero Emissions Accountability Act ^[7]. The Act sets incremental targets that must be reviewed every 2 years and new targets are set every 5 years . An action plan must be released with 6 months of the Act being passed and this was done on March 29, 2022 as the 2030 Emissions Reduction Plan ^[8].

2030 EMISSIONS REDUCTION PLAN

Canada's average temperature has risen at twice the global average ^[9].



The 2030 Emissions Reduction Plan ^[10] recognizes that action must be taken to limit a temperature rise to 1.5 degrees C by 2050. (it's currently at 1.2 degrees C). The plan includes:

- Reducing the energy costs for home and buildings by constructing net zero buildings.
- Increasing the sales of electric vehicles (EV) by enhancing incentives and building charging stations. The government will mandate that at least 20% of cars and light duty trucks sold by 2026 must be EVs, at least 60% by 2030 and 100% by 2035.
- Reducing the carbon pollution from the production of oil and gas.
- Increasing the supply of renewable energy
- Investing in carbon capture and hydrogen
- Investing in sustainable agriculture
- Maintaining carbon pricing

PLAN TO REDUCE GHG

Canada has committed to a 40-45% reduction in GHG emissions, below 2005 levels, by 2030. In addition, Canada has also committed to net zero emissions by 2050 ^[11].

"Canada's homes and buildings account for 13% of national GHG emissions, due to the combustion of fossil fuels for space and water heating; electricity use for cooling, lighting and appliances brings the total to 18%." ^[12] A further 11% of total GHG emissions comes from embodied carbon ^[13]. Embodied carbon, also known as "upfront carbon emissions", is the total amount of carbon created in the production of a product. In the case of buildings, the vast majority of embodied carbon comes from the use of concrete. Concrete is responsible for 7% of global GHG emissions ^[14].

In Canada, heating accounts for 62% of GHG emissions produced in the home and the vast majority is from burning natural gas ^[15]. "Natural" gas is not, in fact, natural - it is derived from fossil fuels and consists mainly of methane. It is a non-renewable hydrocarbon. *"Methane is more than 25 times as potent as carbon dioxide at trapping heat in the atmosphere."* ^[16] & ^[17].

As much as 60 percent of natural gas production in the US is from fracking ^[18]. Fracking is a type of drilling that uses pressurized liquid to fracture the bedrock and access the gas deep below the earth's surface. Each fracking well will use between 5.5 million litres and 36.7 million litres of fresh water during its production life and this water is too contaminated to be re-used ^[19]. [.edn9](#) Not only does fracking cause pollution of the ground and surface water, it also presents a threat to our wildlife and our ecosystems ^[20].

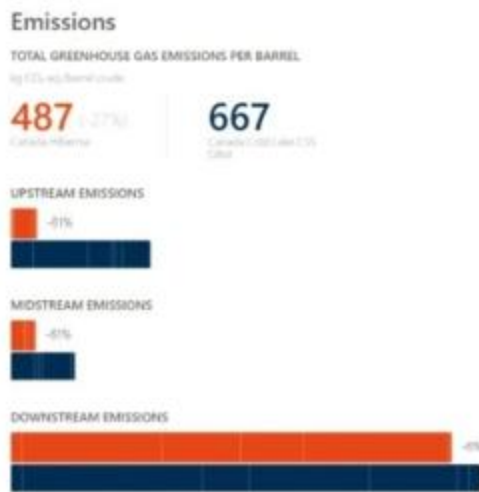
As a result of the significant damage attributed to the burning of natural gas, many jurisdictions have already banned, or are in the process of banning its use. Examples include Vancouver and the Province of Quebec ^[21], New York City ^[22], Berkeley, San Francisco, Seattle, Denver, and all new homes in the United Kingdom just to name a few ^[23]. Canada produces 81% of its electricity from renewable sources ^[24] and the latest electric heat pump technologies make it an ideal substitution for natural gas heating. A substantial reduction in GHG emissions can be achieved if electricity is used as the main energy source for homes and buildings.

HEADING IN THE WRONG DIRECTION

On April 4, 2022, the United Nation's International Panel on Climate Change (IPCC) released it's "Climate Change 2022: Mitigation of climate change" report ^[25].

UN Secretary General Antonio Guterres said the report by the Intergovernmental Panel on Climate Change revealed "a litany of broken climate promises" by governments and corporations, accusing them of stoking global warming by clinging to harmful fossil fuels.

"It is a file of shame, cataloguing the empty pledges that put us firmly on track toward an unlivable world" he said ^[26].



On April 6, 2022, the Federal Government approved the Bay du Nord mega oil project 500 km off the coast of Newfoundland. The oil field is expected to produce 300 million barrels of oil ^[27]. The Federal Government would have us think that this is clean oil and much better for the environment than oil from the tar sands. The majority of the damage to the environment is done when the oil is burnt. Bay du Nord will release 130.8 billion kilograms of carbon into the atmosphere when burnt ^[28]. 130 billion kilograms is equal to 130 megatonnes (MT). We need to reduce our GHG emission by 221 MT by 2030. Adding another 130 MT will

make an already very difficult target almost impossible to reach.

On April 7, 2022, the Federal Government released their 2022 budget. \$2.6 billion over the next 5 years and then \$1.5 billion per year from 2027 to 2030, (a total of \$8.5 billion) is allocated for carbon capture and storage technology ^[29].



Sask Power - Carbon Capture

It is unfortunate that the Government is relying on advances in carbon capture and hydrogen, which are both unproven technologies, to solve our GHG problem ^[30]. According to Sask Power, they have captured 4 MT of carbon in 8 years (.5 MT per year) ^[31].



No matter how clean the extraction process is, the majority of GHG is released when the oil and gas is burnt. The Federal Government should not be subsidizing fossil fuel extraction. Non renewable energy should be discouraged, not rewarded with tax dollars.

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