

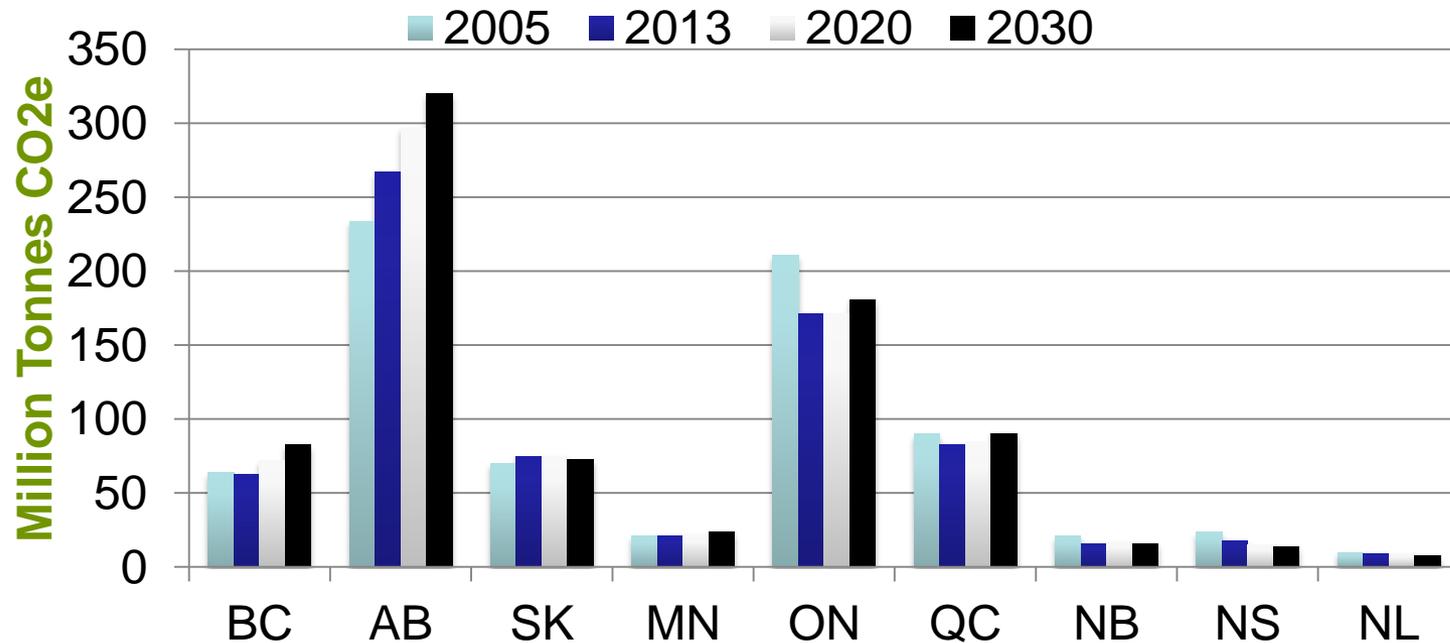
Alberta's Climate Leadership Plan

April 24, 2017

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- **For every complex problem there is an answer that is clear, simple, and wrong.**

[H. L. Mencken](#)

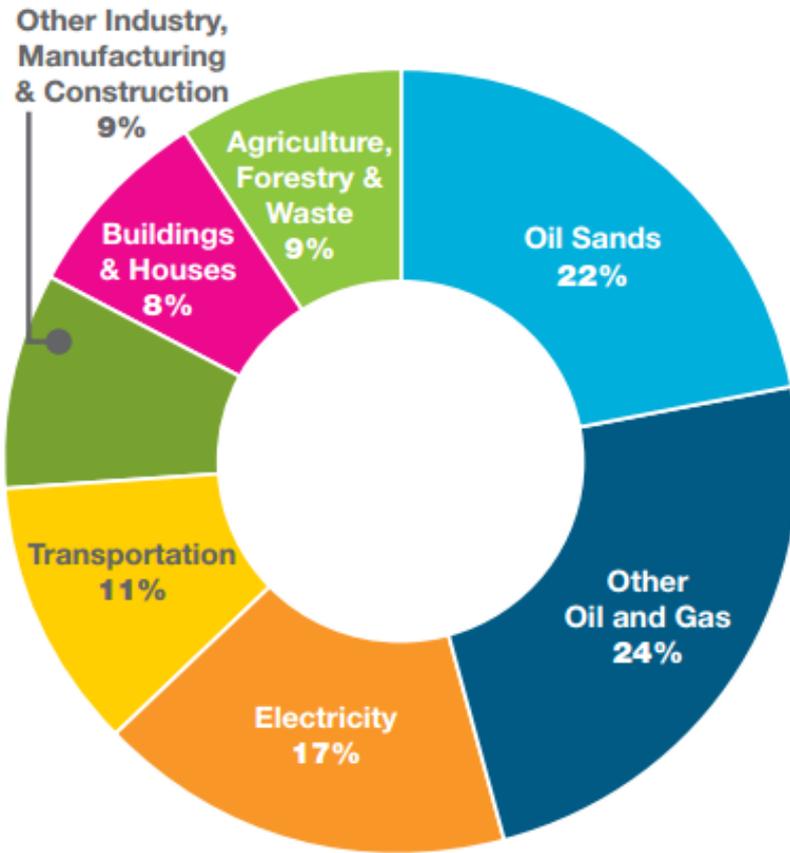
Greenhouse Gas Emissions across Canada



[Canada's Second Biennial Report On Climate Change \(2016\)](#)

Note that this projection was modelled prior to Alberta's Climate Leadership Plan

Alberta Emissions Profile



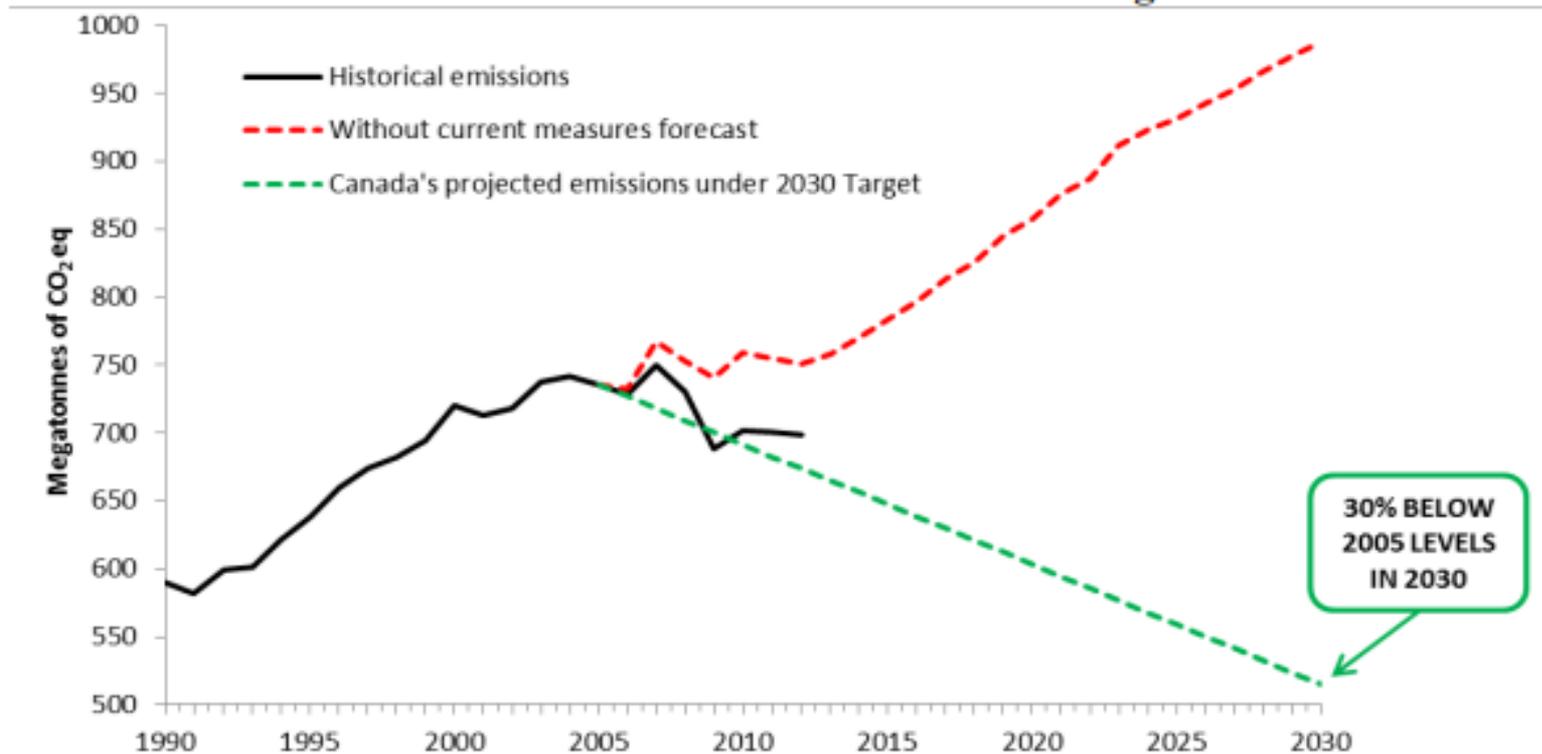
- 267 Mt CO₂e – total provincial GHG emissions in 2013
- 14 percent or 33 Mt – emissions growth since 2005
- 37 percent – Alberta's percentage of Canada's emissions in 2013

11



Emission Projections

Canadian Emissions under 2030 Target



Source: Canada's Intended Nationally Determined Contribution (INDC) to the United Nations Framework on the Conventional of Climate Change (UNFCC)

Alberta's Climate Leadership Plan

- Released in November 2015 in response to Climate Change Advisory Panel report
- The Climate Change Advisory Panel heard from a wide range of Albertans including the public, farmers, Indigenous communities, academia, think-tanks and industry representatives on a new climate change strategy for Albertans.



Alberta's Climate Leadership Plan

- **Alberta's plan to take action on climate change and protect the province's health, environment and economy**
 - Carbon levy and rebates
 - Ending coal pollution
 - Developing renewable energy
 - Capping oil sands emissions and reducing methane emissions from oil and gas

Carbon Pricing

- Alberta is aligned with the current highest price in Canada, \$20/tonne, (this will increase to \$30/tonne in 2018)
- Our emissions coverage and stringency is also as good as or better than other Canadian provinces.
- **Carbon Levy on heating and transport fuels**
 - All revenue collected will be **rebated to Albertans** and **reinvested in the economy** to help fund provincial efforts to reduce greenhouse gas emissions

Carbon levy impact on major fuels

Type of Fuel	2017	2018
Diesel	5.35 ¢/L	8.03 ¢/L
Gasoline	4.49 ¢/L	6.73 ¢/L
Natural Gas	1.011 \$/GJ	1.517 \$/GJ
Propane	3.08 ¢/L	4.62 ¢/L

- Starting January 1, 2017, the carbon levy will be applied to fuels at a rate of \$20/tonne.
 - One year later, the levy will increase to \$30/tonne.
- Six of 10 Alberta households will receive a rebate that covers the average cost of the carbon levy they pay.
- Electricity covered by output based allocation, not the levy
 - Alberta Energy analysis projects no significant rate increases over base case

<http://www.alberta.ca/climate-carbon-pricing.aspx>

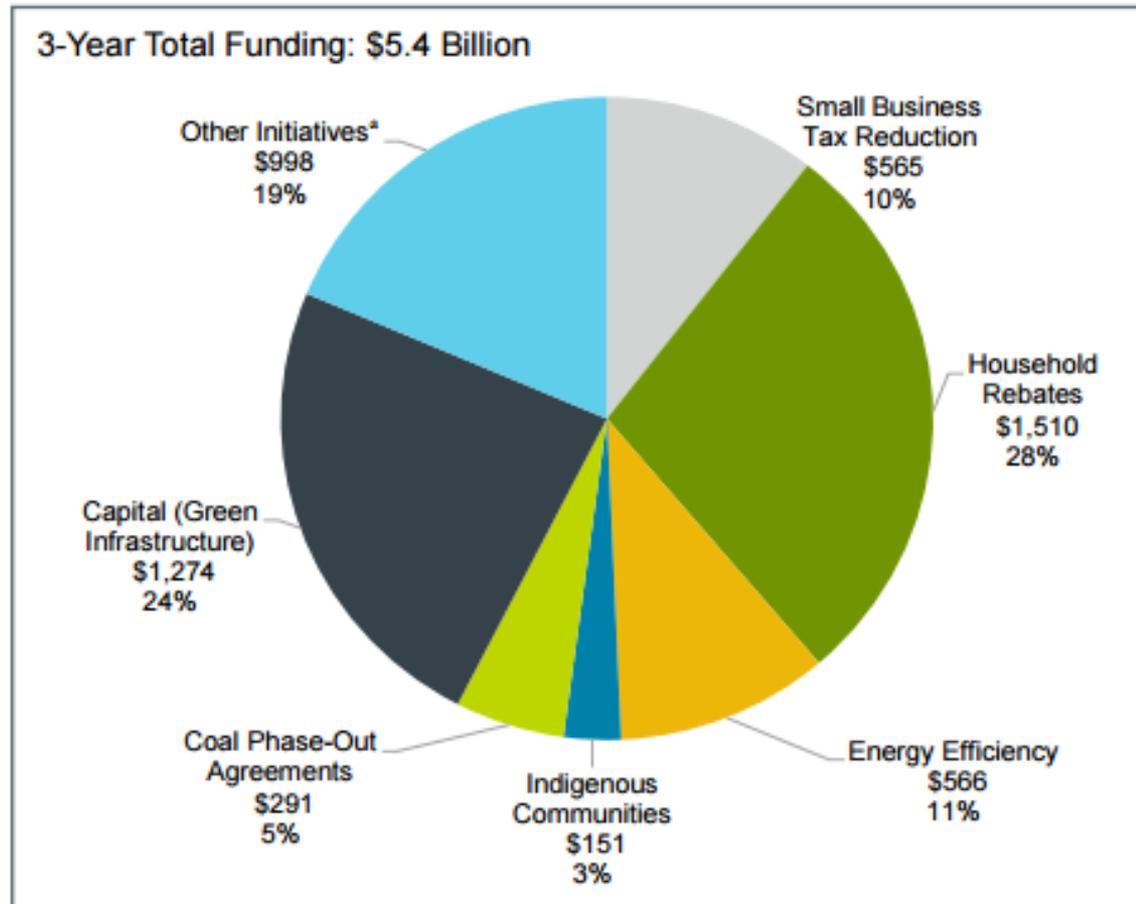
What do these costs mean for Albertans?

- the carbon levy will increase the cost of fuels used for heating and transportation.
- **Gasoline: An extra 4.49 cents per litre**
 - (i.e. after 455 litres used, you will have produced 1 tonne of carbon and paid 20 dollars more for that fuel)
- **Diesel: An extra 5.35 cents per litre**
- **Natural gas: An extra \$1.011 per gigajoule**
- **Propane: An extra 3.08 cents per litre**

Climate Leadership Funding

(millions of dollars)

3-Year Total Funding: \$5.4 Billion



All carbon pricing revenue is recycled to fund emissions reductions, economic diversification and adjustments to the carbon price.

^a Revenue recycling into bioenergy, renewable energy, innovation and technology, coal community transition and other Climate Leadership Plan implementation initiatives.

Phasing Out Coal Pollution

- Emissions from coal-fired electricity generation will be phased out by 2030 with Alberta moving towards more renewable energy and natural gas-fired electricity
- Advisory Panel on Coal Communities (APCC) is consulting with workers and community members to understand their challenges and ideas for the long-term economic sustainability of their communities.
- The panel will submit a report with comprehensive advice and options to the government on an approach to support affected workers and communities.

Alberta's Renewable Electricity Target

30 by '30

- A firm target of **30 per cent** of electricity produced in Alberta will come from renewable sources such as wind, hydro and solar **by 2030**.
- To help achieve this 30 by '30, the Government of Alberta will support **5,000 megawatts of additional renewable energy capacity** for Albertans.
- Estimated that at least \$10.5 billion in new investment will flow into the provincial economy by 2030 (estimated 7,200 new jobs for Albertans as projects are built.)

Energy Efficiency Alberta

- Alberta's Climate Leadership Plan includes a commitment to reinvest all revenue from the carbon levy into Alberta's economy, including \$566 million over 3 years to Energy Efficiency Alberta.
- Investment in energy efficiency and community energy system programs will help to reduce energy use and associated costs, greenhouse gas emissions, and support green jobs for:
 - families
 - small businesses
 - not for profit and voluntary sector
 - municipalities
 - building owners
 - industries
 - farmers
 - community organizations

OUR PROGRAMS

Energy Efficiency Alberta's programs promote the use of cutting-edge technology to reduce emissions without any changes to your quality of life.



RESIDENTIAL NO-CHARGE ENERGY SAVINGS PROGRAM

No-charge home upgrades that will help you save energy and save money.

[REGISTER NOW](#)



RESIDENTIAL RETAIL PRODUCTS PROGRAM

Let us help you upgrade to the latest, most energy-efficient appliances and products available.

[GET THE DETAILS](#)



BUSINESS, NON-PROFIT, AND INSTITUTIONAL ENERGY SAVINGS PROGRAM

Save money on energy so you can invest in something more important.

[GET THE DETAILS](#)



RESIDENTIAL AND COMMERCIAL SOLAR PROGRAM

Get a rebate—up to 30% of your costs—when you install a solar photovoltaic system in your home or business.

[GET THE DETAILS](#)

The Business, Non-Profit and Institutional Energy Savings Program

- **What products will be eligible in the first year?**
- Efficient lighting products: LED T8s, LED bulbs, LED low/medium/high-bay fixtures, LED exterior fixtures, T5HO high-bay fixtures, occupancy controls, etc.
- Efficient Heating, Ventilation and Air Conditioning (HVAC) equipment: Commercial warm air furnaces, hot water commercial packaged boilers
- Efficient water heating equipment: Condensing water heaters, tankless water heaters

The Business, Non-Profit and Institutional Energy Savings Program

- **Who is eligible?**
- All business, non-profit and institutional customers serviced by an Alberta electric or gas utility are eligible, except for large final emitters - as defined under Alberta's Specified Gas Emitters Regulation. Sectors targeted by the program include, but are not limited to:
 - Institutions such as schools, hospitals, universities, and colleges
 - Non-profit organizations
 - Co-operatives
 - Individual businesses

Residential And Commercial Solar Program

- The Residential and Commercial Solar Program will offer rebates to homeowners, businesses and non-profits that install solar photovoltaic (PV) systems.
- Bolstered by other initiatives like the Alberta Municipal Solar Program and the On-Farm Solar PV Program, solar uptake has doubled in the province since 2015. Albertans are keen on solar, and this program keeps the momentum going!
- **When will the program launch?**
- Details will be defined in coming months, including qualifying systems, installation and eligibility requirements. The program will launch as early as summer 2017.

The Municipal Climate Change Action Centre (MCCAC)

- Joint initiative between AUMA, AAMDC, Alberta Environment and Parks, Climate Change Office and Municipal Affairs
- Provides capacity-building support to help Alberta municipalities mitigate and adapt to climate change
 - ✓ Education
 - ✓ Technical assistance
 - ✓ Funding programs
- \$11 million provincial grant (including \$2.5 million for energy efficient buildings and \$5 million for solar)

TAME+

- \$2.5 million program provides rebates up to \$100,000 to upgrade the energy efficiency of municipal buildings



Mechanical Systems

- Furnace, boiler replacement
- Heat recovery systems
- Variable frequency drives
- High efficiency motors
- HVAC upgrades



Electrical Systems

- Lighting fixture and ballast upgrades
- Occupancy controls



Building Envelope

- Windows and doors
- Weatherstripping
- Insulation



Alternative Energy

- Cogeneration
- Solar thermal

TAME+ Rebate Levels

Facility Area	Audit Rebate	Implementation Rebate
<2,000 m ²	up to \$2,500	50% of capital costs up to \$25,000
2,000 - 5,000 m ²	up to \$5,000	50% of capital costs up to \$50,000
5,000 - 10,000 m ²	up to \$7,500	50% of capital costs up to \$75,000
>10,000 m ²	up to \$10,000	50% of capital costs up to \$100,000

TAME Express

- Pilot program launched March, 2017
- Quick access to funding for high efficiency lighting retrofits
- Covers fixtures and controls
- No energy audit required
- Online calculator tool to explore different combinations and project economics



TAME Express Rebate Levels

Measure Category	Rebate Range (per unit)
LED Directional Lamps	\$8 to \$15
LED "A" Lamps	\$4 to \$5
LED T8 Replacement Lamps	\$2 to \$8
Reduced Watt Fluorescent Bulbs	\$1.50 to \$3
LED Mogul-Base Lamps	\$25 to \$65
LED Troffers	\$25 to \$75
LED High/Low Bays	\$75 to \$195
Exit Signs	\$20
LED Recessed Downlights	\$10 to \$45
LED Troffer Retrofit Kit	\$20 to \$60
LED High Bay Retrofit Kit	\$50 to \$130
Induction High Bay Lamps	\$30 to \$65
Outdoor LED Wall-Mounted	\$50 to \$100
Outdoor LED Pole-Mounted	\$115 to \$175
Outdoor Lighting Controls	\$10 to \$80
Indoor Lighting Controls	\$12 to \$18

Alberta Municipal Solar Program

- \$5 million solar rebate program for Alberta municipalities
- Rebates available for grid-tied solar PV microgeneration projects (>2kW)
- Anticipated results:
6 to 10 MW of installed capacity



AMSP Rebate Levels

Rebate levels per project*:

Size	Solar Capacity	Rebate
Small	<10 kilowatts	\$0.90 per watt
Medium	10 kilowatts to <150 kilowatts	\$0.75 per watt
Large	150 kilowatts to 2,000 kilowatts	\$0.60 per watt
Megawatts	2 megawatts to 5 megawatts	\$0.55 per watt

- Up to a maximum of 25% of eligible expenses
- *Rebate rates effective Feb 1, 2017

Alberta's Climate Leadership Plan

Measures of Success

- Reduced GHG emission
 - Compliance options are flexible and met
 - Transition to cleaner sources of electricity
 - Oil sands emissions are managed within limit
- Diversified low-carbon economy
 - Competitiveness is maintained
 - Create new jobs
- Family & communities well-being and resilience
 - Transition to new employment opportunities
 - Energy efficiency and green infrastructure incentives shift attitudes and consumer behaviours
 - Avoid downstream health care costs and lost productivity

Thank You Questions?

Ongoing updates:
www.Alberta.ca/Climate
www.encyclopediaalberta.ca

