

Economic Impacts From Cap and Trade on Oil and Gas

Assessing the likely economic costs of Canada's cap-and-trade proposal

While the federal government's proposed cap and trade system would reduce emissions within six years, the likely cuts to oil and gas production would come at a substantial cost.

Our estimates put the price tag at \$2,100 in reduced Canadian economic activity for each tonne of CO₂-equivalent (CO₂e) emissions forgone through production cuts. Some of the emission cuts from the new policy would be achieved at a lower cost (e.g., credit offsets and methane reductions). Alternatives to production cuts, such as investments in carbon capture technologies, are typically much cheaper (around \$100 to \$200 per tonne of CO₂e reduced) but would take significantly more time to implement and represent direct costs for firms as opposed to lost income.¹

This analysis shines a light on the degree to which major economic shifts are required if Canada is to meet its goal of a net-zero economy by 2050. While addressing the climate crisis is a high priority, it is critical that we understand the negative disruptions that will likely occur in moving quickly to achieve that objective. Planning ahead, investing in support systems, training, and other programs to help individuals, businesses, and governments adjust to the coming changes will be critical if broad support for climate change policies is to be maintained.

Modelling the government's plan

The proposed cap-and-trade system by the Government of Canada seeks to reduce greenhouse gas (GHG) emissions in the upstream oil and gas sector to put Canada on track for a net-zero economy by 2050. This policy would see GHG emissions from the sector reduced by 22 per cent—from 171 megatonnes of CO₂-equivalent emissions (Mt CO₂e) in 2019 to 134 Mt CO₂e when the regulations come into force in 2030.

The analysis discussed here focuses on one of three scenarios modelled. This scenario—which The Conference Board of Canada believes to be the most likely—assumes that the federal government's target for methane emission reductions is achieved.

Specifically, we assumed methane emissions are reduced by 75 per cent in 2030 versus 2012 levels. A second critical assumption made is that overall CO₂ emission efficiency (i.e., emissions per dollar of GDP) continues to decline in line with recent historical progress. If these two assumptions prove to be optimistic, then the oil and gas sector production cuts would be larger and more severe than reported here. This could occur if, for example, carbon capture, utilization, and storage (CCUS) projects currently under development come online slower than expected.

The full report covering all three scenarios can be [found here](#).

¹ On average, the time between announcement and actual or planned operation for CCUS projects in Canada is just over five years according to the International Energy Agency's [CCUS Project Explorer](#).

Meeting the target

We find that GHG efficiency gains and technology adoption will not, on their own, be sufficient to meet the proposed emission targets. As a result, we assume that efficiency gains will need to be supplemented by oil and gas production cuts to meet the federal government's targets. The lion's share—79 per cent—of these production cuts would occur in Alberta.

The cost estimate was determined using the Conference Board's national and provincial economic models. Our forecast assumes the oil and gas sector continues to grow in line with our baseline outlook between now and 2029. Output is then reduced only when required by the federal policy in 2030. In that year, a one-time, permanent shock to the oil and gas sector reduces real Canadian GDP by 0.90 per cent versus our baseline in 2030, a gap that slowly closes to 0.75 per cent by 2040. In Alberta, real GDP is reduced by 3.8 per cent versus the baseline in 2030. (See Table 1.)

Even with this large shock, both oil and gas production and the economy overall would expand between now and 2030, but at a slower rate. In Canada, total real economic growth between 2023 and 2030 slows from 15.3 to 14.3 per cent; in Alberta, growth slows from 17.8 to 13.3 per cent. Similarly, employment growth falls in Alberta—dropping from 15.8 to 13.6 per cent over this period.



Total output in the oil and gas sector, as measured by barrels per day equivalents, would be much lower—growing only 1.6 per cent between 2023 and 2030, compared with 14.3 per cent without the policy. This reduced output would contribute directly to reduced emissions (which would fall 21.5 per cent, in line with the federal regulations) but would also impact federal and provincial finances. For the federal government, nominal revenues are expected to be 0.8 per cent lower due to the reduced economic activity in the oil and gas sector.

In Alberta, which relies heavily on royalties from the sector, revenue would decline by 4.5 per cent versus the baseline scenario in 2030. While this still represents growth of 11.9 per cent between now and 2030 in nominal terms (i.e., not adjusted for inflation), Alberta government revenues would be \$4.5 billion lower in nominal terms in fiscal year 2030–31 as a result of this policy.

Table 1

Growth between 2023 and 2030, and differences between baseline forecast and production shock from oil and gas sector emissions cap (per cent)

	Growth from 2023 to 2030		Difference in 2030
	CBoC baseline	Oil & gas emissions cap scenario	Scenario minus baseline
Canada			
Real GDP	15.3	14.3	-0.9
Employment	10.0	9.6	-0.4
Federal government revenue (nominal)	26.8	25.8	-0.8
Oil and gas sector output, bpd equivalent	14.3	1.6	-11.1
Oil and gas sector emissions	-1.8	-21.5	-20.1
Alberta			
Real GDP	17.8	13.3	-3.8
Employment	15.8	13.6	-1.9
Alberta government revenue (nominal)	17.1	11.9	-4.5

Note: Alberta government revenues are compared between fiscal years 2030–31 and 2022–23.
Source: The Conference Board of Canada.