

## **The Best of Both Worlds**

### **Why We Don't Have to Choose Between a Price on Carbon and a Profitable Energy Sector**

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Many people concerned about climate change favour "carbon pricing" as an effective and low-cost means of reducing greenhouse gas emissions. They are right to do so, for a growing body of evidence suggests that pricing carbon emissions generates powerful market incentives to reduce them in the cheapest way possible.

Unfortunately, many people also frame a choice *for* carbon pricing as a choice *against* the oil and gas industry. But the truth is that we can have – and probably need – both. The time has come to get out of our own way and start thinking clearly about how Alberta can implement a significant carbon price, reduce its GHG emissions, and still prosper by selling its valuable oil to the world.

Is there a disconnect here? If climate change is driven mostly by GHG emissions from the burning of fossil fuels, then doesn't a sensible climate-change policy for Alberta *have to* massively shrink the oil patch?

No. To understand why not, we need to make the crucial distinction between what happens in Alberta and what happens in the world as a whole.

The overwhelming majority of climate scientists agree that global GHG emissions need to fall by something like 80 percent from today's levels by the middle of the century if we are to avoid the worst impacts of climate change. Such a huge reduction in emissions will almost certainly require a similar reduction in the world's use of fossil fuels.

But the middle of the century is 40 years away, and the world's energy demand is expected to grow all that time. As the world makes a smooth transition toward cleaner forms of energy, which will require an expansion of renewable power many times its current capacity, there will still be a large global demand for oil and natural gas – for years into the future.

That brings us back to Alberta, a province determined to reduce its own GHG emissions and equally determined to supply a small slice of the world's future demand for oil and gas. For many people, these two goals appear contradictory, but they're both rooted in the realities of the 21<sup>st</sup> century. And that's where carbon pricing comes in.

The central advantage of carbon pricing is that it doesn't presuppose which sectors or businesses will reduce emissions the most. Instead, by attaching a price to emissions, it

makes reducing those emissions financially profitable. In the process, it unleashes powerful market forces, leading businesses and households to reduce emissions where it makes the most economic sense.

These market forces apply to emissions associated with both the production and consumption of energy. This difference is crucial. Of the total GHG emissions that come from a barrel of oil, roughly 80 percent occur when the oil is consumed (typically burned to produce energy) whereas only 20 percent of the emissions come from the production of the oil itself. The consumers of fossil fuels therefore need to be a central focus of any carbon-pricing policy.

Yet this doesn't let oil and gas producers off the hook. Their extraction processes consume fossil fuels and are directly responsible for producing significant GHG emissions. Indeed, about 13 percent of Alberta's GHG emissions in 2012 came from resource extraction, with some extra generated from industrial transportation, upgrading and refining.

So, let's be clear. A carbon price in Alberta that applied to all direct emitters of greenhouse gases *would* raise production costs inside the oil patch. But the effect would be modest. Professor Andrew Leach from the University of Alberta's business school estimates that a carbon price of \$30 per tonne of GHG emissions – exactly the price British Columbia now has – would reduce producers' cash flow by roughly \$1.50 per barrel.

Such a carbon price would reduce profits slightly, but it would create strong incentives for all oil and gas producers to adopt and develop cleaner, better ways of getting their product out of the ground. Over time, these innovations would lead to lower GHG emissions, and more efficient oil companies.

Over the next half-century, as the world gradually moves away from fossil fuels and toward cleaner forms of energy, the future of Alberta's oil patch will depend significantly on how successfully firms can respond to changes in the global economic environment, drive down their costs, and reduce their GHG emissions. Will Alberta's oil be a high-cost product that quickly gets priced out of the global market or a low-cost one that lasts for decades? Will today's fossil-fuel companies make the long-run transition to producing cleaner forms of energy? A carbon price in Alberta doesn't presuppose the answers but instead creates the best market signals to drive the innovation that will ensure Alberta's overall economic prosperity.

The bottom line is that Albertans can embrace a strong and comprehensive carbon-pricing policy while continuing to benefit from the economic value of the resources that lie beneath their feet.

Nobody who favours carbon pricing needs to be an enemy of Alberta's oil patch. On the contrary, we should want our oil companies to be the very best companies they can be – until the time arrives when we simply don't need their oil any longer.

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