Intelligence MEMOS

From: Ben Brunnen

To: The Hon. Steven Guilbeault, Minister of Environment and Climate Change

Date: September 8, 2023

Re: It's Not Too Late to Rethink Federal CCUS Policy

The federal government is using tax credits to encourage carbon capture utilization and storage (CCUS) uptake to offset carbon emissions from economically important sectors like oil and gas or manufacturing.

The central lever is an investment tax credit of 50 percent for capture and 37.5 percent for transport and storage, and the prospect of contracts for difference to provide certainty on future revenues. Cost reduction will drive CCUS investment.

While conceptually these are helpful, practically, the framework falls short of what is needed. The tax credit eligibility period should be extended, and it should be strengthened to be competitive with US policy. In addition, there needs to be a better way to address ongoing operating costs.

CCUS involves adding capture equipment to existing facilities to remove carbon dioxide from operations exhaust, building pipelines for transport, and injecting CO2 permanently into underground storage. The economics of each project and industry can vary substantially. Carbon capture can cost $250-$400 per tonne for aluminum smelting, $150-$250 for steel dedusting, and $85-$110 for natural gas combined cycle electricity generation, according to the Global CCS Institute. Transport and storage can add $48 to $83 per tonne.

As an industrial example, the Shell Quest project in Alberta (which uses cheaper technology) captures approximately 900,000 tonnes of CO2 a year. On a levelized cost basis, it needs a price of $250 to break even.

CCUS projects require substantial upfront capital cost, can be operationally uncertain, and need long-term revenue streams.

The US recognized this through its 45Q tax credit, which provides a credit of about $C116 a tonne of CO2 permanently stored and $82 for enhanced oil recovery.

Under 45Q, projects must begin construction by 2033, the credits are indexed to inflation and are paid by government. It effectively covers two thirds of project costs that advance between now and 2039, and has attracted 132 operating and proposed projects in the US.

In contrast, Canada released less generous draft tax credit legislation in August. Long anticipated since Budget 2021, it has significant constraints relative to the US. Notably, expenditures made after 2030 will only get 50-percent credit value – regardless of whether the investment decision was prior to 2030. CCUS projects can take six years to build, and would need to start next year to get the full benefit. Consequently, the credit, 42 percent initially, is probably closer to 30 percent through to 2033.

Meanwhile, there is the operational revenue risk. Unlike 45Q, there is no firm revenue stream to provide investment certainty. Canada anticipates the $170 a tonne carbon tax would suffice, however, a carbon trading market is not established. According to the Alberta Law Review:

> "Canada has yet to realize a national, integrated market for carbon emission reduction products, and one with the fungibility and transparency that would facilitate acceleration toward achievement of net-zero goals."

Canada is thus proposing a "contracts for difference" approach to guarantee a floor price. However, the consultations are nascent, and proponents will likely not have confidence to advance CCUS projects near term.

More critically, because Canadian companies themselves pay the carbon tax or credits to CCUS facilities, they face a cost disadvantage relative to US companies. The CCUS credit market could likely also be comprised of a few major facilities or companies that on the one hand incur the emissions cost, while on the other receive the carbon revenues – a zero sum proposition.

While the US has overcome this through the 45Q credit funded by the tax base, the upside is additional investment. US oil and gas production is expected to grow by 23 percent and 10 percent respectively by 2030. In Canada, while oil production could increase 10 percent by 2030, this is unlikely, as government is not encouraging investment. Specifically, enhanced oil recovery projects are ineligible for tax credits, and the proposed federal emissions cap could reduce oilsands production by 1.3 million barrels a day, or more than one third. Canada would forgo the economic benefits of investment, royalties and taxes, and jobs.

Recommendations:

- Extend tax credits to enhanced recovery projects, and enable all CCUS project expenditures committed before 2033 to qualify for the full credit.
- In addition to the tax credits, adopt a government funded credit approach that creates an equivalent benefit to the US 45Q.
- Develop the conditions to encourage oil and gas investment as a benefit of reduced emissions, rather than pursuing a potentially punitive emissions cap over and above existing emissions policies and regulations.

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