YOUNG ALUMNI INSIGHTS

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CARBON CAPTURE IN ALBERTA: COSTS, BENEFITS AND POLICY

Carbon capture and storage (CCS) is a technically feasible technology that reduces greenhouse gas emissions in existing industries, and is recognized as a key factor in reaching international climate change targets. Alberta hosts two commercial-scale CCS projects funded by the provincial government and private industry. However, even with regulatory approvals for CCS projects, including the province's property right to subsurface pore space for CO_2 sequestration, future CCS commercial-scale projects are non-existent. CCS deployment is often obstructed by high project costs and risks in developing an emerging technology to commercial scale. Recent carbon pricing in Alberta may provide an incentive for investment in CCS and deployment.

There is a significant cost to private firms and industry to invest in CCS. However, as carbon prices escalate to $50 per tonne by 2022, CCS becomes more economical for the cement industry, and hydrogen processing, ammonia and chemical production. When impacts to taxpayers, the environment, and social and economic activity are considered, there is an overall benefit to Albertans to reduce carbon emissions with CCS. To reduce barriers to CCS development and increase investment in CCS, a policy strategy is needed.

The policy strategy needs to address both the market failures that lead to pollution and an underinvestment in research. Therefore, in addition to carbon pricing, environmental taxation such as tax credits specifically for CCS projects can encourage research and development. To also signal government support to the public and investors, existing low-carbon and clean-energy projects that are incentivized by provincial and federal governments should extend to include CCS in both the industrial and power sectors.

Jessie Arthur is currently working as a Technical Analyst for the Canadian Association of Petroleum Producers.

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"Moving forward with CCS requires a guarantee from the government that signals support for CCS projects."