



FERTILIZER CANADA

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Tax Policy Branch
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Via email: CCUS-CUSC@fin.gc.ca

Re: Investment Tax Credit for Carbon Capture, Utilization, and Storage

Fertilizer Canada is pleased to have this opportunity to provide input on the planned Investment Tax Credit for Carbon Capture, Utilization, and Storage (CCUS). CCUS is a promising technology with the potential to deliver real emission-reductions in the near- to medium-term. We were pleased that the Government of Canada's Budget 2021 recognized that certain sectors, including ours, face challenges in implementing emissions-reducing technologies due to our status as an energy-intensive, trade-exposed industry. A well-designed investment tax credit in coordination with other policy and regulatory supports could drive the widespread adoption of CCUS technology in our industry.

Fertilizer Canada represents manufacturers, wholesalers, and retail distributors of nitrogen, phosphate, potash, and sulphur fertilizers – the backbone of Canada's agri-food economy. Fertilizer is responsible for half of the world's current food production, and our industry is a major contributor to this global supply, supporting food security in Canada and around the world. We also contribute approximately \$24 billion annually to Canada's economic activity. Our industry has facilities across Canada supporting the employment of over 76,000 individuals throughout the supply chain. However, as an energy-intensive, trade-exposed (EITE) industry, our members are highly vulnerable to carbon leakage and investment moving abroad.

CCUS in the Canadian Fertilizer Industry

As part of our industry's continual efforts to improve environmental sustainability, we have conducted a Technology Scan to identify potential emissions-reducing technologies that could be implemented in fertilizer production in Canada. The Technology Scan explains current manufacturing processes, evaluates new and emerging technologies against their emission reduction potential, commercial scalability, economic viability, and regional considerations, and provides technology and policy recommendations based on this evaluation. Through this exercise, CCUS was identified as one of the most promising technologies for emission reduction in fertilizer manufacturing in the near- to medium-term.



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CCUS is currently most economically and technically viable as a mechanism to capture industrial process (IP) emissions at facilities that produce ammonia, although there is potential for CCUS to be used to capture combustion emissions at nitrogen manufacturing facilities given adequate policy and financial supports. Similarly, there are also potential opportunities for CCUS to reduce emissions at potash mines and facilities with sufficient support for implementation and advancement of CCUS technology for these sites.

When manufacturing ammonia, there are two sources of emissions: concentrated process carbon dioxide (CO₂) emissions and dilute CO₂ emissions associated with combustion of natural gas as a fuel. The incremental costs associated with capture of process CO₂ is mainly due to compression. This process is technically feasible although the capital and operating costs remain high. The capture of CO₂ from combustion requires much higher capital investments and ongoing operational costs to both purify and compress emissions prior to capture.

With the right supports in place, CCUS can be implemented to capture industrial process emissions at facilities that produce ammonia but has notably less emission reduction potential at facilities that upgrade a large portion of that ammonia to urea. This is because in the production of urea, an important agricultural product in Canada, process CO₂ emissions are already captured and utilized as a feedstock which is required to upgrade ammonia to urea. Nevertheless, in some cases, excess process emissions that are not used for urea production may offer early opportunities for deploying CCUS in ammonia manufacturing.

CCUS will be an essential technology for the fertilizer industry's transition from production of grey hydrogen / ammonia (produced with natural gas) to blue hydrogen / ammonia (produced with natural gas plus CCUS). Alberta is home to one of the largest concentrations of nitrogen production facilities in North America with seven facilities in the province, in addition to major production units in Saskatchewan, Manitoba, and Ontario. These facilities produce ammonia and its primary upgrade products (urea and ammonium sulphate), and nitric acid and its primary upgrade product (ammonium nitrate and urea ammonium nitrate).

Recommendations for a CCUS Investment Tax Credit

Key barriers to widespread adoption of CCUS include regulatory uncertainty, lack of infrastructure, and high capital and operating expenses, and we have provided further details on these challenges in the section below. Based on these key barriers, Fertilizer Canada has developed the following recommendations for the design of the proposed Investment Tax Credit, project eligibility, and the level of tax support required to drive CCUS adoption.



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1. *Credit design:* Taking into account the high capital expenditures necessary to begin CCUS projects as well as the increased ongoing operating expenditures involved, **Fertilizer Canada recommends that the Government of Canada design an Investment Tax Credit for the initial capital costs of investing in technologies and infrastructure to capture and sequester carbon as well as an additional production tax credit to defray the ongoing operational costs required to implement CCUS.**

The Investment Tax Credit should be designed to provide certainty to potential investors that their specific projects will qualify for the credit as well as providing certainty on the amount of credit they could expect based on the projected investment.

It is also important that the tax credit be in place for a long enough duration that companies can complete necessary design, permitting, and construction. **To allow Canadian industry to pursue as many CCUS solutions as possible, the Investment Tax Credit should be available for at least 15 years.** While some CCUS projects can result in early emission reductions, projects addressing harder-to-abate emissions will require longer timeframes to deliver reductions. A timeframe shorter than 15 years could potentially exclude many long-term opportunities that can help achieve Canada's emission reduction goals.

As Canada develops the Investment Tax Credit, we also recommend looking to the mechanisms used in other jurisdictions that are seeking to incentivize CCUS development. In the United States, the Internal Revenue Code's Section 45Q credit provides a performance-based credit rather than an investment credit. 45Q provides a set credit amount for each ton of carbon captured and stored or used in eligible markets, with the exact credit amount determined by the utilization or sequestration of the captured carbon. The credit has not yet yielded significant investment in CCUS to date in the US; however, this is largely because the credit amount is not high enough and its short period of eligibility does not provide sufficient certainty. To make the 45Q credit more effective, the US government is currently considering a number of proposals to extend the tax credit and increase its value. As CCUS incentives continue to evolve in the US and other jurisdictions, Canada's tax incentives will need to be sufficiently ambitious to compete with those programs in order to drive the private sector investment that is necessary for decarbonizing Canadian industry. The Section 45Q credit has established a model that could be effectively adapted to the Canadian context as a means of offsetting some of the ongoing operating expenditures involved with CCUS. **In addition to the proposed Investment Tax Credit, we encourage Finance Canada to consider implementing a production tax credit that is competitive with the evolving Section 45Q credit in order to ensure that Canadian industry has a level playing field with its US counterparts.**



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- 2. Project eligibility:** Fertilizer Canada recommends that a broad approach towards storage and utilization be taken in the short- to medium- term. All carbon capture and storage projects and carbon capture and use projects that permanently sequester carbon at both new and existing facilities should be eligible for the Investment Tax Credit. Ensuring that all types of projects are eligible will facilitate more emission reductions and can drive the development of markets for the captured carbon. The proposed tax credit should be applicable to investments across the CCUS value-chain, including front-end engineering and design, installation of capture technologies, investments in storage and use applications, and construction of necessary infrastructure. It should also cover indirect costs such as energy use and labour related to these technologies.

Additionally, restrictions on eligible carbon capture and use projects should be minimized to ensure that all CCUS projects with significant emission reduction potential can receive credit for these reductions. Finance Canada has indicated that enhanced oil recovery (EOR) projects will not be eligible for the proposed tax credit. However, in other jurisdictions where CCUS adoption is growing, EOR has been a primary motivator for many CCUS projects. EOR results in reduced overall emissions compared with traditional oil production, and the required technology for this process is more readily available than what is required for many other CCUS applications. **EOR should be considered a viable carbon storage option as economies and technologies transition over the next decade. Fertilizer Canada recommends that the proposed CCUS Investment Tax Credit fund projects that use EOR as a storage mechanism as to not jeopardize some important project proposals with significant emission reduction potential.**

In order to maximize the potential of this initiative, the credit should not be limited to a certain number of projects or capped at a total dollar amount available. Further, projects that receive the tax credit must remain eligible for other federal, provincial, and territorial tax and carbon credits, including the Output-Based Pricing System, and the Investment Tax Credit should stack with other available credits.

- 3. Level of tax support required:** An Investment Tax Credit for CCUS should offset a substantial proportion (at least 50 to 70 per cent) of the cost to implement CCUS systems at industrial facilities. CCUS is currently not feasible for many industry members because of the high upfront costs of implementing the technology as well as the ongoing operating expenses involved. As an EITE industry, ammonia manufacturers do not have the ability to pass on increased costs to customers. In order to make implementation of CCUS achievable and to drive its widespread adoption in the fertilizer industry, the Investment Tax Credit should



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significantly offset capital costs and should be coupled with a performance-based tax credit as outlined in Recommendation #1.

Barriers to Widespread CCUS Adoption

Despite the potential for emission reductions through CCUS, many challenges and barriers remain to widespread adoption of this technology. The Canadian CCUS business environment will need to be competitive globally to achieve its emission reduction potential. Global companies with facilities across North America and the world can select where to invest in CCUS, and this decision is often determined by the regulatory environment of that jurisdiction in comparison to its competitors. With an unparalleled increase in carbon price and a lack of competitive tax incentives, Canada's CCUS business environment is not currently competitive in a global market. Regulatory certainty and public infrastructure in combination with tax supports will allow Canada to compete with other jurisdictions that are moving quickly and aggressively to reduce barriers to CCUS investment.

Regulatory Certainty

A key policy barrier for industry considering investments in CCUS is regulatory uncertainty. Climate priorities and targets are developing rapidly which has resulted in frequent policy and regulatory changes in recent years. Our industry supports evidence-based policy that achieves both economic and environmental sustainability. However, frequent changes in these policies, combined with the varying regulations across federal and provincial jurisdictions, creates regulatory uncertainty that can discourage companies from making significant investments. Further, there is currently a lack of clear regulatory frameworks that establish requirements for capturing, transporting, and sequestering carbon. Modern and efficient frameworks that outline these requirements in each province with CCUS potential should be developed to bolster regulatory certainty.

The fertilizer industry is science-driven and involves extensive industrial processes that are complex and costly to change. Decisions to adopt any technology with significant emissions-reduction potential, including CCUS, are based on a range of considerations, including the regulatory environment and projected return on investment. Regulatory uncertainty makes it difficult for industry members to secure major capital investments in Canada, and simply drives low-carbon investments to other jurisdictions.

Infrastructure

A key barrier to broader adoption of CCUS is the lack of public carbon storage and utilization infrastructure available to our industry. To maintain competitiveness while



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adopting new low-carbon technologies, carbon storage and utilization infrastructure must be supported by government and made widely accessible to various industry companies and sectors. Canada's fertilizer manufacturing facilities are already some of the most energy efficient facilities in the world, and fertilizer manufacturers operating in Canada face higher costs than their competitors in other jurisdictions with less rigorous environmental standards. As price-takers in the global market, Canadian fertilizer manufacturers cannot pass on increased costs to consumers.

Therefore, government support is needed to implement the infrastructure required for industry to pursue CCUS on a wide scale by allowing a wider array of competitors to participate in CCUS without fear of free-riding or first-mover advantages. To date, the limited amount of CCUS infrastructure in Canada has been driven by industry. However, CCUS infrastructure, as well as the necessary infrastructure for other emissions-reducing technologies like clean electricity, must be seen as a public good and a public investment in our collective effort to lower emissions and improve environmental performance. Government-funded and industry accessible carbon trunk lines near large facilities that could benefit from CCUS, as well as regionally focused low-cost CCUS infrastructure, are steps in addition to the proposed Investment Tax Credit for facilities that implement the technology that would enable widespread adoption. Government has a significant role to play in making CCUS accessible to all industries and companies, which has the potential to result in significant emissions reductions.

High Costs – Capital and Operational Expenses

For combustion emissions, a key barrier hindering adoption of CCUS is the high projected costs for both capital and operating expenditures. While the technology is promising in terms of emission reduction potential, the high initial and ongoing costs associated with purification and compression of combustion emissions prohibit adoption of CCUS by many industries. Additionally, for CCUS projects using either process or combustion emissions, costs remain prohibitively high for transportation and storage of carbon, particularly for remote facilities. Implementing CCUS technology at a facility is a major investment, and government supports, including the proposed Investment Tax Credit, must provide enough certainty to secure such investments.

Considering the challenge of overcoming the barriers listed above, it will take a significant amount of time to fully achieve the Government of Canada's emission reduction objectives for CCUS. With adequate supports in place, the fertilizer industry could contribute substantially to these objectives. However, even with adequate supports in place, making major investments into CCUS projects requires time for project planning and development, for capital to be secured, and for construction permits to be approved. While barriers to adoption can be mitigated, the time required



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to implement major industrial projects like CCUS must be taken into account when designing the proposed Investment Tax Credit.

Concluding Remarks

Thank you for this opportunity to provide comments on the proposed Investment Tax Credit for CCUS. As Finance Canada is also considering mechanisms to provide similar support to producers of green hydrogen, Fertilizer Canada also asks that Finance Canada engage in a separate consultation process with industry on potential tax support for green hydrogen as the technologies, costs, and timelines involved can differ greatly from what is required for CCUS.

Our industry has a strong interest in CCUS, and we stand ready to work with the Government of Canada on developing the policies and programs that will support emission reductions through a widespread adoption of CCUS technology. We would be pleased to schedule a virtual meeting to further discuss the comments outlined above and how an Investment Tax Credit could support CCUS adoption in our industry.

Sincerely,

McKenzie Smith
Director, Stewardship & Regulatory Affairs

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