



FERTILIZER CANADA

FERTILISANTS CANADA

907 – 350 Sparks, Ottawa ON K1R 7S8

T (613) 230-2600 | F (613) 230-5142

info@fertilizercanada.ca

fertilizercanada.ca | fertilisantscanada.ca

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351, boul. Saint-Joseph
Gatineau, Quebec
K1A 0H3
Canada

Via email: ECD-DEC@ec.gc.ca

Re: A Clean Electricity Standard in support of a net-zero electricity sector – discussion paper

On behalf of our member companies, thank you for this opportunity to provide comments on the “Clean Electricity Standard in support of a net-zero electricity sector” discussion paper, published on March 8th, 2022. Fertilizer Canada represents manufacturers, wholesale, and retail distributors of nitrogen, phosphate, potash, and sulphur fertilizers. The Canadian fertilizer industry accounts for 12 per cent of the global fertilizer supply, contributing approximately \$24 billion annually to Canada’s economic activity and supporting the employment of over 76,000 individuals throughout the supply chain. Canadian fertilizer manufacturing facilities are some of the most technologically advanced, energy efficient, and safest facilities in the world. Our industry has world-class, sustainable operations resulting from early action to reduce its environmental footprint.

Our industry is committed to high standards for environmental sustainability, and we support science-based policies that achieve environmental objectives while maintaining our industry’s global competitiveness. While Fertilizer Canada’s members are not primary electricity producers, we have a strong interest in new and emerging technologies for low- or non-emitting electricity production. We support Environment and Climate Change Canada’s (ECCC) development of a net-zero electricity sector through the Clean Electricity Standard that balances greenhouse gas (GHG) emission reductions with the need for affordable and reliable electricity for Canadian industries. Fertilizer manufacturing is highly energy-intensive and requires consistent and reliable sources of power generation. Additionally, as a trade-exposed industry, our members are price-takers in the global market and cannot pass added costs on to customers. While emission reductions are clearly a key priority for the Clean Electricity Standard, it is imperative that any impacts to affordability and reliability of the electricity grid are seriously considered before implementation.

To achieve this balance, Fertilizer Canada has the following recommendations:

- **Conduct a fulsome cost-benefit analysis on the impacts of the Clean Electricity Standard, factoring in impacts on various sectors and subsectors as well as on each region of Canada to ensure a just transition; and**
- **Develop a stepwise and technology agnostic approach that incrementally improves the environmental performance of the electricity grid while allowing flexibility for Canadian industries and electricity producers to implement the technologies that are most appropriate for their circumstances.**



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As is recognized in the discussion paper, this could include combining the use of natural gas with carbon capture, utilization, and storage (CCUS) as a lower-emitting power source in the medium-term while new technologies for non-emitting sources are developed and commercially scaled.

While some low-emitting and non-emitting technologies are available today, many are not cost competitive with current methods of power generation, and many technologies will require significant investment in research and development to scale up to the commercial applications where they are most needed. With this in mind, we are concerned with the relatively short timeframe for implementation of the Clean Electricity Standard, and **we encourage ECCC to adjust timeframes to provide more realistic targets to encourage significant investments in technically and economically feasible low- or non-emitting power sources. Similarly, we strongly recommend that ECCC and the Government of Canada develop robust funding programs and provide the regulatory certainty and infrastructure necessary to transition to a net-zero electricity grid.**

Recently, Fertilizer Canada conducted a Low-Carbon Technology Scan for the Canadian Fertilizer Industry (see attached document), which found there are opportunities for reducing emissions from fertilizer manufacturing that will require non-emitting or low-emitting electricity sources. For example, nitrogen fertilizers could, in the long-term, be produced using green hydrogen from electrolysis; however, for this to be successful, an abundance of affordable and reliable non-emitting electricity is needed. Compared to current hydrogen production pathways (such as Steam Methane Reforming), electrolysis requires significantly more energy per tonne of product which will need to be strongly considered when determining industrial clean electricity requirements. Similarly, mine fleets at potash facilities could be electrified but require reliable, affordable net-zero electricity, and advancements in industrial technologies. Some potential solutions are emerging or in development, such as small modular reactors (SMRs) which have the potential to provide a clean source of electricity to industrial sites. However, technologies like SMRs are not yet fully developed or cost competitive for industrial facilities to implement. **Fertilizer Canada recommends ECCC and the Government of Canada coordinate across departments to prioritize the research, development, and scale up of low- or non-emitting sources of electricity to support the needs of our industry in a technology agnostic and regionally focused approach.**

In the near-term, cogeneration is an effective way for steam-dependent industries – like fertilizer manufacturing – to increase efficiency and reduce carbon emissions by utilizing a by-product of the steam generation process for product manufacturing. Often, cogeneration offers a cleaner alternative to the purchase of higher-emitting grid electricity. Some of Fertilizer Canada's members have already made significant investments to implement cogeneration at their facilities to reduce the environmental footprint of those sites. **We ask for any clarification or additional information that can be provided on how cogeneration at an industrial facility will be treated under the Clean Electricity Standard, particularly in the context of the ongoing update to the Output-Based Pricing System (OBPS) and equivalent provincial carbon pricing systems.** At this time, we recommend that the application of the Clean Electricity Standard to cogeneration units be phased in after 2035 when it is assumed that the pathway to fully decarbonizing the grid is understood and alternative sources for heat generation are technically and economically viable.



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Inclusion of cogeneration within the proposed Clean Electricity Standard should only be reviewed or considered after the policy framework and necessary parameters are in place to ensure cogeneration is not unintentionally disincentivized. Additionally, it is important to note that cogeneration can be coupled with solar or other non-emitting power sources to minimize emissions and can also be used with CCUS as a net-zero power source. Although it is our intent to cogenerate low-carbon electricity for our own energy requirements, steam production at our facilities is much greater than our electricity requirements. As to not discourage the additional generation of low-carbon electricity or use of renewable energy sources at our facilities, the Clean Electricity Standard should include net metering opportunities to provide our member companies, or other electricity consumers on the grid, with the ability to utilize low-carbon electricity when it is needed instead of when it is produced. **We strongly recommend ECCC develop a Clean Electricity Standard that recognizes the importance of cogeneration at industrial facilities and supports the adoption of cogeneration where it will result in significant emission reductions and production of low carbon electricity.**

More than half of the world's population depends on food grown with the use of fertilizers, a number which will only continue to grow. Canada is well positioned to meet the nutrient demands of a growing global population but will require a competitive business environment to successfully transition to a low-carbon future. The Clean Electricity Standard must recognize the importance of nitrogen manufacturing and potash mineral production by aligning with existing strategic goals, such as those within the Hydrogen Strategy for Canada and Canada's Critical Minerals Strategy.

Further, it is imperative that the Government of Canada continuously consider the cumulative impacts of environmental regulations to mitigate unintended carbon leakage and ensure Canadian industries remain competitive in a global market. We ask that ECCC ensure that the Clean Electricity Standard is compatible and in alignment with other regulations to encourage emission reduction and long-term economic prosperity.

Thank you again for the opportunity to engage and provide input on the development of the Clean Electricity Standard. Fertilizer Canada and our member companies know that achieving our shared goals for economic and environmental sustainability requires transparency and cooperation between government and industry, and we stand ready to work with ECCC and the Government of Canada as the clean electricity standard is developed and implemented. Please contact us should there be any questions related to the comments outlined in this submission.

Sincerely,

McKenzie Smith, Director, Stewardship & Regulatory Affairs
Fertilizer Canada



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CC: John Moffet, Assistant Deputy Minister, Environment and Climate Change Canada
John Hannaford, Deputy Minister, Natural Resources Canada
Jean-Clement Chenier, Director General, Low Carbon Energy Sector, Natural Resources Canada
Stephanie Clark, Associate Deputy Minister, Natural Gas and Electricity Division, Ministry of Energy, Alberta
Sam Fiorillo, Acting Executive Director, Air and Climate Policy Branch, Ministry of Environment and Parks, Alberta
Aaron Wirth, Executive Director, Climate Change Branch, Ministry of Environment, Saskatchewan
Cullen Stewart, Executive Director, Energy Policy, Ministry of Energy and Resources, Saskatchewan
Stephen Rhodes, Deputy Minister, Ministry of Energy, Ontario
Jan Forster, Deputy Minister, Ministry of Environment, Climate and Parks, Manitoba