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### **Re: Response to Saskatchewan Offsets Discussion Paper**

On behalf of Fertilizer Canada and our member companies, thank you for the opportunity to respond to the Government of Saskatchewan's Offset Discussion Proposal Paper. Fertilizer Canada applauds the Government of Saskatchewan for keeping the agriculture industry top of mind and proposing the addition of a ranching and farming protocol in the 2022 launch of the Saskatchewan Offset System.

Fertilizer Canada is an industry association which represents manufacturers, wholesale and retail distributors of nitrogen, phosphate, potash and sulphur fertilizers. Fertilizer is a significant contributor to Saskatchewan's economy, both from the production of potash and nitrogen fertilizers and use of fertilizers on-farm. Responsible for half of the world's current food production, fertilizer is fundamental to the future of agriculture and farmers' ability to feed a growing global population.

As the world seeks to sustainably intensify food production, farmers will continue to rely on fertilizer to increase production efficiency while conserving our soil, water and air. To meet this challenge, farmers will require more than just new and innovative technologies; they will require a framework for understanding and implementing the core principles and practices of sustainable agriculture.

4R Nutrient Stewardship has been designed for this purpose. For more than a decade, Fertilizer Canada has worked with Canadian farmers and the fertilizer industry to promote 4R Nutrient Stewardship - a science-based approach to fertilizer management that involves applying the Right Source @ Right Rate, Right Time, Right Place®. Use of the 4Rs maximizes plant nutrient uptake, optimizes yield and increases profitability, while also minimizing fertilizer runoff, leaching and nitrous oxide emissions.

### **Offset Credit Market**

One concern that our members have expressed is related to the currently proposed set up of the Saskatchewan market, such that credits can be sold to other jurisdictions but that credits cannot also be purchased from those same jurisdictions. This appears to be artificially increasing the value of Saskatchewan based credits by suppressing supply while increasing demand. The potential consequence for regulated facilities is that the cost of compliance will be higher than it could otherwise be in a free market system. **As one of the stated goals of the program is to "Provide a flexible**

**compliance mechanism for provincially regulated emitters”, it would seem that an uninhibited market would provide the best avenue for this compliance option.**

Fertilizer Canada further encourages the Ministry to pursue an expansion of Saskatchewan’s credit market with other jurisdictions, such as California. Other provinces, such as Quebec, have already made these market connections. Furthermore, it has recently been our understanding that the Ministry has intended to wait until the establishment of Internationally Traded Mitigation Outcomes (ITMOs); however, in recent consultations with the Federal Ministry of Environment and Climate Change Canada, industry was advised that ITMOs were likely a number of years from coming to fruition. ECCC specifically indicated that ITMOs are not likely to detail the expansion or connection of specific offset credit markets internationally and encouraged industry and pursue these connections concurrently. **Fertilizer Canada would therefore encourage the Ministry to take a proactive approach in such negotiations to ensure that Saskatchewan’s offset credit generators and regulated emitters have access to as large of a credit market as possible.**

Additionally, Fertilizer Canada is pleased to find that the Saskatchewan Offset System will ensure protocol criteria to be consistent with other Canadian offset programs. **To ensure consistency and an opportunity to connect Saskatchewan’s offset credit market with other Canadian jurisdictions, Fertilizer Canada would like to encourage the Ministry to adopt review and adopt protocols from other jurisdictions.**

### **Opportunities for 4R Climate Smart in Saskatchewan**

Fertilizer Canada would like to thank the Government of Saskatchewan for including 4R Nutrient Stewardship as an indicator of sustainability in their Prairie Resilience: A Made-in-Saskatchewan Climate Change Strategy. Capturing 25 per cent of provincial crop acres under 4R Designation by 2025 represents a significant step towards creating a sustainable future for Saskatchewan and all of Canada. Our association stands ready to work with your government and other stakeholders to achieve this ambitious target. We stand ready to work with the Government of Saskatchewan to build upon your recognition and commitment to 4R Nutrient Stewardship within the Prairie Resilience Plan.

Fertilizer Canada is pleased to be working collaboratively with the Government of Saskatchewan through a Memorandum of Cooperation (MOC) since 2016. Extended in 2018, the MOC supports the continued implementation of 4R Nutrient Stewardship and 4R Designation in the province, through extension, training and education.

By implementing 4R Nutrient Stewardship at a basic level on the major crops in Saskatchewan (Canola, Corn, Wheat, Flaxseed, Barley and Oats), there is a potential greenhouse gas (GHG) emission reduction of approximately 420,000 Metric Tonnes CO<sub>2</sub>e per year. This emission reduction, calculated using data from the national inventory methodology on total nitrogen fertilizer (non-manure) applied, is a conservative estimate based on the implementation of a basic level of 4R Nutrient Stewardship best management practices (BMPs). Implementation of intermediate or advanced practices would increase the potential GHG emission reductions by approximately 701,000 metric tonnes of CO<sub>2</sub>e from intermediate practices and 982,000 metric tonnes of CO<sub>2</sub>e from advanced practices. Fertilizer Canada hopes that the Government of Saskatchewan will be leaders in the adoption of the 4R Climate Smart Protocol to help produce these tangible reductions and allow growers to be rewarded for their sustainable actions.

### *Additionality Concerns*

We would like to take this opportunity to explain why it is extremely important to note the difference between adoption of 4R Nutrient Stewardship and the 4R Climate Smart Protocol. The 4R Climate Smart Protocol is built on the principles of the 4R Nutrient Stewardship framework, however the practice requirements in the protocol are more advanced and specific to nitrogen with a focus on reduction in nitrous oxide (N<sub>2</sub>O) emissions. For example, broadcast application of nitrogen with incorporation in the spring is an acceptable 4R Nutrient Stewardship practice and results in an increase in yield and reduction in emissions. However, within the 4R Climate Smart Protocol, this practice is not accepted, and any nitrogen must be applied subsurface to specifically maximize emission reductions. The uptake of more specific or advanced practices is much lower than adoption of basic, or near basic, 4R practices meaning that these specific practices are not business as usual and can be incentivized through an offset system.

While 53% of Saskatchewan farmers surveyed believe their fertilizer practices follow the 4Rs to at least a basic level, only 17% of growers surveyed report they have worked with a 4R Designated or certified agronomist and only 9% have a 4R Plan in place. There is clearly an opportunity to increase the adoption and sophistication of 4R implementation on Canadian Farms. Further, despite a large increase in the number of 4R Acres under the 4R Designation program in 2020 – there are only 4% of Saskatchewan's cropland acres under the program to date. With a goal of having 25% of Saskatchewan's cropland acres under the 4R Designation program by 2025, there is an opportunity to incentive implementation and validation of practices that have been demonstrated to significantly reduce emissions.

### *Alignment with Sustainable Target Timelines*

Additionally, Environment and Climate Change Canada (ECCC) recently released their climate plan “*A Healthy Environment and a Healthy Economy*” which sets a national target of reducing emissions from fertilizer by 30% below 2020 levels. Any federal emissions reduction target must be based on emissions intensity and consider emissions per unit of crop produced to maintain growing agricultural exports. Focusing on absolute emissions from the sector will have severe consequences to the competitiveness of farmers and the fertilizer industry. To achieve this target in a method that maintains Canadian Agriculture's competitiveness, 4R Nutrient Stewardship will need to be endorsed and implemented to achieve this target.

**As our industry and its grower customers work toward two sustainability target goals – 25% of Saskatchewan's cropland acres under 4R Designation by 2025 and a reduction in fertilizer emissions 30% below 2020 levels by 2030 – we want to take this opportunity to reiterate that the parallel development of the 4R Climate Smart Protocol in Saskatchewan is necessary and should be prioritized.**

Canadian growers are asking that the 4R Climate Smart Protocol be prioritized to provide them with the opportunity to be rewarded for their sustainable actions to reduce GHG emissions on Canadian farmland. The Canadian Canola Growers Association (CCGA), Grain Growers of Canada, the Canadian Federation of Agriculture (CFA), and the Soil Conservation Council of Canada are key partners that actively support 4R Nutrient Stewardship and advocate for the inclusion of the 4R Climate Smart Protocol within any offset protocol system.

During the consultation engagement session, it was stated that the province is looking to develop two protocols for 2022 in addition to the current agricultural protocols - landfill gas capture and anaerobic digester protocols. Specifically, it was noted that these protocols will look to cover farming and ranching. Adoption of this protocol, for the production of tangible reductions in agricultural emissions, can assist the Government of Saskatchewan in achieving its emissions reduction goals. Further, prioritization of the

protocol for 2022 will align with sustainability target dates (i.e. 2025 or 2030) which will allow growers to receive rewards for these voluntary sustainable efforts. Misalignment will forgo an opportunity to incentivize and reward Canadian growers as we move towards further adoption and implementation of intermediate and advanced levels of 4R Nutrient Stewardship.

**Fertilizer Canada and our members ask that the Government of Saskatchewan prioritize the 4R Climate Smart Protocol by allocating one of the remaining protocol opportunities to the development of this protocol for a January 2022 launch. Fertilizer Canada stands ready to work with the Government of Saskatchewan to ensure the protocol meets the requirements of the provincial offset system but is also functional on Saskatchewan cropland.**

### **Technical Recommendations**

The 4R Climate Smart protocol, known as the Nitrous Oxide Emission Reduction Protocol (NERP) in Alberta, was originally approved for use within Alberta's GHG management framework as a protocol for delivery of compliance quality offsets for Alberta's regulated large final emitters however can be adapted to fit other jurisdictions. Through review of identified obstacles faced in Alberta, the Government of Saskatchewan can avoid such challenges to ensure successful application and uptake of the developed protocol. In Alberta, it was found that without consideration and incorporation of the following criteria, it was virtually impossible to successfully apply the protocol on the ground. **We ask that the Government of Saskatchewan review the following identified barriers and continue to work with industry and grower organizations to ensure successful field-level operation of any developed protocol.**

- **Flexibility with development and adoption of a project-specific dynamic baseline.** Fertilizer Canada supports the development of a project-specific, dynamic baseline that considers the N<sub>2</sub>O emissions resulting from a field not implementing 4R Nutrient Stewardship BMPs. Specific project types without available regional data, like the 4R Climate Smart Protocol, require the development of a project-specific baseline. In this situation, we recommend the development of an ecodistrict baseline. Crop Insurance could be used as a practical approach for baseline development as it collects the required data for this calculation such as crop yield, location, and nutrient application rate.

The Government of Alberta investigated crop insurance as a mechanism to monitor yield which provides several learnings. Since yield is measured as dry matter, a moisture test was added as a requirement within the Alberta protocol. This is problematic as a moisture test for every cart weight is impractical and not typically completed. The crop insurance system and grain buying facilities all treat grain mass as if it's at or below the generally accepted maximum "moisture" parameters for safe storage (referred to as "dry grain"); 14.5% for wheat, 14.8% for feed barley, 10% for canola and so on. Penalties for being over moisture are applied at sales point in the grain handling system. We encourage the review and revision of this requirement with the offset system consideration of scaled weight carts for yield monitoring.

- **Protocol should be on a field-by-field basis.** For N<sub>2</sub>O emission reductions from agricultural soils, Fertilizer Canada recommends that deviations in fields that do not meet the protocol should result in the field being excluded from the protocol for that season, not the whole farm. The level of on-farm record keeping required by a farm to meet the verification standard can allow tracking of fertilizer use and yield by field. Therefore, nitrogen application rates and crop yield from non-applicable fields can be subtracted in the calculation to determine farm offset credits.

Similar to the above example, a five-year average yield from crop insurance was investigated within the Alberta protocol as an alternative to meet yield requirements if weighed results were not available. This proved to be problematic with inconsistencies in yearly farm yield averages where yields for specific fields were unavailable or omitted. Crop insurance accounts for yield discrepancies amongst fields and has build a robust system to ensure yields, by field, are reported accurately. Crop insurance provides a robust verification method to assess yield which should be deemed equivalent within any offset system. If the farmer does not use crop insurance, cart weights of scale tickets can be required as described above.

- **Landowner sign-off should be removed.** In the case of projects that only have emission reductions (i.e. N<sub>2</sub>O reductions from soils), we recommend that the person taking the action (land manager/lessee or the landowner) is the 'owner' of the reduction. Landowner sign-off for these project types needs to be excluded from the protocol requirement list. Implementation of the BMPs required to qualify for emission reductions under the 4R Climate Smart Protocol are entirely under the control of the grower. As carbon is not being stored in the soil there are no reversals to consider. The emission reductions are all accounted for in the crop vintage year, this ownership eliminates possible double counting and reduces the risk of leakage. Requiring landowner signoff increases the administrative burden for the grower without providing any material benefit for verification.
- **An aggregator is required.** For smaller tonne land-based offsets, aggregation is a necessary part of managing transaction costs and increasing the viability of offset projects which has been demonstrated in many markets. It is the aggregator who takes on the risk and liability of meeting all the requirements of the Offset System at hand; and developing robust data management and record collection systems to meet verification and auditing of projects. With a well-designed framework, the beneficial role of aggregators can be realized, and this has been recognized in other jurisdictions. For example, Alberta has built in safeguard language in protocols to ensure the balance of responsibilities between the farmer and aggregator exists.

## Background Information

### *4R Climate Smart Protocol*

The 4R Climate Smart Protocol (previously known as the Nitrous Oxide Emission Reduction Protocol, or NERP) is a science-based protocol for improving nitrogen management in cropping systems and estimating the nitrous oxide emission reduction associated with better nitrogen management based on 4R Nutrient Stewardship best practices. It is a robust protocol designed to meet international standards for estimation and verification of carbon offsets but is simple in concept and is driven by data that producers are either already collecting or are interested in collecting to improve their overall farm management system.

On behalf of our members, Fertilizer Canada has led and continues to support the development of the 4R Climate Smart Protocol as a tool to help ensure the economically efficient and environmentally responsible use of fertilizer. The protocol was developed using a consensus approach with input and review from Canada's top scientists in greenhouse gas (GHG) emissions and abatement from cropping systems as well as leading agronomists from government and industry.

As the 4R Climate Smart Protocol uses a modification of Canada's internationally accepted and peer reviewed Tier II inventory method to estimate nitrous oxide emissions at the farm level, it is readily applicable as a tool for improving nitrogen management and estimating on-farm emissions from cropping

systems throughout Canada. In addition, owing to international recognition of the 4R framework, the 4R Climate Smart Protocol can be adapted and implemented globally and could therefore be used in an international market.

Our models demonstrate that with increased implementation of 4R Nutrient Stewardship and the 4R Climate Smart Protocol, end-users of fertilizer in Western Canada could reduce total GHG emissions by 2-3 megatonnes of CO<sub>2</sub>e, annually; increased adoption across Canada poses even greater rewards. In addition, some users would increase revenue per acre. The average crop value of one 4R demonstration farm increased by \$87/acre due to better crop yield and quality. Overall, this system will bring Canada closer to its Paris Climate Goals, increase profits for Canadian growers, and help protect Canada's food supply.

#### *4R Nutrient Stewardship – the Driving Force Behind Practice Change*

Improved nitrogen management within a 4R Climate Smart Protocol is delivered through the implementation of a 4R Nutrient Stewardship Plan on the farm. Producers wanting to participate in a project using the 4R Climate-Smart Protocol develop a 4R Plan with an accredited professional advisor (APA) – Certified Crop Advisor (CCA) and/or Professional Agrologist (P.Ag.) with approved training. The APA helps the producer develop a set of sustainability goals that incorporate GHG emission reduction measures as well as other issues that are specific to the farm into their nutrient management. Reducing GHG emissions per unit of crop produced, generating carbon offsets to help society adapt to climate change, and improving the return of dollars spent on fertilizer are examples of environmental, social, and economic goals that might be included in a 4R plan under a project.

The APA also helps the farmer develop a suite of practices that integrate the Right Source @ Right Rate, Right Time, Right Place ®. These BMPs must meet certain thresholds to be 4R eligible at basic, intermediate, or advanced levels.

A 4R Climate-Smart Protocol project begins when the APA signs off on the 4R Plan and verifies that it has been put into practice. An important point is that while a producer can implement 4R improvements on their own, involvement and sign-off on the 4R plan by an APA is a required element of a farm's participation in a 4R Climate-Smart Protocol project and is viewed as beyond business as usual in the context of additionality.

#### **Concluding Remarks**

Through continued partnership, the Government of Saskatchewan has the opportunity to take advantage of the advancements that have been made by the Canadian fertilizer sector. We encourage and welcome continued consultation with industry to ensure successful development and implementation of a 4R Climate Smart Protocol for the province of Saskatchewan.

Sincerely,



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