



**FERTILIZER CANADA**  
**FERTILISANTS CANADA**

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December 20, 2016

Mr. David Coates, Project Manager  
Ministry of the Environment and Climate Change  
Climate Change and Environmental Policy Division  
Air Policy Instruments and Programs Design Branch  
77 Wellesley Street West, Floor 10, Ferguson Block  
Toronto, ON M7A2T5

**Re: Response to Ontario Cap and Trade Program: Offsets Credits Regulatory Proposal, EBR # 012-9078**

Dear Mr. Coates;

On behalf of Fertilizer Canada and our members, thank you for the opportunity to provide feedback to the *Ontario Cap and Trade Program Offsets Credits Regulatory Proposal* to support the development of the regulatory provisions applicable to offsets under the cap and trade program.

Fertilizer Canada represents the manufacturers, wholesale and retail distributors of fertilizers used on farms, residential lawns and gardens and recreational parklands. Our products help to keep soils productive; essential as farmers seek to feed a growing population on less land. Five per cent of Ontario's greenhouse gas emissions come from agriculture, including nitrous oxide (N<sub>2</sub>O) emissions from fertilizer application. Use of the science-based 4R Nutrient Stewardship (Right Source @ Right Rate, Right Time, Right Place®) program can substantially reduce these emissions, while generating offset credits for farmers seeking to produce their crops more sustainably.

4R Nutrient Stewardship is being implemented across Ontario through the 4R Memorandum of Cooperation (MOC), formalized in 2015 alongside the Ministry of Agriculture, Food and Rural Affairs, Fertilizer Canada, and the Ontario Agri Business Association (OABA). The 4R MOC is governed by a Steering Committee, represented by the three MOC signatories in collaboration with the Grain Farmers of Ontario, the Ontario Federation of Agriculture, the Christian Farmers Federation of Ontario, Conservation Ontario, and member representatives from Fertilizer Canada and OABA.

***The Nitrous Oxide Emissions Reduction Protocol (NERP)***

The Nitrous Oxide Emission Reduction Protocol (NERP) reduces on-farm emissions of nitrous oxide in a quantifiable, credible and verifiable way, allowing farmers to earn carbon credits. The NERP is based on applying the 4R Nutrient Stewardship program through a customized plan.



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NERP is simple in concept, driven by data that producers are either already collecting or are interested in collecting to improve their overall farm management system. Through the protocol, the nitrous oxide emissions per unit of crop produced can be substantially reduced, in some cases by up to half.

### ***NERP as an Agricultural Offset Protocol***

The NERP was designed for use under Alberta's GHG *Specified Gas Emitters Regulation* to offset large final emitters. The *Quantification Protocol for Agricultural Nitrous Oxide Emission Reductions* was originally published for use in the Alberta offset system in 2010, followed by an updated protocol in 2015. Alberta was the first Canadian province to approve the use of NERP in its regulatory carbon marketplace. However, NERP is designed to be flexible enough to be used anywhere in the world, customized with regionally-specific science, to reduce emissions.

The NERP is well suited to be adopted into the Ontario cap and trade system as an offset initiative. As a credible and practical biological offset protocol, the NERP has the necessary flexibility to allow the agricultural community to benefit by earning offset credits.

### ***Calculating Nitrous Oxide Reductions and Carbon Credits***

In this protocol, nitrous oxide emissions from agricultural soils are quantified using Canada's Tier II methodology. The protocol relies on stringent documentation of field practices by Accredited Professional Advisors.

NERP projects use conservative reduction modifiers of 15% reduction for basic and a 25% reduction for intermediate and advanced BMPs. The reduction modifiers are coefficients derived from published peer-reviewed data on nitrogen use efficiency and nitrous oxide emissions, estimating the synergistic effects of superior source, rate, time and place practices on lowering nitrous oxide emissions per unit of crop produced. Recent research suggests that the actual nitrous oxide reductions achieved by applying 4R practices over large areas and multiple years are considerably higher than those estimated.

### ***Continuing Development and Implementation Support***

The environmental benefits of 4R Nutrient Stewardship have been verified by research. In March 2015, Agriculture and Agri-Food Canada announced \$1.1 million in funding matched by industry for Fertilizer Canada's project entitled "A Canadian Research Network to Improve 4R Nutrient Stewardship for Environmental Health and Crop Production." Fertilizer Canada and its members are providing an additional \$1.1 million to the project over the next three years. Under this project, nine leading Canadian researchers are conducting 10 projects to quantify economic, social and



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environmental benefits resulting from 4R Nutrient Stewardship. We expect additional economic and environmental outcomes such as reductions in greenhouse gas emissions, nitrogen losses to the atmosphere and groundwater, phosphorus losses to surface waters and improved productivity, efficiency and profitability of production. Ontario is home to three of the Canadian 4R Researchers, providing leading research on the benefits of 4R Nutrient Stewardship for optimal nutrient management of major Ontario crops. Two of the Ontario 4R Researchers focus on nitrogen management. Dr. Claudia Wagner-Riddle, Professor at the University of Guelph, is conducting a project to investigate applications of enhanced efficiency fertilizers at planting to reduce nitrogen losses, including nitrous oxide emissions, from grain corn production. Dr. Craig Drury, a soil biochemist with Agriculture and Agri-Food Canada, is conducting a project on the combined effects of nitrogen fertilizer placement and enhanced efficiency fertilizers to reduce nitrogen losses. These projects are quantifying 4R nitrogen management practices to facilitate future adoption of the NERP in Ontario.

### ***Recommendations:***

The government has a unique opportunity to take advantage of the progress made by our industry, and to develop offsets to incent environmental performance. The 4R program has been recognized in Ontario as a part of the solution by the Environmental Commissioner (Putting Soil Health First: A Climate-Smart Idea for Ontario, November 2016), and in the Proposed Actions for the draft Canada-Ontario Action Plan for Lake Erie.

The following recommendations should be considered for the compliance offset credits regulatory proposal:

1. Leverage the voluntary actions of the fertilizer industry, farmers and stakeholders through the 4R Nutrient Stewardship program, and formally adopt 4R Nutrient Stewardship as the recommended approach to nutrient management;
2. Adopt the NERP into Ontario's cap and trade program as an agricultural offset protocol, implemented through the industry-led 4R Nutrient Stewardship program;
3. Invest in further research to provide the necessary of knowledge of soil fertility and nutrient management through 4R Nutrient Stewardship to inform best management practices and recommendations for Ontario.

Environmental stewardship and sustainability are not new ideas for our industry, nor for our customers who have long embraced best management practices on their farms, yards and business operations. But, as we move forward, it is increasingly important to demonstrate our successes in measurable ways and also to identify areas of potential improvement.



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As the Government of Ontario moves forward with the development, we encourage you to collaborate with our industry. Through continued partnership, the Government of Ontario has a unique opportunity to take advantage of the global leadership advancements that have been made by the Canadian fertilizer sector. We encourage you to consider the “Made in Canada”, world-leading NERP as a potential offset protocol in the cap and trade system. We stand ready to work with you as this process continues and welcome the opportunity to further discuss our industry and how our work and programs can be part of the solution in addressing climate change.

Thank you for the opportunity to comment on this important matter. We look forward to the opportunity to further discuss this with you at your convenience.

Sincerely,

Garth Whyte  
President & CEO  
Fertilizer Canada

