

January 22, 2024

DELIVERED VIA EMAIL: creditscompensatoires-offsets@ec.gc.ca

Environment and Climate Change Canada
200 Bd Sacré-Coeur
Gatineau, QC J8X 4C6

Re: Reducing Enteric Methane Emissions from Beef Cattle (REME protocol)

Please accept this submission on behalf of AEL Advocacy in response to the new draft protocol, *Reducing Enteric Methane Emissions from Beef Cattle* (“REME protocol”).¹

A. About AEL Advocacy

Animal Environmental Legal Advocacy (“AEL Advocacy”) is a public interest law practice and not-for-profit organization based in Ontario.² As Canada’s first intersectional animal and environmental law organization, we understand the important interconnection between humans, animals, and the environment. We combine our in-depth knowledge of the legal and political landscape with a commitment to supporting individuals and organizations working to protect animals and the environments where they live.

B. Background: The Impact of Animal Agriculture on Climate Change

Animal agriculture significantly worsens climate change by releasing substantial amounts of greenhouse gases (GHG) into the atmosphere. The use of animals for food accounts for a minimum of 16.5% of total global GHG emissions and potentially as much as 28%.³ This level is comparable to or even exceeds the GHG emissions attributed to the entire transportation sector.⁴

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<https://www.canada.ca/en/environment-climate-change/services/climate-change/pricing-pollution-how-it-will-work/output-based-pricing-system/federal-greenhouse-gas-offset-system/protocols/draft-reducing-enteric-methane-emissions-beef-cattle.html>

² <https://www.aeladvocacy.ca/>

³ See: <https://www.mdpi.com/2071-1050/13/11/6276>

⁴ <https://www.statista.com/topics/7476/transportation-emissions-worldwide/#topicOverview>

In Canada, current GHG emissions from livestock production are estimated at 32 metric tons of CO₂ equivalent, constituting 53% of total agricultural emissions.⁵ Methane and nitrous oxide are the primary GHGs emitted by animal agriculture, accounting for 38% and 36%, respectively, with carbon dioxide responsible for the remaining 26%.⁶ Notably, these potent GHGs play a pivotal role in heat trapping, with methane exhibiting 27 to 30 times greater efficiency than carbon dioxide over a 100-year span, and nitrous oxide being nearly 300 times more impactful.⁷

The Intergovernmental Panel on Climate Change (“IPCC”) consistently underscores the detrimental impact of animal agriculture on the climate. The Sixth Assessment Report specifically draws attention to the escalating methane emissions, predominantly originating from enteric fermentation in ruminant animals.⁸

Beyond its role in climate change, the reliance on diets rich in animal protein leads to an inefficient use of arable land and transportation for cultivating crops as animal feed.⁹ This practice adversely affects ecosystems and biodiversity.¹⁰ The intensive use of land, water, and energy resources in animal farming significantly amplifies the industry's overall environmental footprint, contributing to deforestation, soil degradation, and water pollution.¹¹

C. AEL Advocacy’s Comments on the REME Protocol

While we commend the government’s efforts to address the environmental impact of beef cattle, AEL Advocacy has serious reservations regarding the approach outlined in the REME Protocol. The protocol's primary focus on mitigating enteric methane emissions in confined beef cattle feeding operations, through measures like enhanced management, diet reformulation, and the application of additives or innovative strategies, falls short in adequately addressing the broader environmental and welfare challenges associated with Confined Animal Feeding Operations (“CAFOs”). The protocol not only fails to address the broader environmental impact across animal agriculture sectors, but it ignores the pressing need for a substantive transition away from intensive animal agriculture, favouring incremental technological enhancements within the industry.

⁵ See: <https://animaljustice.ca/wp-content/uploads/2023/06/2023-05-31-House-of-Commons-Standing-Committee-re-Environmental-Impacts-of-Agriculture.pdf> citing Fouli, Yméne, Margot Hurlbert & Roland Kröbel, “Greenhouse Gas Emissions from Canadian Agriculture: Estimates and Measurements.” (2021) 14:35 SPP Briefing Paper.

⁶ *Ibid.*

⁷ See: <https://animaljustice.ca/wp-content/uploads/2023/06/2023-05-31-House-of-Commons-Standing-Committee-re-Environmental-Impacts-of-Agriculture.pdf> citing <https://www.epa.gov/ghgemissions/understanding-global-warming-potentials>.

⁸ <https://www.ipcc.ch/assessment-report/ar6/>

⁹ See: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC10201830/>

¹⁰ *Ibid.*

¹¹

<https://www.colorado.edu/ecenter/2022/03/15/it-may-be-uncomfortable-we-need-talk-about-it-animal-agriculture-industry-and-zero-waste>

Overall, AEL Advocacy submits that the REME protocol is out of step with the latest scientific consensus, which emphasizes the imperative to incentivize a departure from intensive livestock operations and encourage the adoption of more plant-based diets.¹² Our specific concerns and recommendations are addressed in more detail below.

I. The REME Protocol is Too Narrow in Focus and Ignores Environmental Impacts Across Animal Agriculture Sectors

While recognizing the significance of emissions from beef cattle, it is crucial to expand incentives across animal agriculture sectors. Dairy cattle, for instance, contribute significantly to the climate crisis through methane emissions and resource-intensive practices.¹³ Deforestation and nitrous oxide released from fertilizers in the dairy industry underscore the need to encompass various livestock categories in protocols addressing environmental concerns.¹⁴

Additionally, the environmental challenges posed by chickens and other poultry species, although often perceived as more environmentally friendly than ruminants, must be addressed. The mass production of poultry contributes to deforestation for feed crops, soil erosion, and water contamination, driven by the excessive use of antibiotics and chemicals in farming practices.¹⁵

Pig, sheep, and goat farming pose similar problems to cattle farming. Pig waste generates methane and nitrous oxide, while sheep and goats, being ruminants, produce methane through enteric emissions.¹⁶ Additionally, the feed required for these animals contributes to deforestation, habitat destruction, and further emissions specific to feed production.¹⁷

Comprehensive studies consistently demonstrate that various forms of animal agriculture result in the least climate-friendly foods. For example, an Oxford University study revealed that beef, lamb, dairy, prawn farming, cheese, pork, poultry, and eggs generate the highest GHG emissions per kilogram of food.¹⁸ Plant-based foods, on the other hand, exhibit significantly lower emissions.¹⁹

¹² See for example: <https://www.un.org/en/climatechange/science/climate-issues/food>

¹³ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC9559257/>

¹⁴ *Ibid.*

¹⁵ <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6518108/>

¹⁶ See for example: <https://cdns.cipub.com/doi/pdf/10.4141/A05-010>

¹⁷ See: <https://www.animalsinternational.org/issues-impacting-animals/habitat-destruction/>

¹⁸ See for example: <https://www.science.org/doi/10.1126/science.aag0216>; See also:

<https://www.ipcc.ch/srccl/chapter/chapter-5/5-5-mitigation-options-challenges-and-opportunities/5-5-2-demand-side-mitigation-options/5-5-2-1-mitigation-potential-of-different-diets/figure-5-12/>

¹⁹ See:

<https://www.ipcc.ch/srccl/chapter/chapter-5/5-5-mitigation-options-challenges-and-opportunities/5-5-2-demand-side-mitigation-options/5-5-2-1-mitigation-potential-of-different-diets/figure-5-12/>

While the attention to enteric methane emissions from beef cattle is commendable, it should be integrated into a more comprehensive strategy. We strongly urge the government to adopt measures addressing the broader environmental footprint of the entire animal agriculture sector. This encompasses GHG emissions from all livestock sectors, including cows used for milk, chickens, turkeys, pigs, sheep, and goats. It also involves addressing deforestation, water usage, and pollution associated with various livestock farming practices. A holistic approach aligns with the urgent need for compassionate, sustainable, and environmentally conscious agricultural practices that safeguard both the planet and its inhabitants.

Therefore, we earnestly implore the government to provide climate-friendly incentives to all other animal-farming sectors with the goal of rectifying each sector's respective environmental harms.

RECOMMENDATION NO. 1: Broaden the scope of the REME protocol to address GHG emissions across all animal agriculture sectors.

II. The Projects Proposed in the REME Protocol Are Insufficient to Address the GHG Emissions from the Beef Industry

AEL Advocacy submits that the REME protocol, with its primary focus on projects mitigating enteric methane emissions in confined beef cattle feeding operations through enhanced management, diet reformulation, and innovative strategies, falls short in addressing the broader environmental and welfare challenges associated with CAFOs.

Beef stands out as the most environmentally impactful food, contributing a staggering 41% of the animal agriculture sector's overall GHG emissions.²⁰ In Canada, the alarming statistics reveal that beef production alone contributes to 32% of the entire agricultural sector's GHG emissions, amounting to 22,419,600,000 kg of CO₂ emitted in 2016.²¹

Simply put, current levels of beef production are unsustainable, and surface-level solutions, such as improved management and diet reformulation, are inadequate to address the scale of the problem. Even when cows are farmed using low-impact methods, beef production continues to

²⁰ See:

<https://animaljustice.ca/wp-content/uploads/2023/06/2023-05-31-House-of-Commons-Standing-Committee-re-Environmental-Impacts-of-Agriculture.pdf> citing <https://www.fao.org/news/story/en/item/197623/icode/>; See also: <https://pubmed.ncbi.nlm.nih.gov/17035955/>; <https://www.nrdc.org/sites/default/files/less-beef-less-carbon-ip.pdf>

²¹ See:

<https://animaljustice.ca/wp-content/uploads/2023/06/2023-05-31-House-of-Commons-Standing-Committee-re-Environmental-Impacts-of-Agriculture.pdf> citing Fouli, Yméne, Margot Hurlbert & Roland Kröbel, "Greenhouse Gas Emissions from Canadian Agriculture: Estimates and Measurements." (2021) 14:35 SPP Briefing Paper at 13.

yield significantly higher GHG emissions compared to the most environmentally impactful plant proteins.²²

Scientific consensus underscores the urgency of substantially decreasing meat consumption, particularly beef, aligning with the EAT-Lancet Commission's planetary health diet.²³ In fact, according to the most comprehensive analysis yet of the food system's impact on the environment, huge reductions in meat-eating are essential to avoid dangerous climate change.²⁴ In western countries, the study found that beef consumption needs to fall by 90% and be replaced by five times more beans and pulses.²⁵

Recognizing this, AEL Advocacy proposes the incorporation of incentives to facilitate a transition towards plant-based farming within the REME protocol and broader climate policies. Providing financial support, research funding, and subsidies for farmers adopting plant-based practices can accelerate the reduction of environmental impacts associated with traditional livestock farming. A targeted emphasis on alternative protein sources is also crucial for fostering a more compassionate, sustainable, and resilient food system.

RECOMMENDATION NO. 2: Include incentives within the REME protocol to promote a transition towards plant-based farming, offering financial support, research funding, and subsidies for farmers adopting plant-based practices.

RECOMMENDATION NO. 3: Consider broader investments into plant-based protein and cellular meat technology, coupled with increased regulation of the animal agriculture industry. This includes setting emissions targets, requiring transparent monitoring, and strengthening water use and pollution standards, with stringent enforcement mechanisms.²⁶

²² See:

<https://animaljustice.ca/wp-content/uploads/2023/06/2023-05-31-House-of-Commons-Standing-Committee-re-Environmental-Impacts-of-Agriculture.pdf> citing Poore, Joseph & T Nemecek, "Reducing food's environmental impacts through producers and consumers." (2018) *Science*, 360 (6392), 987-992.

²³ <https://eatforum.org/eat-lancet-commission/eat-lancet-commission-summary-report/>

²⁴

https://www.nature.com/articles/s41586-018-0594-0.epdf?sharing_token=NivNe3lpK9T_6R_Ov7cGR9RgN0jAjWel9jnR3ZoTv_0M2ZckU8PFAjFp2beHrcOXhMGtzE8nzcDqubMx9ONW9ULSbbO_WUw8pvU9o1FaesDGn7Yyqm7rBefxpvX03Wpn9fVoW_CmNUMPUlaksatZag7YHqVuReazO6_biSFBudf0fo2_DKzyNTaIKyTK4luxp7tpl7fPwJrWv85CogEUuSnsO9AdOHF4LkpZHfMiYI558qP0i6uGuTstvERNFrGr3v_E1KpZK84cX4qaGEUh5_IiX_HQ7IH9hoEbY6vHOB4BjNk-J7ikpNDveDCRIZHqgHykC3Du0MciyzoKs6Ek0voA%3D%3D&tracking_referrer=www.theguardian.com

²⁵ *Ibid.*

²⁶ See recommendation by Animal Justice to the House of Commons Standing Committee on Agriculture and Agri-Food: <https://animaljustice.ca/wp-content/uploads/2023/06/2023-05-31-House-of-Commons-Standing-Committee-re-Environmental-Impacts-of-Agriculture.pdf>

D. AEL Advocacy's Comments on the REME Protocol and the Impact of Ag-gag Legislation

In addition to the above comments and recommendations, AEL Advocacy highlights the incongruity between proposals encouraging climate-friendly practices in the animal agriculture sector and the implications of federal Bill C-275, *An Act to amend the Health of Animals Act (biosecurity on farms)*. Bill C-275 is an ag-gag style bill which creates impediments for individuals attempting to document and publicly disclose environmental concerns and conditions on farms.²⁷

Although Canadians are increasingly concerned about where their food comes from and its impact on the environment,²⁸ factory farms largely keep consumers in the dark. With virtually no government oversight of the environmental conditions on farms²⁹, one of the only ways these conditions might come to light is through employee whistleblower exposés. In addition, advocate-led investigations emerge as one of the limited tools available to Canadians for ensuring farms adhere to the standards set by protocols like REME.

Ultimately, government endeavours to ensure farmers embrace climate-friendly practices clash with the restrictive nature of ag-gag laws. As such, AEL Advocacy strongly recommends a comprehensive reassessment and reconsideration of the implications of Bill C-275, urging the government to abandon the bill entirely. It is apparent that ag-gag laws are incongruent with the promotion of climate-friendly farming practices and run contrary to the broader public interest.

RECOMMENDATION NO. 4: Abandon Bill C-275, *An Act to amend the Health of Animals Act (biosecurity on farms)*, in its entirety.

E. Summary of Recommendations and Conclusion:

In sum, AEL Advocacy makes the following recommendations:

RECOMMENDATION NO. 1: Broaden the scope of the REME protocol to address GHG emissions across all animal agriculture sectors.

RECOMMENDATION NO. 2: Include incentives within the REME protocol to promote a transition towards plant-based farming, offering financial support, research funding, and subsidies for farmers adopting plant-based practices.

²⁷ See: https://www.aeladvocacy.ca/files/ugd/c883e8_2b6d38730dec42e6af54cba3f1dbcca4.pdf

²⁸ https://www.aeladvocacy.ca/files/ugd/c883e8_94fc87c6df3f4f479ef82fcd1c0a9f50.pdf

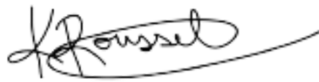
²⁹ https://www.aeladvocacy.ca/files/ugd/c883e8_a881e24cba2a444b8a2f2ccedd78a03f.pdf

RECOMMENDATION NO. 3: Consider broader investments into plant-based protein and cellular meat technology, coupled with increased regulation of the animal agriculture industry. This includes setting emissions targets, requiring transparent monitoring, and strengthening water use and pollution standards, with stringent enforcement mechanisms.³⁰

RECOMMENDATION NO. 4: Abandon Bill C-275, *An Act to amend the Health of Animals Act (biosecurity on farms)*, in its entirety.

Thank you for your attention to this important matter. We welcome the opportunity to discuss the above comments and recommendations.

Sincerely,
AEL Advocacy



Krystal-Anne Roussel
Co-Director & Counsel



Adam Clasky
Law Student Intern

³⁰ See recommendation by Animal Justice to the House of Commons Standing Committee on Agriculture and Agri-Food: https://animaljustice.ca/wp-content/uploads/2023/06/2023-05-31-House-of-Commons-Standing-Committee-re_-Environmental-Impacts-of-Agriculture.pdf