



July 1, 2022

Dear Climate Action Council Members,

Agriculture is an economical and societal pillar for New York. The agriculture industry produces wholesome food for New Yorkers and helps feed our world's growing population. Farms provide green space and serve as an opportunity sector for New York when it comes to climate change and NY's Climate Action Council plan. As outlined in the draft scoping plan, current estimates of greenhouse gas emissions by all of agriculture represents only six percent of total anthropogenic GHG emissions. The dairy industry for decades has demonstrated its ability to increase efficiency, through the adoption of technology and best management practices, while concurrently reducing our environmental impact. According to [a 2019 publication in the Journal of Animal Science by Capper and Cady](#) cited by the [Innovation Center for U.S. Dairy](#), published data from 2017 shows that a gallon of milk required 30% less water, 21% less land, while reducing our carbon footprint by 19% from 2007-2017. The carbon footprint of a glass of milk is 2/3 smaller today than it was 70 years ago ([UC Davis, CLEAR Center](#)). For decades, the dairy industry has focused on many improvements that reduce GHG emissions including genetics, animal health, and improved milk production efficiency while reducing total number of cows. The overall result has been a dramatically reduced GHG footprint per unit of milk produced. GHG emissions is not only a state issue, but a global issue. Fortunately, New York State is an optimal place for raising dairy cows. Due to our natural resources, cows are able to produce milk more efficiently, which means they make more milk per unit of emissions than other regions in the U.S. and even the world. NEDPA and NEAFA are confident that our industry can continue to build on this impressive track record.

### **Dairy Net Zero Commitment**

New York dairy farmers have prided themselves on their commitment to environmental stewardship for decades. The goal of "continuous improvement" regarding soil health, water quality and use, as well as improving best management practices, and animal health remain top priorities. In 2020, despite the fact that U.S dairy contributes 2% of the countries anthropogenic GHG emissions, the U.S. dairy community announced their continued commitment with the launch of the Net Zero Initiative. The overarching 2050 environmental stewardship goals are: achieve net zero GHG emissions in the value chain from cradle to processor gate, reduce freshwater use, and improve water quality through manure and nutrient utilization. The industry is working to reach these goals by continuing to use the best technology available at the given time and continue to enhance best management practices by utilizing research and

seeking continuous improvements. Dairy farmers pride themselves on working with and learning from industry experts both in academia and the private sector.

One of the areas that we need to improve upon is sharing with consumers and interested stakeholders the good news of what the dairy industry is already doing to combat climate change and what our goals are going forward. This priority should be a focus of the CLCPA as well. The CLCPA provides us a platform to articulate all that the dairy industry has done and will continue to do to reduce its carbon footprint. (See NEDPA's one-pager: [Dairy's Toolbox for Reducing Emissions](#)) Further, the draft scoping plan clarifies the fact our industry, along with our partners in academia, government and agribusiness, including programs funded through the dairy checkoff program, must prioritize effective communications beyond our industry.

### **AF9. Advance Alternative Manure Management**

New York farmers operating under the CAFO permit have been leaders in the country holding a seat at the table working alongside DEC, Ag & Markets, NRCS, CAFO Planners, Certified Crop Advisors, and other stakeholders to engage in forward-thinking commitment to research and implementation of the best management practices available at "that time." The draft scoping plan identifies the need for expanding farmer access and strengthening program policies by refining current grant programs that would incorporate methane mitigation and retrofit capacity. We have anaerobic digester systems that are currently working well to reduce GHG emissions. There are farms with older systems that need to be retrofitted or adopt newer technology all together.

As we look at advanced manure management, we look not only at what is happening in NY, but we also learn from the success of farmers from across the country. California has a very successful model for reducing dairy's GHG emissions. (See PRO-Dairy Resources: [California LCFS CI Applied to NY Dairies Part 1](#) and [Part 2](#)) They cover manure storages and utilize the biogas to replace diesel fuel used by internal combustion engines. They are currently powering trucks and other transportation with renewable natural gas (RNG) that comes from manure-based biogas. They also fund a host of other on-farm GHG reduction best management practices annually with per farm funding available up to \$750,000. California is successful because the combination of smart policy and funding to pay for effective mitigation practices.

The need to attract technical experts to NY is a priority. Throughout the process of development of the scoping plan, we have heard feedback on this section that does not reflect the current practices or technology being used successfully on farms both within and outside of NY. Expanding technical assistance will require attracting and training more technical experts. The EU is many years ahead of the U.S. in this technology and adoption and has successfully implemented anaerobic digestion systems on dairies of all sizes (100 to 5,000 cows) in an effort to provide both clean, renewable fuel and provide a diversified income stream to help maintain economic viability of food production in times of price volatility.

Developing new funding opportunities can and should be a priority. AGM should identify and work with an industry advisory group that is comprised of farmers, Cornell College of Agriculture and Life Sciences, and other industry partners to ensure maximizing goals and participation.

### **Low Carbon Fuel Standard**

NEDPA and NEAFA applaud the Climate Action Council for including a clean fuel standard (CFS) in the draft scoping plan. The transportation sector is the second-largest source of greenhouse gas emissions in New York State and a clean fuel standard can build a market to aid the transition to clean fuels, reduce reliance on fossil fuels, improve public health, and help the state reach its climate goals without state tax funding.

A CFS is a technology-neutral, performance-based standard that will help New York reduce emissions from the transportation sector and reach New York's aggressive climate goals. Currently, New York remains 95+% reliant on petroleum in transportation, consuming 6.78 billion gallons of diesel and gasoline in [2019](#). A clean fuel standard will accelerate our transition to electric vehicles and clean fuels.

According to the draft scoping plan's integration analysis, without looking at other options, the EV market penetration will have to reach 98% for light duty vehicles and 40% for medium and heavy-duty vehicles in eight years to reach New York's goal of reducing emissions 40% by 2030. Even under the most ambitious electrification scenario, roughly one-third of the transportation energy consumed in 2050 will still come from fossil fuels absent alternative fuels. We can't rely on wishful thinking and unproven strategies based on consumers voluntarily scrapping relatively new vehicles to drive this unrealistic rate of EV penetration.

We must rely on a balanced set of proven technologies to successfully accomplish the CLCPA's carbon reduction goals. A Clean Fuel Standard will both accelerate electrification and promote rapid growth in low carbon liquid and gaseous fuels. A 2022 study from Scioto found that a 20% carbon intensity reduction CFS policy could reduce oil consumption in New York by 8-25 million barrels annually, worth between \$850 million to \$5.1 billion in benefits. Renewable natural gas (RNG) is a low carbon biofuel produced from municipal sewage treatment plants and dairy farms. This significant source of a low carbon fuel can be further developed to fuel the transportation and industrial equipment sectors, including agriculture, and the CFS can effectively incentivize this development. Further, New York's mandate to divert food waste from landfills creates a market incentive to fuel anaerobic digesters, which will enhance their efficiency and productivity. New York's dairy industry is primed to play a significant role in meeting New York's carbon reduction goals and a clean fuel standard is the best incentive for dairy farmers to engage. In addition, if you look at the carbon footprint of milk, one of the largest sources outside of the farm itself is the transportation of milk and dairy products, so it is compelling for the dairy industry to use one of its untapped resources to help offset this impact.

Clean fuels are especially important for hard to electrify sectors. Non-road fuels (including aviation) are 12% of total transportation emissions in New York. Agricultural equipment, including farm tractors and harvesters, will not be able to electrify for the foreseeable future due to technology deficiencies, cost factors, and relative age of current equipment. To transition off fossil fuels, we will need investments in biofuels and green hydrogen. A clean fuel standard will help to accelerate this transition.

#### **AF10. Advance Precision Feed, Forage, and Herd Management**

New York's dairy industry has a tremendously positive carbon footprint reduction track record. Research and programs that focus on feed and nutrition are key components of this success. An example of continuous improvement in feed and nutrition is the Cornell Net Carbohydrate and Protein System (CNCPS). This world renown model has evolved with improvements and updates and is used to formulate diets for approximately 70% of the cows in North America and is also used in 42 countries is based on research and on-farm data from New York dairies. The CNCPS was developed in the early 1990's to analyze feed utilization of cattle and predict the nutrient requirements and supply to better balance diets and predict how the cattle will perform on given diet and how to make improvements. In addition, the model was updated to predict nitrogen and phosphorous excretion to reduce the loss of those nutrients, and this was used extensively in the New York City watershed starting in the 1990's to reduce the potential of those nutrients from getting into the water supply. In addition, further modifications allow for the accurate and precise prediction of methane excretion so that nutritionists can evaluate these metrics while developing diets for cows. We are confident the CNCPS will continue to serve the dairy industry with sound science-based guidance to allow New York dairy herds to remain productive and continue to reduce their carbon and nitrogen footprint. It is important to keep in mind that one gram of nitrous oxide is equivalent to 10 grams of methane, so reducing nitrogen excretion should be considered as part of the reduction in greenhouse gas emissions.

Farmers and their cattle are the ultimate recyclers. What a dairy cow is fed is one of the best examples of recycling or upcycling that exist in agriculture today. Most dairy cow diets utilize byproducts from other industries as part of their rations. Examples are bakery waste, almond and soy hulls, cotton seed, food processing waste, fresh pack vegetable culls, distillers, and brewers' grains just to name a few. A few recent scientific publications have quantified this aspect of the dairy industry and the recycling of secondary products of the human food system, demonstrating that the average dairy cow diet in the U.S. contains 30% byproducts of the human food system. This is an important observation as the cow is burdened with the methane excretion, however, she is making use of byproducts that would alternatively be burned or put in a landfill, thus increasing the environmental impact, and increasing the cost of the primary product. Diet formulation programs like CNCPS helps nutritionists and farmers understand how to incorporate these nutrients into cows' diets while measuring the relative environmental

impact. Through decades of ongoing research, the dairy industry continues to utilize science and research to help our cows become more efficient while reducing environmental impact. Continued reduction of enteric methane is a result of improved feed efficiency, novel feed ingredients, and genetic improvements. The CNCPS will continue to evolve to incorporate the capacity to reduce methane and other GHG as products and technology evolve and come available.

### **Soil Health, Nutrient Management, and Agroforestry**

Decarbonization of New York was a key finding and priority for the CLCPA Draft Scoping Plan. Again, agriculture plays a significant role. The NY dairy industry can sequester carbon in our soils and through our forested land. NY dairy farms grow much of their own forages (hay, grass, corn, soybean). Therefore, while livestock is identified as a target area in our sector, dairy cattle are the ultimate recycler of non-human edible feedstuffs making them part of the solution. Aligning with the goals of the CLCPA draft scoping plan, New York farmers have already started to participate in a multi-state, six-year project “Dairy Soil and Water Regeneration: Building Soil Health to Reduce Greenhouse Gases, Improve Water Quality and Enable New Economic Benefits” led by Cornell’s Dr. Quirine Ketterings, professor of animal science and Director of the Cornell Nutrient Management Spear Program ([NMSP](#)). Ketterings and her team will work with farms to more accurately measure GHG on dairy farm fields, evaluate strategies, and continue to help dairy farms reduce their carbon footprint. As part of the research, the project looks to examine practical and economically viable ways to implement carbon sequestration on farms. Soil health practices are key to crop production and therefore a farms’ economic viability. The approach of research, measurement, and cost-effective practices will ensure advancement in carbon sequestration on farms. Some examples of practices include no-till or minimum tillage, cover crops, and manure injection.

On-farm research outcome strategies then need to be shared with stakeholders. While manure management is a significant source of methane (33%), the production of feed makes up 26% of a dairy farm’s GHG footprint and should also be a primary focus to meet the reduction goals.

Nitrogen (N) is an essential macronutrient needed in copious quantities for optimal crop production. Because identifying the optimal crop N rate each year can only be determined after harvest, science-based methods and tools are paramount to assist NY farms and advisors in making environmentally sound N management decisions. One such resource is the near final update to the “Nitrogen Guidelines for Field Crops In New York.” This document sets the foundational N guidelines for field crops in NY. Farms regulated by the states Confined Animal Feed Operation (CAFO) permit must adhere to these guidelines which aim to curb nitrous oxide emissions and potential impacts to surface and ground water.

There are a variety of management practices currently available to farms that increase N use efficiency while reducing environmental loss. These practices include soil and tissue testing, tillage reduction, leguminous crops in rotation, manure injections, nitrification inhibitors, and

preventing waterlogged soils through the installation of subsurface drainage. Many farms utilize one or more of these strategies, but we believe that additional outreach and education could expand their adoption more broadly across the state. In addition, new funding opportunities through the Climate Resilient Farming program to purchase or upgrade manure transfer and injection equipment to conserve manure N would help to further abate N<sub>2</sub>O emissions from the sector.

### **AF11. Advance Agricultural Nutrient Management**

Nutrient management is a top priority for NY dairy farmers. Dairy cow manure serves as an organic fertilizer that helps farms reduce the need for purchased fertilizer. Investment in technology that allows farmers to be more efficient and incorporate nutrients directly into the soil is a direct benefit for GHG emissions, water quality, and odor control. The investment in technology is costly and for some farms, unaffordable. We agree that a strategy of importance is expanding cost-share eligibility for capital-intensive equipment will lead to better adoption of advance nutrient management practices.

Technology will solve issues. Precision agriculture tools and technology will be a key driver in GHG practices, nutrient use efficiency, data collection and analyzation and beyond. However, these tools and technologies require significant investment. We should incentivize the use of this technology by assisting producers and custom service providers to acquire it, learn how to use it in the field, and how to use the data for the best impact on the farm and for quantification of benefit. Proper incentives will allow farms of all sizes to have a positive impact. Cornell's NMSP and PRO-DAIRY programs are already working with farms to test new methods and tools to utilize precision agriculture tools and to measure the impacts of new and innovative farming practices in more efficient and effective ways. The industry will continue to employ new techniques and highlight them along the way as we continue our path forward to 2030 and 2050 initiatives. Again, this will take time and money and research will be critical.

Increasing funding and capacity for existing programs needs prioritization in the climate leadership plan.

Research and investment in [Cornell PRO-DAIRY's Dairy Environmental System](#) Program should be a priority of the CLCPA overall goals. This program works prioritizes the collaborations of farms, state and federal programs while developing, documenting, and sharing research and information about dairy innovation from dairy cow housing to waste systems, environmental compliance, and overall farm profitability. Due to the volatile nature of dairy farming, we must consider the economic incentives and/or impact of increased regulation and lack of incentives to implement new regulation or adopt new technologies. DES keeps this in mind as the team works with farms and research to identify and conduct applied research. Research that has been prioritized and making this team leaders and a valuable resource moving forward for New York's CLCPA Plan include evaluating manure management practices, anaerobic digestion assistance, identifying potential system solutions for manure management, and evaluating

emissions from dairy farms. Most recently, specialist Peter Wright and Lauren Ray published a [new fact sheet series](#) looking at the carbon intensity (CI) score under California's Low Carbon Fuel Standard which is applicable to NY's dairy manure anaerobic digestion to biomethane, also known as Renewable Natural Gas. Again, we see this as an important goal for New York.

Eliminating long-term manure storages will likely be the long-term goal for many farmers. Investing in covered storages is where the puck is today, not where it is going. PRO-DAIRY Environmental Systems program has ongoing work quantifying methane impact from manure sources and storages, with an aim to identify where there is room for improvement.

As the labor pool continues to decline and the cost of labor in New York continues to rise, hiring custom manure haulers/applicators, harvesters and even crop planting is becoming increasingly common. Therefore, the expansion of support services that help grow the capacity of custom farming services should be a priority. The need for workforce training goes hand in hand not only for custom applicators, but also for certified planners and farm nutrient management staff. In addition, these custom service providers should be eligible for funding that currently is directed towards farmers to assist with the implementation of best management practices related to water quality and GHG emission reductions (i.e., AgNPS and CRF funds and other funding sources).

#### **AF 17. Addressing Waste and Bolstering Local Agricultural Economies**

New York is a state that has a variety of nutritious agriculture products to offer our residents from dairy products to a variety of meats, fresh fruits, and fresh vegetables. According to the 2021 EPA impact study, from [Farm to Kitchen: The Environmental Impacts of U.S. Food Waste](#), over one-third of the food produced in the United States is never consumed and accounts for the most common material landfilled. As the United States strives to meet the Paris Agreement targets to limit the increase in global temperature, changes to the food system are essential. The study identifies that even if fossil fuel emissions were no more, current trends in the food system would prevent us from achieving this goal globally. Examining our food system and reducing food waste is an opportunity before us. Focusing on food systems and distribution can help reduce GHG emissions and support food security to food deserts that have been identified in parts of our state, especially in urban areas.

Additionally, while looking at both the agriculture and transportation sector goals, New York could benefit from sourcing food for NY schools and government subsidized institutions first. If we continue to look at sourcing contracts by lowest bid alone, we will not be working towards CLCPA goals. Many other states have lower costs of producing food (taxes, labor, longer growing season, reduced regulatory costs) and therefore we become an importer of food that can be grown or produced right here in New York State.



In NY and across the country, dairy cooperatives are farmer-owned and committed to sustainability – both on the farm and in the dairy manufacturing plants they own. Dairy cooperatives have a long history of sustainability and reducing their environmental impact. To that end, of dairy product packaging is a key priority for the dairy processing industry. As more companies establish sustainable packaging targets, the need for improved recycling rates, technology, and infrastructure to facilitate sustainability goals has greatly increased.

Additionally, state policymakers continue to pass legislation and regulations requiring sustainable packaging in order to sell products in a given jurisdiction. Collectively, the dairy industry is seeking a comprehensive and equitable national recycling statute that will create the incentives necessary for a circular economy and allow all dairy companies to achieve their sustainable packaging goals. However, this State-level approach makes it difficult to compete on a national level especially when milk pricing is largely set by the Federal Milk Marketing Orders which do not recognize this additional expense. Therefore, we have little opportunity to control pricing. As such, placing further regulations on dairy processing impacts very tight margins and overall budgets.

Any proposed EPR plan must recognize that a changing and evolving regulatory landscape isn't conducive to future investments. On both the farm and within dairy cooperatives, we must budget years in advance when looking at investment in facilities and technology.

Additionally, we would recommend that stakeholders involved in the supply chain have a seat at the table as any proposed EPR is crafted to give fair consideration of whether regulatory targets are attainable. Attached, you will find a dairy industry position written by the International Dairy Foods Association ([IDFA](#)) we have used to communicate the position of dairy processors to lawmakers, regulators, and other stakeholders. This document sheds light on what's needed for an EPR that's technologically and economically feasible for industry compliance and shows the difficulty of a one-size-fits-all approach.

## **Conclusion**

NEDPA and NEAFA thank you for the opportunity to comment on the CLCPA Draft Scoping Plan. As outlined above, the dairy industry is primed to be a part of the solution to climate change. NEDPA and NEAFA encourage the Climate Action Council to utilize our organizations as resources as they finalize the plan. We look forward to future collaboration and the release of the Final Scoping Plan.

Sincerely,

John Dickinson, NEDPA Chair

Danielle Penney-Stroop, NEAFA President



***The Northeast Dairy Producers Association ([NEDPA](#)) was founded in 1993 on environmental stewardship and this continues to be our top priority nearly 30 years later. NEDPA is an organization of dairy producers and industry partners committed to an economically viable, consumer conscious dairy industry dedicated to the care and well-being our communities, our environment, our employees, and our cows. Today, our producer members represent over 230,000 cows and over half the milk produced in New York State. They are committed to continuous improvement and sustainable practices that ensure the viability of New York agriculture for generations to come.***

***The Northeast Agribusiness and Feed Alliance ([NEAFA](#)) was established in 2004 and through advocacy, collaboration, and education, works to grow and support a sustainable agribusiness industry in the Northeast.***