



June 19, 2020

Honorable Brian Schatz, Chairman  
Honorable Tammy Baldwin  
Special Committee on the Climate Crisis  
U.S. Senate  
Washington, D.C. 20510

Dear Chairman Schatz and Senator Baldwin,

Thank you for your outreach to American agriculture about climate change and threats from extreme weather. On behalf of the U.S. rendering industry, the North American Renderers Association (NARA) appreciates this opportunity to provide information on the climate-protective benefits of rendering and its contributions to carbon capture and reuse as well as net reduction of greenhouse gas (GHG) emissions.

NARA is the trade association representing the interests of the rendering industry in the United States and Canada. NARA's 34 member companies operate 178 rendering plants, accounting for over 95 percent of North American production. The industry includes independent renderers, many of which are multi-generation family-owned companies, as well as integrated packer/renderers that process only their own animal by-products. Some rendering companies are also actively engaged in production of biodiesel and renewable diesel.

Rendering provides tens of thousands of full-time jobs with benefits in communities across the country, often in rural areas where plants are located. The industry accounts for over \$10 billion in annual U.S. economic activity and individual plants support the tax base of local towns and municipalities.

The U.S. rendering industry is essential to the reduction of carbon emissions into the atmosphere. Americans consider only about 50-60 percent of an animal edible, which means the other 40-50 percent is deemed inedible. Instead of wasting about half of the meat we farm and buy, rendering reclaims these unwanted "leftovers" in huge volumes and upcycles them into ingredients for countless new products — recycling 99 percent of this unwanted meat.

Renderers are carbon recyclers.

By reclaiming and reusing perishable leftover animal by-products, renderers create valuable ingredients from food resources that would otherwise be thrown away and wasted, taking up enormous amounts of precious landfill space.

Rendering is an integral part of the livestock and poultry marketing chain. NARA supports policies that encourage healthy livestock and poultry sectors and other partners along the chain since all are interdependent. Any climate change legislation should encourage the strong production of meat and poultry to meet increasing demand as the U.S. population continues to grow. Livestock and poultry production, packing, and processing are important for national security and a nutritious diet. Programs to keep the environment healthy, enhance water quality, sequester carbon, and improve resiliency should be incentive-based and voluntary, not punitive. Training and financial support should be considered to educate and encourage the adoption of practices proven to be effective and achievable.

Rendering is highly sustainable by nature. Rendering, the reclaiming of fat and animal products for secondary uses, has existed for centuries. At its start, rendering was used primarily for soap and candle making, mostly done in a kettle over an open fire. Further developments in the rendering process came in the 19<sup>th</sup> century, making family-owned, small renderers and packers able to produce edible and inedible products. Serious shortages of all fats and oils during World War II prompted the creation of the American Fat Salvage Committee program where industry and government cooperated to salvage fats that would otherwise be lost, chiefly down kitchen sinks. Glycerin from fat was used to make bombs and explosives. During the five and a half years of the program (1942-1948), U.S. households and the military turned in 856 million pounds of fat. This represented almost 10 percent of the entire U.S. production of inedible tallow and grease during these years.

Today, using technology-intensive controls running very high temperature cookers (245-290° F.), centrifuges and presses, renderers turn animal leftovers into value-added ingredients, namely high-quality fats and proteins. These ingredients are clean, safe, and used to produce a vast number of new products for personal care, animal feed (including pet food), medical applications, biofuels, and industrial purposes. One-third of the fats and oils produced in the U.S. are animal fats, rendered from beef (tallow), pork (lard, pork fat, white grease) and poultry (poultry fat).

Rendered products are everywhere. They are important to people's lives each day in hundreds of commonly used items. These include soaps, paints, varnishes, cosmetics, pharmaceuticals, shaving cream, deodorant, shampoo, lotions, crayons, coatings for medical capsules and M & M's, leather (handbags, car seats, furniture), lubricants, caulking compounds, candles, cleaners, paints, perfumes, polishes, rubber products and tires, plastics, fertilizers, and even fireworks.

Rendered animal fats and oils, and waste restaurant cooking oil collected and processed by renderers, are source materials for biomass-based diesel. These products provide 28 percent of the feedstock for U.S. biodiesel and renewable diesel production.

Without rendering, the many various products made with rendered ingredients would have to be made with other less sustainable and costlier inputs.

A huge volume, approximately 56 billion pounds, of unused animal meat is left over in the U.S. from livestock and poultry farming, meat processing, supermarkets, and restaurants each year. This

volume of animal by-products is so massive that it would fill *all* U.S. landfills in only four years if discarded there as waste. By preventing the disposal of animal leftovers in U.S. landfills or other disposal methods, renderers prevent the release of large amounts of GHGs into the atmosphere. A single decomposing dairy cow releases 1.2 metric tons of CO<sub>2</sub>. Decomposition also releases methane and nitrous oxide.

Renderers reclaim the carbon from these animals and their by-products to transform them into 29 billion pounds of animal fats, oils, and protein products a year for use as valuable ingredients for new product.

Rendering also evaporates 3.7 billion gallons of water each year from animal co-products during cooking. This massive volume of water meets federal, state, and local standards for quality and safety as it is released into the environment by evaporation or returned as clean water to rivers and streams.

All is repurposed and reused. Nothing is wasted.

For communities, recycling of perishable animal by-products significantly reduces solid waste disposal and the cost to manage it. Communities also benefit from rendering's collection of used cooking oil from restaurants and other food service establishments, which prevents disposal down the drain into municipal sewers which can cause giant "fatbergs" that clog municipal wastewater systems. Millions of dollars in damage and repairs can occur to sewer systems as a result. Clogging can also compromise water quality and safety due to blockages and overflows.

Rendering's carbon emissions reduction and other environmental contributions are significant. Rendering sequesters *five times* more greenhouse gas (GHG) emissions from the environment (such as carbon dioxide) than it emits. Rendering avoids at least 90 percent of the potential GHG emissions compared with industrial composting. The rendering industry's contribution to carbon emission reduction in the U.S. and Canada is equivalent to removing 18.5 million cars from the road each year.

Renderers also often recycle heat from processing back into their production systems and use their rendered animal fat to power their operations. This sustainable practice of using their animal fat for plant energy is encouraged by the federal Alternative Fuel Mixture Credit tax incentive that expires December 31, 2020. The rendering industry urges Congress to extend this tax credit beyond this year to support this sustainable practice.

Rendering also saves cropland. More than 13.6 million additional acres would have to be planted to make up for the protein and energy (fats/oils) deficit that would result without rendered ingredients used in pet food, biofuels, and livestock feed.

Rendering's sustainability affects each person in the U.S. The average individual eats 220 pounds of meat and poultry products per year. For every pound of meat and poultry eaten, approximately another pound of animal by-products is not consumed. This means 220 pounds of by-products per

person per year of animal leftovers are recycled by rendering. Each of the 330 million Americans would need 2,025 square feet (the size of an average house) of new crop land to grow ingredients that would replace rendered products. Unlike crops that require added water to grow, rendering returns over 11 gallons (180 cups) of clean water per person a year to the environment.

The rendering industry contributes to reduction of carbon emissions by providing a large volume of its recycled ingredients as feedstock to produce biodiesel and renewable diesel. Used cooking oil reclaimed by renderers provides 16 percent of biodiesel feedstock and rendered animal fats, 13 percent.<sup>2</sup> Consequently, 56 percent of rendering-sourced feedstock is used cooking oil and 44 percent is animal fats. Biodiesel and renewable diesel are important to reduce carbon emissions by the large heavy-duty trucking industry.

Biodiesel's feedstocks supplied by rendering have very low lifecycle carbon emissions. In 2010, EPA concluded that biomass-based diesel produced from used cooking oil and other recycled waste greases reduced lifecycle GHG emission by 86 percent compared to average 2005 petroleum emissions.

Other overall benefits of biodiesel when compared to petroleum-based diesel fuel include:

- Lowers particulate matter by 47 percent, reduces smog and makes our air healthier to breathe
- Reduces hydrocarbon emissions by 67 percent
- For every unit of fossil energy it takes to produce biodiesel, 3.5 units of renewable energy are returned, the best of any U.S. fuel<sup>1</sup>

A 2018 study on biodiesel's lifecycle energy and greenhouse gas emission effects reaffirmed the benefits of using biodiesel. The report, a collaboration between Argonne National Laboratory, Purdue University and USDA, is a comprehensive lifecycle analysis of biodiesel. Results confirm that biodiesel compared to petroleum diesel reduces GHG emissions by 72 percent and fossil fuel use by 80 percent. The study examined rendered tallow (beef animal fat) and found it generates exceptionally low GHG/carbon emissions. Biodiesel produced from rendered tallow reduces GHG emissions by 78.1 percent compared to petroleum diesel.<sup>3</sup> Other rendered animal fats and waste used cooking oil used for feedstock also yield significantly lower GHG emissions.

NARA thanks Congress for supporting the relatively young biodiesel industry and its environmental benefits by extending the expired \$1/gallon tax credit for biodiesel and renewable diesel in the Taxpayer Certainty and Disaster Tax Relief Act of 2019 approved last December. We recommend that any climate programs synergize with a strong Renewable Fuel Standard to support biomass-based diesel and advanced biofuels.

California's Low Carbon Fuel Standard has helped to stimulate the use of biodiesel and other renewable fuel alternatives and reduced their carbon intensities. Since 2011, biomass-based diesel fuels have helped California cut over 15 million metric tons of CO<sub>2</sub> of the 37 million metric tons the entire program reduced through Q1, 2018. In California, the average gallon of biomass-based diesel reduces carbon intensity by 70 percent compared to diesel fuel (based on CARB datasets).

For additional information about the rendering industry and its contribution to GHG emission reduction, please see the attached research report, "Data for the Carbon Footprinting of Rendering Operations," by Dr. Charles Gooding of Clemson University published in the *Journal of Industrial Ecology* (Vol. 16, No. 2). The report is also found at <https://onlinelibrary.wiley.com/doi/abs/10.1111/j.1530-9290.2011.00430.x>.

In closing, NARA looks forward to being a part of the discussion as your committee considers future legislative initiatives. We would appreciate your recognition of the important role of rendering in sustainability and reducing carbon emissions. The rendering industry respectfully recommends that any legislative effort adequately recognize the early leaders in GHG reduction to avoid unintended consequences in the future.

Sincerely,

A handwritten signature in black ink that reads "Nancy E. Foster" with a stylized flourish at the end.

Nancy E. Foster  
President & CEO

References:

- <sup>1</sup> National Biodiesel Board
- <sup>2</sup> National Biodiesel Board
- <sup>3</sup> Argonne National Laboratory, Purdue University, USDA; Life Cycle Energy and Greenhouse Gas Emission Effects of Biodiesel in the United States with Induced Land Use Change Impacts; Chen, Qin, Han, Wang, Taheripour, Tyner, O'Connor, & Duffield; *Bioresource Technology*, December 2017; <http://www.sciencedirect.com/science/article/pii/S0960852417321648>.