Ms. Carolyn Hoskinson
Director, Office of Resource Conservation and Recovery
Environmental Protection Agency
1200 Pennsylvania Avenue NW,
Washington, DC 20460

Via the Federal eRulemaking Portal: https://www.regulations.gov/commenton/EPA-HQ-OLEM-2022-0415-0001

Re: Docket ID No. EPA–HQ–OLEM–2022–0415

Dear Director Hoskinson,

The Environmental Law Institute (ELI) respectfully submits the following comments in response to the Environmental Protection Agency's (EPA) request for input on the *Draft National Strategy for Reducing Food Loss and Waste and Recycling Organics* (Strategy). (Note: ELI is submitting two sets of comments.)

Since 1969, ELI has played a pivotal role in shaping the fields of environmental law, policy, and management, domestically and abroad. We are an internationally recognized non-partisan research, publishing, and education center working to strengthen environmental protection by improving law and governance worldwide. ELI's Food Waste Initiative strives to help stakeholders meet the U.S. food loss and waste goals by designing and implementing public policies and public-private initiatives to prevent food waste, increase donations of surplus food, and expand food scrap recycling.

In this comment, ELI identifies an additional challenge to prioritizing food loss and waste actions, not mentioned in the *Draft Strategy*: the lack of data and tools identifying life cycle GHG impacts (i.e. those beyond Greenhouse Gas (GHG) Inventory waste sector accounting) for programs and policies to reduce food waste. The comment provides recommendations for subject matter and technical assistance EPA and USDA can provide to address this challenge as it supports Tribal, state and local policy makers aiming to build more circular economies. (Objective 4, Action B.)

Issue Statement

In order to prioritize the allocation of resources to achieve the U.S. food loss and waste reduction goal, information quantifying the benefits and costs of specific programs and policies to promote prevention, edible food rescue/donation, and recycling is essential. To make effective claims to the substantial resources currently available to address the global climate emergency (including through the Bipartisan Infrastructure Law and the Inflation Reduction Act), it is critical to have a clear understanding of the significant GHG reductions that can be achieved by reducing food loss and waste – particularly through prevention (i.e., source reduction). In its ranking of climate solutions across all sectors, Project Drawdown ranks preventing food waste as either the #1 or #4 global mitigation strategy (depending upon the choice of long-run mitigation scenario).[1] The *Draft Strategy* indeed makes this point: "…prevention offers the greatest opportunity of all food loss and waste strategies to decrease GHG emissions, protect critical ecosystems, and address climate change." (p. 6)

Yet Tribes, states and localities, which are on the frontlines of efforts to reduce food loss and waste, face a major challenge, not mentioned in the *Draft Strategy*: the lack the data and tools to quantify the substantial life cycle GHG impacts of projects to prevent food waste or to recover edible and

[1] Project Drawdown's analysis uses consumption-based GHG accounting, looking at impacts all along the food supply chain. See the Project Drawdown Table of Solutions: https://drawdown.org/solutions/table-of-solutions

nutritious food for hungry people. Their Climate Action Plans are typically organized around their GHG Inventory, and zero-waste actions (to achieve source reduction, reuse/recovery and recycling) are associated with waste sector accounting. However, in the standard IPCC production-based GHG accounting protocol, the waste sector accounting[2] only captures emissions from *product end-of-life* to *final disposition* – for example, it captures GHG impacts from shifting from incineration or landfill to composting or anaerobic digestion, and typically accounts for less than 10% in state and local GHG inventories. But the waste sector impacts provide a very incomplete signal of GHG impacts of zero-waste actions. The gap is particularly problematic for food waste prevention, since "by one estimate, more than 85% of GHG emissions associated with food waste occurs [in the food supply chain upstream from] the landfill." (p. 6) The IPCC GHG Inventory accounting protocol also omits downstream carbon sequestration impacts from land applications of compost produced from recycling food scraps.

With waste-sector GHG accounting limited to the impacts of final disposition choices, it is not surprising that, when food waste projects ***are*** identified in Tribal, state or local Climate Action Plans, the emphasis tends to be on improving landfill methane capture or shifting from landfill to composting – not on prevention or edible food rescue. In contrast, we note and applaud the prominent role of prevention of food loss and waste in the *Draft Strategy*.

Recommendation

ELI recommends that (1) National Strategy identify the lack of data and tools identifying life cycle GHG impacts for programs and policies to reduce food waste as a challenge to achieving the U.S. food loss and waste reduction goal; and further that (2) to inform Tribal, territory, state and local policymakers in building more circular economies, USEPA and USDA develop guidance regarding the upstream and downstream greenhouse gas (GHG) impacts of policies and programs to promote food waste prevention, edible food recovery, and recycling. (Objective 4, Action B)

In developing improved guidance, USEPA can build from some tools currently available; however, more research is needed to understand the GHG, other environmental and economic impacts of different policies and programs and to support tool development and ground-truthing. The USEPA two-part report series examining the environmental impacts of U.S. food waste has compiled much important literature to this end.[3] And the scope of GHG impacts of food waste covered in USEPA's WARM model extends beyond end-of-life changes: it covers information on avoided upstream GHG emissions from food waste source reduction and donation, and downstream carbon sequestration gains from land application of recycling food scraps. However, the source reduction algorithms do not include impacts from avoided land use change, which is responsible for over half the GHG reductions in Project Drawdown algorithms;[4] nor do they differentiate at what stage in the supply chain loss or waste is avoided.

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[2] 2006 IPCC Guidelines for National Greenhouse Gas Inventories, Volume 5: Waste. https://www.ipcc-nggip.iges.or.jp/public/2006gl/vol5.html

[3] USEPA. 2021. *From Farm to Kitchen: The Environmental Impacts of U.S. Food Waste*, analyzes the environmental footprint of food waste in the farm to consumer supply chain. USEPA. 2023. *From Field to Bin: The Environmental Impacts of U.S. Food Waste Management Pathways*, examines the environmental impacts of disposing of food waste.

[4] TECHNICAL SUMMARY: Reduced Food Waste: https://drawdown.org/solutions/reduced-food-waste/technical-summary. Last accessed Feb. 2, 2024.

Another important tool is the Food Waste Solutions Database,[5] developed by ReFED, a national nonprofit organization dedicated to achieving the U.S. goal to reduce food loss and waste 50% by 2030. The ReFED Solutions Database, most recently updated in 2023, delves deeper than WARM, reporting estimated economic and environmental impacts analyses at the U.S. and state levels for 42 top food-scrap prevention, donation and recycling actions. Included in the set of 42 actions are 31 prevention actions, occurring at all stages of the food supply chain, from farm to final disposition. The metrics available for each of the actions include: potential annual GHG reduction (tons), annual food waste reduction (tons), annual cost, annual gross financial benefits, jobs created, annual water saving (mi. gal.) and annual meal equivalents diverted. We note the ReFED algorithm also provides conservative estimates because it does not include the impacts of avoided land use change.

The ReFED tool allows us to compare the GHG, other environmental, and economic impacts of alternative actions, policies and programs to reduce food waste. For example, the tool estimates indicate that public education campaigns to prevent household waste are the most effective food waste reduction solution – by far – in terms of net financial benefits and GHG benefits. Relative to recycling, which is typically emphasized in Climate Action Plans, the ReFED tool brings clearly into focus the superior economics of consumer prevention education in reducing GHG emissions:

- the estimated cost per ton of CO2e reduced is low ($10) compared to the recycling options: co-digestion at WWTP ($275), centralized AD ($324), centralized composting ($376), community composting ($465), home composting ($296), or livestock feed ($589).
- The ratio of estimated gross financial benefits to costs is high (88), relative to the recycling options, which range from (0.6 – 1.8).

And the estimated total U.S. GHG reduction potential from consumer education (19M) is only 5% less than the total potential for all six of the recycling options (listed above) combined.

In sum, information about life cycle GHG impacts for different actions to reduce food loss and waste is a critical technical input, to be combined with other environmental and economics information, for decision making about how to prioritize scarce resources to address our climate crisis; it would be valuable for USEPA and USDA to provide technical guidance on this topic to tribal, territorial, state and local policy-makers.

Respectfully submitted,

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[5] The ReFED Solutions Database can be found here: https://insights-engine.refed.org/solution-database?dataView=total&indicator=total-mtco2e-avoided