Project: Measurement and Mitigation of Food-Loss and Waste

1. **Two-year budget: C$850,000**

2. **Short statement of the need identified (including current status), the project objective and outcomes (achievable by June 2019) to address it**:
   This project builds upon outcomes of the foundational research from the first stage of work under CEC projects related to food waste reduction and recovery, and organic waste processing and diversion (i.e., during CEC Operational Plan 2015–2016).[1] This previous work identified gaps in knowledge and opportunities for trinational benefits to a consistent regional approach to measurement of food loss and waste, and the development of youth education programs. The project seeks to achieve the following objectives:

   - Improve measurement of food loss and waste (FLW)[2] across the food supply chain, including approaches to correlate food loss and waste prevention, recovery and recycling with associated environmental and socio-economic impacts.
   - Communicate practical measures and activities that facilities, organizations, and governments can take to prevent, recover and recycle FLW across specific segments of the food supply chain.
   - Engage youth to raise awareness of food loss and of waste-prevention, recovery and recycling opportunities and to empower them to take action to reduce food waste at schools and in homes.

3. **Explain how the project can achieve more impact by working trinationally, and why the CEC is the most effective vehicle to undertake this work:**
   Previous work related to food waste under CEC Operational Plan 2015–2016 has already demonstrated the value of trinational cooperation in this area, through elevating domestic visibility of the work, and enhancing the ability to enlist key expertise of North America and other countries of added value to CEC Parties. Such cooperation helps in leveraging resources, expands/broadens experience, creates broader potential market opportunities for technology solutions, and expands the audience for the CEC outcomes developed.

[1] Previous CEC projects in this area included: (1) North American Initiative on Food Waste Reduction and Recovery; and (2) North American Initiative on Organic Waste Diversion and Processing. These projects separately addressed the upper tiers (wasted food prevention and recovery for human consumption or animal feed), and lower tiers (food recycling option—e.g., anaerobic digestion and composing) of the Food Recovery Hierarchy (<www.epa.gov/sustainable-management-food/food-recovery-hierarchy>). Note that this new project will collectively tackle food waste prevention, recovery and recycling.

[2] Food loss: Any edible and inedible parts of food that are removed from the food supply chain to be recovered, recycled or disposed of. Food waste: Losses occurring at retail, food-service and consumer stages are termed food waste in order to factor in behaviour at those stages.

4. **Describe how the project may capitalize on, or advance, the relationship between ecosystems, job creation, gender impacts, and income generation:**
This work area is a natural fit for promoting and capitalizing on the mutually reinforcing economic, environmental and social benefits associated with food waste prevention (e.g., mitigating environmental impacts related to inefficient use of economic, human and natural resources along the food chain), recovery programs (e.g., donation programs addressing food security needs in disadvantaged communities), and recycling programs (e.g., mitigating GHG emissions by reducing organic waste that ends up in landfills). A growing body of analysis strongly demonstrates this multi-pronged stream of inter-related benefits. This work promotes efficiencies and reduced waste throughout the food production chain, encouraging more-sustainable food systems that include social, economic and environmental benefits, including opportunities for small and medium-size enterprises.

5. **Describe how the project complements or avoids duplication with other national or international work:**
Measurement expert group enlists major national and international experts to define synergies and avoid duplication; guidance resources to be developed collaboratively with targeted sectors; and youth outreach emphasized, engaging existing networks and leaders.

6. **Describe opportunities for inclusion of traditional ecological knowledge (TEK), if applicable, and how these opportunities are incorporated into the project**:
The project engages indigenous and local communities in the assessment of food waste measurement and the development of a practical guide(s) that can be used to measure FLW (including how to correlate outputs with associated environmental and socio-economic impacts. In addition, the project engages youth from urban, local and indigenous communities to raise awareness of FLW issues through the development of learning tools and resources to prevent, recover, and recycle food waste.

7. **Describe opportunities for youth engagement, if applicable, and how these opportunities are incorporated into the project**:
Activity 2 of this project calls for the development of learning tools and resources targeted at youth to help them understand and be empowered to take action to prevent, recover and recycle food waste in their homes, schools, and communities (see complete description in table below).

8. **List significant involvement of other levels of government, Indigenous groups, local communities, experts, private sector, civil society, and others, as applicable:**
Engagement with experts from many different stakeholder organizations (e.g., governments, community experts, private sector, civil society and academic institutions) is foreseen, to achieve the objectives and outcomes identified under this project.

9. Identify relevant committee members and their federal agencies in each country committed to developing this project, and implementing it, if approved:

Canada: Michael VanderPol (ECCC, Project Lead), Véronic Pichard; others tbd
Mexico: Edda Fernández (Semarnat, Project Lead), Claudia Sánchez, Ricardo Ríos Díaz
United States: Ted MacDonald (US EPA, Project Lead); Claudia Fabiano; Swarupa Ganguli; Brianna Besch; Krystal Krejcik; others tbd

10. List the objectives and activities to be conducted to achieve measurable results:

Objectives	Main activities to achieve objectives	Measurable results
Improve measurement of food loss and waste (FLW) across the food supply chain, including approaches to correlate FLW prevention, recovery and recycling with associated environmental and socio-economic impacts (e.g., GHG reductions, wasted resources; habitat loss, landfill space conserved, meals recovered, etc.). Help decision makers identify quantities and types of food waste generated and diverted (from landfill disposal) from the various stages of the food supply chain *NB: Stages of the food supply chain to be examined could include manufacture, processing, retail, food service and households*	**Activities—1st group** Identify, review and assess existing methods and approaches used to measure FLW, including approaches to quantify various environmental and socio-economic benefits associated with FLW prevention, recovery and recycling. This includes efforts to characterize how FLW is currently measured across various stages of the food supply chain, how effective these approaches have been in practice, and specific implementation challenges and key areas of needed improvement related to FLW measurement Develop practical guide(s) on how to measure FLW (including how to correlate outputs with associated environmental and socio-economic impacts) The guide(s) will build upon current	Identified methods/approaches provide information on environmental and socio-economic impacts associated with FLW allowing for informed decision making for government, industry, business and other organizations to address the issue of FLW Relevant information/knowledge assists national, state, and local governments, industry, business, local and indigenous communities, and households to measure FLW data

Objectives	Main activities to achieve objectives	Measurable results
	guidance where it may already exist, and identify how to overcome specific measurement challenges faced by various entities across the food supply chain Establish a multi-stakeholder expert-group to support the above activities	
Engage youth from urban, local/rural and indigenous communities to raise awareness of FLW issues through the development of learning tools and resources to prevent, recover and recycle food waste *NB: Age-appropriate learning and communication tools and resources can be used to foster activity in a variety of youth-oriented settings, including: youth-based organizations (clubs, schools) and community-based programs (e.g., youth volunteer and leadership programs, youth award and recognition programs, youth recreation, etc.)*	**Activities—2nd group** Work with stakeholders to develop communication and learning tools and resources that target youth to raise awareness, share information, and promote FLW prevention, recovery and recycling, and promote adoption of the FLW learning tools and resources in North America to empower youth to take action to prevent, recover and recycle food waste in their homes, schools, and communities	Youth organizations, youth leaders, and educators are engaged in the development of learning and communication tools and resources Adaptable and transferable learning tools and resources are developed, and disseminated to a wide variety of youth organizations, including clubs, schools and local communities, to complement existing or support development of new programs, activities, and events, by incorporating learning materials or activities related to FLW prevention, recovery and recycling
Translate and disseminate CEC project outputs	**Activity—3rd group** Translate and publish CEC project outputs for public dissemination	Project outputs are translated and posted on CEC website and other knowledge sharing platforms so organizations interested in measuring FLW have access to relevant and practical information