PROJECT NAME: Stimulating Behavioral Changes to Reduce Food Loss and Waste (FLW) in North America and Expanded Promotion and Uptake of Related CEC FLW Resources

1. **Project duration:** 18 months

2. **Budget (C$): 250,000**

   Year 1: C$125,000

   Year 2: C$125,000

3. **Short statement of the issue(s) under this topic, need/gap identified; the project objective(s) and activities to address the issue; and expected outcomes and benefits/beneficiaries.**

Food loss and waste (FLW) is an increasingly important issue in Canada, Mexico and the United States, where close to 170 million tonnes of food produced for human consumption are lost and wasted each year across the food supply chain, including in pre-harvest and consumer sectors.[1] As food and waste biodegrades under anaerobic conditions in landfills, methane, a powerful greenhouse gas (GHG) that is more than 80 times greater than carbon dioxide (CO_2) over a 20-year period, is produced. Evidence supports that FLW prevention, reduction and diversion can support timely and meaningful reductions in short-lived climate pollutants, like methane, which contribute to climate change, degrade air quality and threaten human health. FLW is also linked to other adverse environmental and socio-economic impacts, including inefficient use of natural resources, biodiversity loss, food insecurity, and economic losses throughout the food supply chain.

Through past projects, the CEC has developed and promoted content to support FLW reduction activities in North America, including foundational studies, the *Food Matters Action Kit*, and the *Why and How to Measure Food Loss and Waste: A Practical Guide (version 2)* and its accompanying material. Along the way, these projects have included related CEC outreach, promotion, education and awareness-raising activities such as: the youth awareness campaign "*Let's Shrink Food Waste Mountain*" that was piloted in Mérida (Mexico), the Olympic Peninsula (U.S.), and Montreal (Canada), instructional videos, social media campaigns, tri-national CEC webinars, presentations at third-party events, various partnership activities, and translation, printing and shipping of relevant material (kids and youth booklets in Mayan).

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[1] Source: CEC Foundational Report Characterization and management of Food Loss and Waste in North America, 2017.

In this context, opportunities exist to continue to support the dissemination and uptake of both new and existing CEC content to help foster FLW reduction across the region.

The CEC Council mandate from June 2023 acknowledged the need to further build upon the success of past CEC FLW projects, and further demonstrate CEC leadership and visibility to support FLW reduction in North America. Given this, the Secretariat was commissioned to undertake a follow-up project with a focus on assisting local policymakers, communities, and other stakeholders on designing and implementing actions and policies to stimulate behavior changes to reduce FLW with support of CEC FLW resources. The project would also allow CEC to address the current momentum by supporting the growing stakeholder demand for CEC leadership and FLW resources (particularly the "Food Matters Action Kit" and the "Practical Guide on Why and How to Measure Food Loss and Waste") and expanding their uptake in North America.

4. **Select the strategic pillar(s) from the 2021-2025 Strategic Plan that the project addresses:**
   - ☒ Clean Air, Land and Water
   - ☐ Preventing and Reducing Pollution in the Marine Environment
   - ☒ Circular Economy and Sustainable Materials Management
   - ☐ Shared Ecosystems and Species
   - ☒ Resilient Economies and Communities
   - ☐ Effective Enforcement of Environmental Laws

5. **Describe how the project uses strategic cross-cutting approaches in its implementation: Innovative and Effective Solutions and/or Diverse and Inclusive Stakeholder Engagement and Public Participation (including gender and diversity effects and opportunities, and youth).**

Building on previous CEC FLW projects (ranging from a toolkit for educators and a practical measurement guide for businesses and organizations, to educational videos, topic-focused microsites, and partnerships and collaborations), this follow-up project will enable the CEC to develop a new project and to continue its current momentum and visibility in awareness-raising of FLW issues, promoting related existing CEC products, and developing new CEC products to further support FLW reduction in North America.

The new CEC product to be developed under this project is a Guide for Practitioners[2] on when and how to apply different theories of behavioral change in practice to improve the uptake and effectiveness of programs and other types of public-facing interventions to reduce FLW, which will build and expand upon related work, including related Champions 12.3 guidance.

6. Explain how the project can achieve more impact through tri-national cooperation.

As with the previous CEC FLW projects, trinational cooperation will focus on preventing and reducing FLW in North America. This project offers ongoing opportunities to collaborate with new and existing partners and experts in North American and elsewhere to prevent and reduce FLW. Taking action to prevent and reduce FLW can benefit the "triple bottom line" of businesses, institutions or other organizations by addressing significant social, environmental and economic costs linked to FLW such as operational inefficiencies, supporting efforts to combat food insecurity in communities, and reducing environmental impacts of the waste, including its carbon footprint. Tri-national cooperation helps to leverage limited resources; deliver and promote uptake of new resources and tools; and broaden efforts to educate, raise-awareness, and stimulate behavioral change. The new CEC Guide for Practitioners will contribute to a broader and deeper understanding of theory, methods and practical approaches to promote meaningful and measurable behavior changes to reduce FLW in North America.

7. Describe how the project complements, or avoids duplication with, other national or international work.

Duplication will be avoided by identifying, consolidating and building upon relevant and available existing work from North America and elsewhere (e.g., academic research, studies on behavior insight, best practices, and expert advice). The final product will specifically focus on related approaches and applications that are suitable for North America (recognizing country-specific differences or other special considerations that may exist). For example, existing guides and toolkits do not focus on when and how to apply different types of theories of behavioral change within the core design and delivery of public-facing interventions to prevent and reduce FLW (i.e. it will not duplicate work elsewhere including related Champions 12.3 guidance).

Outreach, awareness-raising and promotional activities will respond to the CEC Council mandate to support stakeholders.

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[2] "Practitioner" generally refers to any individual or group of individuals tasked with or involved in designing and implementing public-facing behavior change interventions to reduce FLW at the household and consumer-level, and could include governments, communities, educators, influencers, business and others.

8. **Describe how the project engages traditional ecological knowledge (TEK) experts or Tribal/First Nations/Indigenous communities, if applicable.**

All people and communities contribute to wasted food in North America. To the extent practicable, knowledge specific to influencing behavior change across different cultures, including Tribal/First Nations/Indigenous communities, and translating material to relevant languages will be considered. Priority will be given to addressing requests from local governments and communities (including indigenous communities) related to the use of CEC FLW resources.

9. **Describe how the project engages new audiences or partners, if applicable.**

Identifying and assessing when and how to implement and measure various methods and approaches to influence behavior change is a relatively new area of work for the CEC. Opportunities exist to engage with relevant experts and practitioners from each country via webinars, surveys and interviews. Country experts and practitioners will be given an opportunity to shape and influence the content of the guide and review text before finalization and publication.

10. **Identify the designated partner agencies or organizations committed to implementing this project, as well as other organizations that could be involved, or benefit from it, including through outreach efforts, collaborations or partnerships (e.g.: federal agencies; other levels of government; academia; NGOs; the private sector; civil society; and youth):**

Lead agencies or organizations	Expert	Country
Environment and Climate Change Canada (ECCC)	Michael Vanderpol	Canada
Environment and Climate Change Canada (ECCC)	Ariane Melaven	
Environmental Protection Agency (USEPA)	Alexis Kilbane	United States
Environmental Protection Agency (USEPA)	Maxwell Torney	
Environmental Protection Agency (USEPA)	Claudia Fabiano	
Environmental Protection Agency (USEPA)	Amy DeLorenzo	
Environmental Protection Agency (USEPA)	Kendra Tyler	
Secretaría de Medio Ambiente y Recursos Naturales (Semarnat), *Dirección General de*	Sandra Sabino	

Fomento y Desempeño Urbano Ambiental, Dirección de Gestión Integral de Residuos		Mexico
Secretaría de Medio Ambiente y Recursos Naturales (Semarnat), *Dirección General de Recursos Natuales y Bioseguridad, Dirección de Regulación Forestal*	Lydia Meade	

Other organizations/individuals (if applicable)	Country
Consultant/s (as needed)	

11. **In the following table, describe: the project objective(s) and the activities and subtasks planned to achieve the objective(s); the corresponding outputs, expected results and how they will be measured (performance measures); baselines (if known), and targets by end of the project; and the timeline and budget.**

OBJECTIVE 1	**Assisting local policymakers, communities, and other stakeholders on designing and implementing actions and policies to stimulate behavior changes to reduce FLW with support of CEC FLW resources**
Activity 1 **Budget year 1 and year 2: C$190,000**	**Develop a Guide for Practitioners on when and how to apply different behavior change theories in practice to improve the uptake and effectiveness of programs and other types of public-facing interventions to reduce FLW.** **Budget: Year 1:** C$95,000; **Year 2:** C$95,000
Output(s)	• A practical guide will be established that describes the utility of different theories of behavioral change to improve the design, implementation and effectiveness of programs and other public-facing interventions to reduce FLW. • Specifically, it will provide clear, concise, and informed guidance to Practitioners on when and how to apply different theories of behavioral change in practice, supported by expert advice, related knowledge, and practical examples (note: the guide is not intended to be an academic paper on behavior change). The guide will also include supporting training material and/or content to the extent practicable to facilitate ease of use and uptake by Practitioners.

	• Types of theories of behavioral change to be included in the guide will be informed by North American experts and practitioners on theories of behavioral change and public-facing interventions. Examples of relevant theories, frameworks and models that may have practical utility in reducing FLW include: cognitive/non-cognitive behavior theory; theory of planned behavior; theory of interpersonal behavior; social practice theory; theory of environmentally responsible behavior; nudge theory; gamification; theoretical domains framework; Motivation, Abilities and Opportunities (MOA) framework; and transtheoretical model of behavior change (TTM). • The guide will be showcased at a North American webinar that will be hosted by the CEC. The guide will benefit a broad and diverse group of Practitioners tasked with reducing FLW (e.g., governments, communities, educators, influencers, business) at all types of venues using public-facing interventions. The guide will also include country-specific considerations for influencing behavior change in North America (e.g., language, culture, demographics, etc.).
Expected results, performance measures	• More Practitioners will have the knowledge, skills and training needed to design and implement behavior change programs.
Baseline (current status), if known	• Influencing human behavior change is complex and often not well understood. • Several different theories, frameworks and models have been established by experts in behavior and social sciences, which can be used to improve the uptake and effectiveness of public-facing interventions (e.g., programs, initiatives, challenges, education and awareness-raising campaigns, social marketing, pilots, etc.). • Many Practitioners are not fully aware of the utility of different theories of behavioral change and how to implement them in practice in a meaningful way. • Existing guides and toolkits do not focus on when and how to apply different types of theories of behavioral change within the core design and delivery of public-facing interventions (i.e. it will not duplicate work elsewhere including related Champions 12.3 guidance). • An opportunity exists to fill this gap by working with experts to consolidate existing knowledge, best practices, expert advice, concrete examples and lessons learned to guide when and how to use different types of theories of behavioral change in practice to reduce FLW.
Target (by the end of the project)	• Publish and promote the guide for Practitioners.

Subtask 1.1	Develop a guide for Practitioners that provides guidance on when and how different theories of behavioral change (alone or together) can be applied in practice to improve the uptake and effectiveness of programs and other public-facing interventions to reduce FLW in North America, to be informed by experts in theories of behavioral change and designing behavior change programs and public-facing interventions.	**When**: year 1 and year 2
Activity 2 **Budget year 1 and** **year 2: C$60,000**	**Continued outreach, promotion, and awareness-raising of CEC products related to FLW reduction.** **Budget year 1:** C$30,000**; year 2:** C$30,000	
Output(s)	• Continued dissemination and use of new and existing CEC FLW content and assist and support stakeholders in the uptake of this content (priority will be given to local governments and communities, including indigenous communities).	
Expected results, performance measures	• Enhance awareness of FLW issues in North America, facilitate dissemination and use of related CEC material to support FLW reduction and address stakeholder demand for assistance in using CEC FLW resources and raising awareness locally.	
Baseline (current status), if known	• Through past projects, the CEC has developed and promoted content to support FLW reduction activities in North America, including foundational studies, the Food Matters Action Kit and a Guide on How and When to Measure FLW. • Following the success of these past CEC FLW projects and awareness-raising focused actions and campaigns, and considering the leadership and visibility achieved, this activity will assist local policymakers, communities, and other stakeholders in designing and implementing actions and policies to stimulate behavior changes to reduce FLW with support of CEC FLW resources. • Opportunities exist to continue to support the dissemination and uptake of both new and existing CEC content to help foster FLW reduction across North America, and thus this project responds to the interest expressed by the stakeholders, allowing the CEC to address the current momentum by supporting the growing demand for CEC leadership and FLW resources.	
Target (by the end of the project)	Ensure interested groups are aware of both new and existing CEC FLW content, and able to access, understand and use this content (e.g. via training, the translation of relevant material, hardcopy materials, etc.).	

Subtask 2.1	Provide editing, translation and other services to support publication and dissemination of CEC relevant products.	**When**: year 1 and year 2
Subtask 2.2	Promote new and existing CEC FLW content via CEC-hosted webinars, workshops and meetings (with simultaneous interpretation as needed), other third-party events, the use of social media as appropriate.	**When**: year 1 and year 2
Subtask 2.3	Ensuring the right support to relevant stakeholders' requests related to the use of CEC FLW resources. Priority will be given to requests from local governments and communities (including indigenous communities).	**When**: year 1 and year 2
Subtask 2.4	Printing and mailing of relevant CEC material upon request.	**When**: year 1 and year 2

12. Describe post-project expected impacts:

Expected impact (by when: month, year)	SMART performance measure(s)
By the end of the project the Guide will have been presented and its use promoted.	The CEC has hosted a final project webinar to present the guide
By the end of the project the CEC will have hosted and participated in a series of webinars and workshops to further promote the FLW related products.	The CEC has hosted and participated at a series of webinars.
By the end of the project the network of existing FLW partners/stakeholders is consolidated, and new ones have been contacted.	Partnerships have been secured and joint action has been undertaken.