Reducing Food Loss and Waste in Canada

Workshop Summary

Waste Reduction and Management Division, Environment and Climate Change Canada

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OVERVIEW & PURPOSE:

Environment and Climate Change Canada (ECCC) hosted a Workshop on Reducing Food Loss and Waste in Canada on February 28, 2019 at the Pearson Convention Centre in Brampton, Ontario. Approximately 100 Canadian experts from industry, government, and the not-for-profit sector participated in the event, which provided a forum to share ideas and discuss opportunities for measuring and reducing food loss and waste (FLW) across the food supply chain. A draft report entitled, “Taking Stock: Reducing Food Loss and Waste in Canada” was also shared for review and input.

Presentations and discussions focused on approaches to improve FLW measurement, reduce supply chain food loss, and reduce household and consumer waste. During breakout sessions, participants contributed individual perspectives and input regarding these topics.

This report summarizes the presentations, information and ideas shared during the event. The Annexes to this report contain the workshop agenda and names of participating organizations. Workshop presentations are available upon request (contact: ec.ges-dechets-ghg-waste.ec@canada.ca).
WELCOME AND INTRODUCTIONS

Matt Hamilton from the Waste Reduction and Management Division (WRMD) of ECCC welcomed participants and summarized ECCC’s interest in addressing food loss and waste, including linkages to mitigating greenhouse gas emissions, and contributing to a circular economy and sustainable material management in Canada.

Marc Valois, the lead facilitator from Intersol, reviewed the agenda for the workshop and described how the dialogue would unfold.
A number of speakers provided an overview of work and approaches to better understand FLW in Canada. A brief summary of each presentation is tabled below.
**PRESENTATION 1: MEASURING CANADA’S FLW**

Susan Fraser  
Environment and Climate Change Canada (ECCC)

The presentation provided an overview of the importance of measuring FLW in Canada. Rationale for measurement included measuring performance in meeting various goals related to domestic (e.g. greenhouse gas reduction, CCME waste reduction) and international (e.g. United Nations Agenda 2030, Sustainable Development Goal Target 12.3) commitments. The presentation also introduced an approach that the federal government was exploring to consolidate data and estimate FLW in Canada, and a recent guide published by NAFTA’s Commission on Environmental Cooperation on How and Why to Measure FLW (available at: www3.cec.org/flwm).

**PRESENTATION 2: MEASURING FLW AT THE NATIONAL LEVEL**

Martin Gooch  
Value Chain Management International (VCMI)

The presentation provided a summary of research, conducted in partnership with Second Harvest and funded by the Walmart Foundation, to estimate tonnages of FLW generated across Canada’s food supply chain. The research examined various FLW categories including: dairy and eggs; field crops; produce; meat and poultry; marine; and sugars and syrups. The research estimates that 58% (or 35.5 million tonnes) of all the food produced in Canada is lost or wasted each year, of which nearly one-third (valued at $49.5 billion) is avoidable. Additional details regarding this research are available via a technical report and roadmap entitled, The Avoidable Crisis of Food Waste, which is publicly available on the Second Harvest website (https://secondharvest.ca).

**PRESENTATION 3: PROVINCIAL/REGIONAL APPROACHES**

Avery Gottfried  
British Columbia Ministry of Environment and Climate Change

The presentation provided a summary of approaches, data and metrics, business cases, and toolkits used in British Columbia (BC) to quantify FLW. In BC, an estimated 25% of all material set out for residential curbside collection is preventable food waste. It is estimated that a return on investment of over $2.75 for every $1.00 spent on prevention programming can be achieved by addressing FLW. The presentation also provided a brief overview of the Love Food Hate Waste Canada public awareness-raising campaign, which originated in MetroVancouver, and food waste prevention toolkits for the food service and food retail sectors, which are publicly available on the BC government website (www2.gov.bc.ca/gov/content/environment/waste-management/food-and-organic-waste/prevent-food-waste/prevent-business-food-waste).
PRESENTATION 4: HOUSEHOLD FOOD WASTE RESEARCH IN ONTARIO

Vivan De Giovanni
City of Guelph

An overview of collaborations and research conducted on FLW in Ontario was delivered, with a focus on City of Guelph activities. The City’s Solid Waste Management Master Plan 2014 Updates included a food waste reduction campaign, webpage (https://guelph.ca/living/garbage-and-recycling/waste-reduction/food-waste) and waste wizard (https://guelph.ca/living/garbage-and-recycling/curbside-collection/preparing-waste). The City also participates in the Municipal Waste Association’s Food Waste Reduction Working Group (https://foodwastereduction.tumblr.com), Ontario Food Collaborative, and “Our Food Future” Smart Cities Challenge. Since 2013, the City has also collaborated with the University of Guelph on FLW research, including food waste audits and household surveys.

PRESENTATION 5: REDUCING FOOD LOSS TO SIMULTANEOUSLY INCREASE PROFITS AND SUSTAINABILITY

Bruce Taylor
Enviro-Stewards Inc.

The presentation focused on building a case for food loss prevention and introduced a number of case studies, including Maple Leaf, Campbell Soup, Calgary Italian Bakery, Byblos Bakery, and Jackson Triggs. The presentation signaled that addressing food loss in facility operations can result in significant economic savings, on the order of tens or hundreds of thousands of dollars per year depending on the size of operation. It also illustrated that payback periods for any new capital expenditures to address food loss were relatively short, often within 1-3 years. The presentation also described a recent Canadian case study (Beau’s Brewery) completed under the work of the Commission for Environmental Cooperation (www3.cec.org/flwm/case-studies).
Small Group Dialogue: Understanding Canada’s Food Loss and Waste

Workshop participants engaged in dialogue at small table groups to explore three topics:

› **Topic 1:** Quantifying food loss and waste on a national or regional basis
› **Topic 2:** Assessing facility or company level food loss
› **Topic 3:** Characterizing and researching household and consumer food waste

Summaries of table discussions corresponding to questions for each topic are provided in each of the subsections below.
Topic 1: Quantifying Food Loss and Waste on a National or Regional Basis

QUESTIONS:
1. What should be key objectives and targets for measuring Canada’s national and sub-national performance in reducing FLW and why? When should these objectives be met (timeframe)?
2. What are key metrics that should be used to measure Canada’s national and sub-national performance in reducing FLW over time, and which ones are most important and why?
3. What are key next steps to support the development of consistent national and regional approaches for measuring FLW?
4. For each key next step identified in Question 3 above, what types of organizations should lead and be involved? What could the roles of each type of organization be?

SUMMARY OF DISCUSSION:
Responses to these questions reveal a high level of consensus around the need to establish consistent baseline benchmarks to measure food waste, incorporating standardized categories such as: ‘avoidable’, ‘potentially avoidable’, ‘unavoidable’ combined with ‘edible’, ‘potentially edible’, and ‘inedible’. There was a high level of agreement that benchmarks must align nationally and sub-nationally, as well as aligning to international metrics. Groups identified that analysis of facility-level food loss is not prioritized due to a lack of awareness of the business value of food loss prevention. One table highlighted an important component that is missing, namely the farm-level where reporting of food loss and waste is not common. It was also suggested that the word “loss” be eliminated because loss is waste. At the end of the day, participants want to make sure we have a common starting point. While recognizing there are many data gaps, participants want to make sure whatever the metric – be it weight or dollars per person, for example – there is a standard measure that drives meaningful change throughout the supply chain.
QUESTIONS 1

What should be key objectives and targets for measuring Canada’s national and sub-national performance in reducing FLW and why? When should these objectives be met (timeframe)?

PARTICIPANT RESPONSES

From the table discussions, the following existing objectives, targets and timeframes were identified:

› UN 2030 SDG 12.3, which states: By 2030, halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains, including post-harvest losses

› CCME Aspirational Canada-wide Waste Reduction Goals for per capita solid waste disposal, which state: By 2030, achieve a disposal rate of 490 kg per person (a 30% reduction for the 2014 baseline), and by 2040, achieve a disposal rate of 350 kg per person (a 50% reduction)

Participants also suggested that Canada should formalize a national goal.

Other recommendations, in addition to those summarized above included:

› Combine the establishment of a common baseline and benchmarks with periodic reporting (e.g. every 3-5 years)

› Link FLW reduction targets to GHG reductions

› Focus on preventing FLW (i.e. reduce amounts sent to disposal and diversion)
QUESTIONS 2

What are key metrics that should be used to measure Canada’s national and sub-national performance in reducing FLW over time and which ones are most important and why?

For example:

› Weight reduction (e.g. aggregate vs. per production unit)
› Environmental (e.g. greenhouse gas emission reduction)
› Socio-economic (e.g. recovered meals, increased profit)
› Other?

PARTICIPANT RESPONSES

Participants suggested several standardized metrics including:

› Tonnes, kg/capita
› Material composition
› Consumer price index – to compare internationally
› GHG, carbon emissions
› Dollars lost (i.e. cost of disposal + costs of the food itself)
› Loss of nutrition, calories, food security

It was also noted that weight-based measurement may be a potential challenge given that the food distribution sector often measures using monetary and other economic indicators (i.e. % food that is written off).
QUESTIONS 3

What are key next steps to support the development of consistent national and regional approaches for measuring FLW?

For example:

› Defining a systematic approach/methodology for quantification or estimation
› Developing consistent and clear definitions (what are some key terms?)
› Developing mechanisms for collecting and compiling facility data
› Other?

PARTICIPANT RESPONSES

› Establish a methodology to quantify diversion and avoidable waste
  a. Government should propose a standardized measurement approach
  a. Methodology is available (e.g. VCMI report)
› Support change management (e.g. through awareness-raising of FLW reduction value propositions with key target groups)
› Leverage existing data sets and determine gaps/missing data required to set a solid baseline
› Establish a data clearinghouse that consolidates information that can be shared/accessed more broadly
› Make funding available to raise awareness and support industry implementation of methodologies
QUESTIONS 4

For each key next step identified in Question 3 above, what types of organization should lead and be involved? What could the roles of each type of organization be?

For example:
› Government (federal, provincial, territorial, local, indigenous)
› Industry, business and their associations
› Academia
› Other?

PARTICIPANT RESPONSES

Government:
› ECCC (e.g. food waste, GHGs)
› AAFC (e.g. food loss, food production)
› Statistics Canada (data collection)
› Health Canada or Public Health organizations (nutrition related awareness with respect to FLW)
› CFIA
› Provincial/territorial governments (data collection)
› Municipalities and Public Works
› Business Development Canada

Industry and business:
› Companies (all stages of the food supply chain)
› Associations (all stages of the food supply chain – to consolidate sector data and provide feedback)
› Waste management firms

Other Organizations:
› NGOs (consolidate sector-level data, provide feedback for reporting)
› Establish a data clearinghouse that consolidates information that can be shared/accessed more broadly

Participants also highlighted the need for a coalition of government agencies to take leadership and engage in the various roles required to achieve implementation (with industry alignment) as there are no clear bodies on the industry side to represent the sectors as a coalition.
Topic 2: Assessing Facility or Company Level Food Loss

QUESTIONS:

1. What are the primary challenges and barriers to generating and reporting FLW data at the facility or company level?

2. What type of FLW measurement data can be readily shared by facilities and companies? What are the issues and challenges associated with sharing measurement data and how might they be overcome?

3. What are the key next steps to motivate Canadian companies to quantify and report food loss and waste in their operations?

4. For each key next step identified in Question 3 above, what types of organizations should lead and be involved? What could the roles of each type of organization be?

SUMMARY OF DISCUSSION:

There was general agreement among participants of the need to find a way to translate FLW prevented and/or diverted into dollars saved as a key metric. Standardization emerged as a key theme – the urgency is to establish a consistent methodology to quantify diversion and avoidable waste. It was noted that different sectors operate differently with different standards. Again, the main challenge identified by participants is accuracy of data and data collection methodology across the board. Many comments mentioned that measurement is too focused on weight rather than dollar value. Participants also highlighted the challenge posed by non-standardized data particularly for retailers in terms of invoicing and computer systems. As a way forward, groups discussed the need to leverage existing data sets to determine gaps and/or missing data in order to set a solid baseline. Participants also noted that waste is a state of mind - industry “doesn’t know what it doesn’t know”. This led to a recommendation that governments need to work towards common alignment.
QUESTIONS 1

What are the primary challenges and barriers to generating and reporting FLW data at the facility or company level?

PARTICIPANT RESPONSES

Participants highlighted the following challenges and barriers:

- Lack of buy-in from senior management (business culture, no true cost accounting)
  - Industry focus is mainly on efficiency and cost savings (versus waste management)
  - The business case for FLW is generally lacking
  - Industry sees risks associated with external reporting (media, judgement)
- Facility-level reporting is not common
  - Small-sized business will have particular challenges
  - Trucks are not equipped with scales making FLW difficult to measure
- Inconsistent data generation (metrics, measurement points, tracking, data entry)
  - Different approaches are employed (comparability difficult)
  - Data availability differs (e.g. some municipalities only provide waste management data twice a year, supplier invoices differ in data content)
  - Waste is not managed at a process level
- Administrative burden (risk of reporting fatigue)
  - Challenge to change reporting metrics
  - Requires allocation of staff time, training and knowledge transfer
  - Data entry can be manual for some (e.g. front-line restaurant prep staff, data entry)
- Differing perceptions and definitions for FLW
  - For example, restaurants do not consider plate waste from purchased meals to be FLW
- Lack of resources and tools
  - Need for new technology and systems for measurement
QUESTIONS 2

What type of FLW measurement data can be readily shared by facilities and companies? What are the issues and challenges associated with sharing measurement data and how might they be overcome?

PARTICIPANT RESPONSES

Data Sources That Can Be Easily shared:
› CSR reports containing FLW data

Data Sharing Issues and Challenges:
› Inconsistent FLW measurement data sharing and consolidation
  a. Many facilities and sectors do not measure FLW (small companies cannot allocate resources)
  a. Lack of commonly accepted baseline
  a. Lack of consistent definitions (e.g. avoidable, unavoidable, inputs, outputs)
  a. Confidential business information (anonymity is needed for sharing)
  a. Differing collection methods and scopes
  a. Differing data types (e.g. material-specific, commodity-specific, facility-specific, sector-specific)
  a. Data accuracy is inconsistent
  a. Inability to make fair comparisons (benchmarking against peers, across different sectors)
  a. Concerns data will be used to assess additional business taxes (e.g. carbon taxes)
  a. Reporting inconsistencies (e.g. weight/volume-based vs. percentage reductions)
  a. Very large number of materials and products to measure (some in small volumes)

Businesses are competitive by nature therefore it’s important to note that a desire to protect competitive advantage (versus publicly sharing successes) and a concern that reporting may tarnish corporate and brand image (public perception, social media) drives a need to keep data anonymous.

Participants also mentioned that aggregated data can be prepared and shared and others also pointed out that waste data is not considered confidential by some companies (therefore sharing data is not always a barrier).
QUESTIONS 3

What are the key next steps to motivate Canadian companies to quantify and report food loss and waste in their operations?

PARTICIPANT RESPONSES

Participants put forward the following suggestions:

› Encourage collaborations across the food supply chain (shared roles and responsibilities)

› There is a need government leadership to:
  a. Develop a standardized measurement framework
  b. Coordinate policy and regulations (goals and targets, methodology)
  c. Provide incentives and funding to drive innovation

› Demonstrate value of FLW reduction and measurement to businesses
  a. Identify connection to economic savings (improved bottom line, Return on Investment)
  b. Identify benefits to brand image and reputation
  c. Recognize/showcase top-level industry leadership
  d. Share case study examples

› Conduct pilot projects
  a. Conduct FLW reduction projects with consumer-facing businesses across the full value chain
  b. Support facility waste audits

› Establish a digital information-sharing platform
  a. Collect and consolidate data and share it in aggregate form
  b. Showcase linkages between FLW reduction and environmental and socio-economic impacts (GHG impacts, water savings, etc.)
  c. Review third party reporting models as examples of how data can be consolidated (e.g. Packaging Stewardship, Canadian Stewardship Services Alliance)
  d. Establish a system to rate performance (but limit FLW comparisons to similar types of operations as opposed to comparing unrelated inter-industries)
  e. Develop a mechanism for benchmarking (e.g. against similar facilities, other countries)
QUESTIONS 4

For each key next step identified in Question 3 above, what types of organizations should lead and be involved? What could the roles of each type of organization be?

PARTICIPANT RESPONSES

Government leadership role could include:

› Support data collection
› Ensure federal/provincial/territorial and municipal alignment

Industry - business and association roles could include:

› Work in collaboration with government
› Consolidate and share measurement data (including waste haulers)

Other Organizations:

› NGOs can participate in data collection

Participants also noted that collaboration is essential. Each player in the supply chain needs to be responsible for driving solutions.
Topic 3: Characterizing and Researching Household and Consumer Waste

QUESTIONS:

1. What are the most effective tools and guidance to support measurement of food waste in households? Are these tools and guidance currently available?

2. What special considerations, if any, should be taken into account for improving measurement of household and consumer food waste in rural, remote and indigenous communities?

3. What are key research priorities to improve characterization and measurement of household and consumer food waste in Canada?

4. For each key research priority identified in Question 3 above, what types of existing or new collaborative networks that could support them. What types of organizations should lead and be involved? What could the roles of each type of organization be?

SUMMARY OF DISCUSSION:

Standardized and consistent measurement, problem definition and lack of awareness were identified as key challenges. Raising stakeholder awareness of FLW by including targeting messages to specific groups to articulate values is a priority. Resource availability at the regional and community levels was discussed with clear differences of opinion. It was also noted that there is an urban/rural divide in data collection and capabilities. It was also suggested that a methodology is needed to track on an annualized basis. Participants discussed a wide variety of organizations that might be involved and generally agreed that collaboration between industry, government, academia, and non-governmental organizations is essential. Many agreed that there should be a coalition of government agencies to take leadership and engage in the various roles required to achieve implementation. The objective should be to align industry and government. At the same time, it is important not to lose sight of dollars by focusing on weight-based measurement. Finally, greater understanding of why food becomes waste at the household level is needed. A better understanding of the behavioural determinants will lead to solutions.
QUESTIONS 1

What are the most effective tools and guidance to support measurement of food waste in households? Are these tools and guidance currently available?

PARTICIPANT RESPONSES

Participants identified the following as the most effective tools and guidance.

Surveys and studies:
- Regional waste audits and composition studies
- Household surveys
- Household food diaries (with food purchase receipts)
- Use of green bin weight; however, green bins are not limited to food (content differs by municipality, possible use of kitchen catchers); it is also difficult to differentiate between avoidable versus unavoidable food waste (need definitions)
- Guelph family health study was mentioned as an example (focuses on what families buy and eat, combines receipt data with diary data and waste audits)

Guides and Toolkits:
- Stewardship Ontario guide (currently available)
- Ontario Food Collaborative guide and toolkit (looking for 4 municipalities to test)
  - Platform for sharing data
  - Identifying common categories for food waste audits (e.g. avoidable versus unavoidable FLW)
- Toolkits for schools
  - 24 hour cycle and visual audit to understand what ends up in what streams

Apps:
- Apps that work with smart fridges to scan food that enters and leaves

Other points mentioned by participants included:
- Need to communicate why we’re measuring and what we’re going to do with the data
- Need to develop a standardized approach for food waste measurement and audits
- There is a lack of tools for consumers or schools to measure/track food waste generated, however, approaches to measure FLW at schools could be modified for households
- It is difficult to measure food waste disposed via the sewer
- Measuring economic savings may be more effective for consumers (versus weight-based metrics)
- Comparing amounts of food purchased versus food not consumed would be useful (but would still miss restaurant plate waste)
- A tool similar to “Where Does Waste Go?” to distinguish between avoidable and unavoidable food waste would be of value
QUESTIONS 2

What special considerations, if any, should be taken into account for improving measurement of household and consumer food waste in rural, remote and indigenous communities?

PARTICIPANT RESPONSES

Special considerations in rural, remote and indigenous communities mentioned by participants included:

- The potential for less access to waste collection services and composting programs
  - Ontario stakeholder engagement (2017) discovered most of these communities do not have organics/food diversion programs (exploring home composting programs)
  - Composting programs and backyard composters may be impacted by wildlife concerns (what can be composted)
  - Making connections between neighbouring communities is important for services
- Waste audits may be cost-prohibitive
  - Need an affordable approach for food waste measurement
- Some of these communities may have less access to food or food may be more expensive which may impact food waste generated
- Cultural considerations can be important
  - We cannot make urban assumptions (e.g. indigenous communities may not refer to it as waste)
  - There needs to be support for self-determination in indigenous communities (respect for terminology and support for community-led approaches)

Some participants also suggested that rural, remote and indigenous communities may be more likely to engage in home cooking, growing food and backyard composting initiatives.
QUESTIONS 3

What are key research priorities to improve characterization and measurement of household and consumer food waste in Canada?

PARTICIPANT RESPONSES

The following research priorities were mentioned by participants:

› Economic impact study all the way up the chain
› Food recovery versus food waste (including corporations)
› Examine approaches currently being adopted in Canada and elsewhere
› Examine main issues with food waste and landfills
› Understanding household and consumer behaviours
   a. Understanding decisions leading to food waste in the home
   a. Understanding the level of food literacy and knowledge
   a. Motivations behind behaviour change (positive messaging, impacts)
   a. Influence of different types of messaging for different types of community/demographic groups (e.g. economic motivators versus health, social or environmental motivators)
› Identify linkages between healthy eating and consumption and its impact on food waste

Other points mentioned by participants included:

› A need for consistency in measuring, reporting and comparing (both locally and nationally)
› A suggestion that measurement should be done at the community level (household sizes are changing)
› Household waste audits should also consider seasonal timing (higher levels of waste in December)
QUESTIONS 4

For each key research priority identified in Question 3 above, what types of existing or new collaborative networks that could support them? What types of organizations should lead and be involved? What could the roles of each type of organization be?

PARTICIPANT RESPONSES

Government involvement and roles could include:

› Federal/Provincial/Territorial networks
› Canadian Council of Ministers of the Environment (CCME)
› Municipalities and 3R (reduce, reuse, recycle) collaboratives, e.g.
   a. Rural Ontario Municipal Association (ROMA)
   a. Municipal 3Rs Collaborative (M3RC) - Toronto
   a. Regional public work commissioners of Ontario

Other Organizations:

› Food Policy Councils
› Academia
› National Indigenous organizations and other cultural groups
› International FLW groups
› Retail dietitians – meal planning, how to grocery shop
› Stewardship Ontario – to standardize waste audits
› Food Secure Canada

It was also noted that:

› Academia can focus on consumer attitude and behaviour (need collaboration with municipalities to access audit information)
› Community-based social marketing could be explored as a way to impact behaviour change at the local level with collaboration on messaging
› Municipalities could explore opportunities to measure food waste in multi-residential units
PLENARY SESSION – Work to Date
PRESENTATION 1: TAKING STOCK - REDUCING FOOD LOSS & WASTE IN CANADA

Susan Fraser
Environment and Climate Change Canada (ECCC)

An overview of ECCC’s draft Taking Stock: Reducing Food Loss and Waste in Canada was provided. The draft report identifies what is already happening in Canada to reduce FLW and proposes key action areas for each stage of the food supply chain, research and data, and collaborative efforts. Information in the report is based on a combination of interviews with organizations taking action, input from the federal interdepartmental network and provincial/territorial contacts, and web-based information. ECCC shared the draft report with stakeholders for review and input.

PRESENTATION 2: CANADA UNITED IN THE ACHIEVEMENT OF ZERO WASTE, NOW AND FOR FUTURE GENERATIONS

Denise Phillippe
National Zero Waste Council (NZWC)

The presentation provided an overview of NZWC engagement on FLW, including: preparing a FLW Strategy for Canada in collaboration with a number of other organizations across Canada; establishing Love Food Hate Waste Canada (www.lovefoodhatewaste.ca); delivering a FLW workshop on date labelling; and publishing food rescue guidance for business.
CONCURRENT SESSION A -
Approaches to Reducing Supply Chain Food Loss
PRESENTATION 1: SERVING UP THE SAVINGS – PREVENTING FLW IN CANADIAN MANUFACTURING

Simone Weinstein
Provision Coalition

An overview of the amounts, causes and benefits of reducing food loss within processing and manufacturing facilities was delivered. Food processors and food manufacturers account for 34% and 13% (by weight) of all FLW generated each year in Canada. Process inefficiency was noted as a contributing factor to FLW. Provision Coalition’s FLW Reduction Toolkit and Key Performance Indicator Dashboard were briefly introduced as tools that industry can adopt to better understand FLW reduction opportunities within their operations and their associated environmental and socio-economic impacts. Provision Coalition administered a program, with funding from the Walmart Foundation, to assess FLW and other process inefficiencies (e.g. water and energy consumption) at Canadian food processing and manufacturing facilities; a total of $4.3 million of potential savings was identified across 13 assessed facilities.

PRESENTATION 2: APPROACHES TO REDUCING SUPPLY CHAIN FOOD LOSS – WHOLESALE / DISTRIBUTION

Martin Gooch
Value Chain Management International (VCMI)

The presentation focused on FLW at the wholesale and distribution level of the food supply chain and introduced a related case study that VCMI prepared for the Ontario Produce Marketing Association. An overarching approach to assessing FLW reduction opportunities with examples was also provided. Mapping internal processes of businesses and identifying how they interconnect is an important first step to FLW measurement. It was mentioned that businesses significantly underestimate the cost of shrink/waste, and that the cumulative impact of multiple small improvements can be significant.

PRESENTATION 3: FOOD LOSS IN A RETAIL GROCERY STORE – CASE STUDY

Melanie Vetza
Metro Ontario Inc.

The presentation summarized Metro Inc.’s approach to reducing FLW, and identified types and causes of and solutions for addressing FLW. Shrink (which includes food loss) in the retail sector occurs from operational processes (64%) and theft (36%). Perishable foods (e.g. fruits and vegetables) contribute to a majority of food losses at retail. A number of technical factors contributing to food loss were also identified. Retailers struggle to balance the associated risks and costs of food loss versus empty shelves. Shelving optimization, procurement (e.g. order optimizations, local purchasing, coordinating with other retail operations), food donation programs, and value-added products were identified as potential solutions to addressing food loss by retailers. Other supportive measures include standardizing date labels, delivering consumer awareness campaigns and adjusting packaging sizes.
PRESENTATION 4: ...IT’S TIME FOR SOME “OUT OF THE BIN” THINKING!

Meaghan Beck
Sodexo Canada Ltd.

Sodexo provided an overview of its approach to reduce FLW as a food service provider. Sodexo adopted a commitment to eliminate avoidable waste by 2025. It adopted a waste roadmap with prevention as a key driver to realize this goal. Sodexo activities and programs to reduce waste across its operations include Waste Less Week (a week-long engagement campaign run by Sodexo on its sites around the world during October), Waste Watch (powered by LeanPath), and engagement in the International Food Waste Coalition (Champions 12.3). Sodexo also partnered with Genecis Bioindustries Inc. to develop polyhydroxyalkanoates (PHAs), a biodegradable thermoplastic manufactured from food and organic waste.

PRESENTATION 5: MEASURING CANADA’S FLW

Lori Nikkel
Second Harvest

The presentation provided a summary of Second Harvest’s approach to measuring surplus food recovered and redistributed to feed hungry people. Their food recovery logistics model adopts a minimum weight requirement of 200 pounds to ensure efficiencies in its operations. To support recovery of smaller quantities of surplus food, Second Harvest developed an online food sharing platform (www.Foodrescue.ca) to help match donators with food receivers (non-profit agencies). The system controls the types of non-profit agencies that are eligible to accept surplus food, sends confirmations to food donators when the food is accepted, and provides a dashboard that business and non-profits can access to analyze data on surplus food that has been exchanged including by type, weight, number of meals and avoided greenhouse gases. The platform was piloted across Ontario last year and Second Harvest is exploring opportunities to implement the system across Canada.
Small Group Dialogue: Approaches to Reducing Supply Chain Food Loss

Workshop participants engaged in dialogue at small table groups to discuss each of the following questions below.

QUESTIONS 1

Are the Key Action Areas identified in the draft “Taking Stock” report the right ones? What other key action areas, if any, should be included in the final report?

PARTICIPANT RESPONSES

Themes that emerged in the afternoon were similar to those in the morning, for example: the lack of clarity on definitions of waste, the lack of standardized metrics, data collection challenges, and lack of awareness of the problem by within businesses and households.

Here are some specific themes identified for further action:

› Clarity on "voluntary agreement" approach: packaging, processing and manufacturing — very unclear what a formal agreement between government and industry would involve; should focus on non-regulatory approaches first
› Transportation has a key role in ensuring reduction
› Date labeling
› Food literacy and public awareness: challenges include variation in messaging depending on characteristics/demographics of municipalities; some may be more prone to economic motivators while others could be health, social or environmental
› Danger of overly strict and too prescriptive regulatory requirements that result in significant food waste; for example, an existing regulation is creating a situation whereby thousands of cans of perfectly edible food are being disposed
› One table mentioned the challenges of wastage in the seafood industry and difficulties of measurement
QUESTIONS 2

What type of policy and other interventions could be beneficial to encourage more companies to address food loss, and who is best placed to lead these activities?

PARTICIPANT RESPONSES

Tables discussed a number of solutions related to policy interventions. There was no general consensus in the comments – some participants argued that government should take the lead while others advocated a collaborative approach led by private organizations similar to the stewardship model. Education, incentives and collaboration among stakeholders are generally agreed to be key solution drivers.

Participant suggestions are grouped under the bullet points below:

› Need for a champion/sector champions and a collaborative working group that is invested to create template systems and solutions that can be replicated
› Take a different lens to food waste – mechanisms to coordinate amongst all stakeholders rather than having one lead
› Need for a common goal
› Formal challenges are not the role of government; company challenges work
› Education needed at each stage
› Leadership buying into the need for change and then cascading top-down
› Provincial or national collaborative communications
› Government-backed incentive programs; Revenue Canada fiscal incentives; net-zero incentive programs; if you produce food, have food recovery tax to support recovery network; tax breaks to encourage more small business to bring back local grocers; extension of tax credits for donation of surplus food beyond farmers to whole value chain
› Food waste business case is not being done by industry because there is no risk in not participating; need to quantify the risk of not being part of this process
› Regulations are key: labeling, food safety, review of regulations that make us throw out so much food; a range rather than a number; better risk analysis
› Regulation and standardization around municipal landfill ban on food waste; [By contrast] landfill bans only work if organics processing capacity exists
QUESTIONS 3

What additional resources, if any, are required to support industry sectors in assessing and taking action to reduce food losses?

PARTICIPANT RESPONSES

Discussion about resources centred on some key themes including: financial resources/incentives, education/training to drive behaviour change, standardization of definitions and measurement and increasing safe, legal food donation.

Participant suggestions are grouped under the bullet points below:

› Standard definitions
› Standardized guidance on how to measure food loss
› Sharing best practices
› Prizes or champions for good performance
› Strategic innovation fund
› Financial assistance to small and medium sized enterprises to assist in setting mechanisms to implement
› Education options; training for front line workers in the store and on the farm (i.e. the actual people implementing these programs)
› Support for the social enterprises that offer the service for food recovery; need to improve capacity of charities picking up donations
› Legal compliance – promotion of food donation is still needed; need to eliminate legal myths and compliance issues
› Incentives to buy local
QUESTIONS 4

What existing forums and networks could be leveraged to advance engagement on food loss reduction?

PARTICIPANT RESPONSES

Discussions centred on how to maintain the momentum generated by the workshop. Participants agreed there is need to sustain and engage the organizations represented going forward. A number of existing industry associations and organizations such as CEO/CFO business networks, economic development forums, Fisheries Council, Restaurants Canada and the Retail Council of Canada were highlighted. Though one commenter cautioned that there are limitations to what such organizations can accomplish. As well, a bigger role for non-profit organizations was suggested.

Suggestions include:

› Create an advisory body with individuals from all sectors in order to cascade into different areas; whole of chain venues are rare and any new or existing forum must truly represent the entire chain
› Agri-food Roundtable [Agriculture and Agri-Food Canada’s Value Chain Roundtables] – create a Sustainability Roundtable within this framework
› Keiretsu approach – a pre-agreed arrangement between network of businesses to reduce costs and share savings

Create a federal level food loss and waste secretariat or “Ministry of Food” organization – with the mandate to bring together the multiple government agencies as necessary
CONCURRENT SESSION B –
Approaches to Reducing Household and Consumer Food Waste
PRESENTATION 1: LOVE FOOD HATE WASTE CANADA

Joanne Gauci, National Zero Waste Council (NZWC)
Mariane Maltais-Guilbault, Recyc-Quebec

The presentation provided an overview of the Love Food Hate Waste (LFHW) Canada, a consumer awareness-raising campaign to address avoidable household food waste. It is estimated that avoidable food waste that is disposed and not eaten costs the average Canadian household $1,100 per year. The campaign, which originated in MetroVancouver, was launched in July 2018 and has grown in scope over time. The program is administered by NZWC in collaboration with campaign partners across Canada, including local governments, retailers and grocers, provincial governments and corporations, and non-profit organizations. The growth and impact of the campaign is tracked through web and marketing metrics. Quebec rolled out the LFHW Canada campaign provincially. Consumers are engaged through a combination of social media (Facebook, LinkedIn, Twitter), webpages (Recyc-Quebec) and promotional and communication materials made available to municipalities.

PRESENTATION 2: PUBLIC OPINION RESEARCH TO INFORM ORGANICS PROGRAM PLANNING IN CANADA

Kate Parizeau
University of Guelph

The presentation provided an overview of results from public opinion research on household food waste that was conducted by the University of Guelph. Specifically, the presentation focused on identifying contributing factors to household food waste and recommendations to reduce household food waste.

PRESENTATION 3: THE GOOD FOOD PROGRAM AND BEYOND

Julie Hordowick
Regional Municipality of York

The presentation delivered a summary of York’s Good Food Program (www.york.ca/goodfood), which teaches residents about how to eat healthy, plan and prepare meals, reduce waste, and eat local and seasonal food. Prior to the launch of this campaign the only food waste messaging was to encourage food waste to be placed in the green bin for composting, a very costly program to operate. The Good Food campaign target is to reduce food waste by 15% by year 2031. The presentation also touched upon the Ontario Food Collaborative, which consists of several municipalities and other organizations across Ontario to take joint action to decrease wasted food at the residential level through public education and shared messaging. Recently, the Collaborative released a municipal food waste audit guide.
PRESENTATION 4: REDUCING HOUSEHOLD FOOD WASTE

Paul van der Werf
2cg

The presentation provided an overview of research to explore if providing households with local food waste quantity and impact data (i.e. monetary, environmental and social) and information to improve food literacy can motivate households to reduce food waste disposal. Results from a household survey indicated that a majority (59%) of households signaled that saving money is a key motivator to reducing food waste. Communication materials were developed to convey the message that reducing food waste saves money for households. A test group of households were then provided with a food waste reduction kit, which provided information tips and approaches to reduce food waste at home. Findings revealed that households that received a food waste reduction kit wasted much less avoidable and unavoidable food waste than households that did not receive a kit.

PRESENTATION 5: FOOD MATTERS: A NEW ACTION KIT FOR NORTH AMERICAN YOUTH...

Tammara Soma
Simon Fraser University

The presentation introduced the Food Matters Action Kit, which was recently developed in consultation with North American experts under the work of the Commission for Environmental Cooperation. The kit includes informative resources and hands-on, creative activities to inspire youth from ages 5 to 25 to prevent food waste at home, at school and in the community. The Action Kit is available at: www3.cec.org/flwy.
Small Group Dialogue: Approaches to Reducing Household & Consumer Food Waste

QUESTIONS 1

Are the Key Action Areas identified in the draft “Taking Stock” report the right ones? What other key action areas, if any, should be included in the final report?

PARTICIPANT RESPONSES

There was consensus among participants that more research is needed to assess which interventions work best at the household/consumer level. There was discussion on the role of packaging, with agreement that ways must be found to reduce packaging (particularly plastics). However, one group expressed concern about recommending packaging as a solution to consumer food waste arguing it makes sense in terms of right-sizing packaging (e.g. in the UK). However, smart packaging may lead to more plastic in the waste stream without changing consumer behaviour. It is important to make sure packaging and recycling are not competing priorities.

Additional suggestions included:

› Need to ensure action areas are applicable across all levels of government and all areas across Canada (urban, rural, indigenous etc.)
› Need to ensure all action items are applicable to all levels of industry from larger companies to small-medium enterprises who may not have the same level of resources to use on food waste reduction strategies
› Food literacy and educational campaigns – there is promise in gamification; promote message that reducing FLW saves money; message needs to normalize reducing FLW
› Date labeling: retailers could provide labels with recipes that suggest how to extend the use of the food; government regulation to require this type of messaging may be more effective than a voluntary approach
QUESTIONS 2

What can be done to further enhance awareness and foster greater reduction of food waste at the household and consumer levels?

PARTICIPANT RESPONSES

Discussions related to this question broke down into a number of key areas summarized as follows.

› **Collaboration:**
  1. Discussing the idea of circular economies for food could be a potential means of building multi-stakeholder coalitions (e.g. Guelph, Toronto)
  1. Collaboration/partnerships between business, communities, and government is key
  1. Build relationships with retailers so they become partners in delivering sustainability messages
  1. Encourage retailers to see food waste as a potential marketing message and a way to build customer loyalty

› **Communication and marketing:**
  1. There should be similar messaging across municipalities. Use social media marketing campaigns to promote and amplify messages
  1. Develop a glossary of terms regarding what is food waste, what is avoidable, and unavoidable food waste
  1. Need to reach people where they buy food – at retailers (e.g., recipe cards, food packaging, grocery cart/store advertisements)
  1. Provide examples of how the average family can reduce waste to make it easy for people to incorporate into their busy lifestyles (e.g., meal plan)
  1. Target different consumers with different campaigns to maximize impact
  1. Need a public campaign once labeling requirements in Canada are updated
› **Education:**
  - Engage with students/children
  - Involve schools with culinary programs
  - EcoSchools / district school boards; add [FLW] to curriculum
  - Engage influencers like chefs, Food Network
  - Educational materials on food skills – canning and preservation (e.g. in community centres)
  - Increase understanding of best before dates.

› **Social enterprise:**
  - Need new business models for customer-facing food reduction / recovery enterprises (e.g. social enterprise)
  - Breaking down the stigma to encourage all people (not just “hungry” people) to eat recovered food
  - Role of dietitians (grocery stores, private practice, public health) to communicate messages around grocery shopping, meal planning to reduce food waste; make “Love Food Hate Waste” resources available to them.
QUESTIONS 3

What type of research should be undertaken to enable a better understanding of Canadian consumers and the food waste they generate?

PARTICIPANT RESPONSES

There was general agreement among participants about gaps in existing knowledge that hamper understanding of the behaviours and barriers that lead to FLW. Participants discussed the need for continuing audits and surveys to uncover the behavioural motivations at the household level. More research on structural issues that influence individual household behaviours: urbanization, distance to shopping, land use, time use studies (people working 10 hour days, commuting), cultural and social factors. More integrated research that supports industry to collaborate with government regarding data sharing so efforts are not duplicated.

Some specific suggestions include:

› A national household food survey
› Analysis of life cycle on packaging and food waste and how they interact
› Research on how people are shopping (change over time) and how that affects food waste
› Impact of new shopping behaviours on food waste – e.g. online food shopping
› More research on alternative retail: zero waste stores, CSAs, meal kits, people who buy local / organic products.
› How different cultures view food and how this may influence how they perceive and think about food waste (are there are differences in food waste across different cultures?)
› Impact of the Canada Food Guide and recommendations to “eat a variety of foods” and encouraging choice – Does this lead to over purchasing of foods that then are more likely to go wasted? We need data that is comprehensive to [understand whether] policies are complimentary and not working against each other (i.e. eat more veggies, but vegetables account for the largest portion of food waste)
› Where do quick service / restaurants fit into customer behaviour?
QUESTIONS 4

What existing forums and networks could be leveraged to support and enhance efforts to reduce household and consumer food waste at the national, regional and local levels?

PARTICIPANT RESPONSES

“We need more networks and forums!” is a comment that supports the general consensus that the scope of organizations, particularly at the grassroots community level, needs to be broadened. While participants discussed the need to increase reach to consumers, there were suggestions to include educational institutions, social service agencies, long-term care and hospitals, and groups addressing food security.

Specific suggestions include:

› Increase opportunities for different divisions within municipal governments to partner together on efforts (e.g. York Region - Public Works and Public Health)
› Ontario Food Collaborative, Municipal Waste Association - Food Waste Reduction Working Group, the Municipal 3Rs Collaborative
› Work by municipalities and local governments with academia – there is a need to better communicate what municipalities are doing so that others can adopt programs and policies that are appropriate for them
› “Love Food Hate Waste” campaign is a recognizable banner – need to expand/leverage
› Collaborate with Health Canada on the Canada Food Guide promotion and education activities
Matt Hamilton from ECCC thanked participants for their time and efforts, which contributed to useful networking opportunities and a successful event. He indicated that a workshop report will be prepared and that workshop participants (and other stakeholders across Canada) will be invited to provide feedback on the draft “Taking Stock Report” that was part of the pre-meeting materials package. One idea that arose from the workshop was to establish a process whereby all organizations that are addressing food waste reduction in Canada can openly share their activities and plans with others working in this area to avoid duplication and identify synergies. He indicated ECCC will explore the development of a voluntary information-sharing platform to help organizations share this kind of information. As a closing remark, he encouraged all participants to consider what they can do to support existing and new collaboration, initiatives and activities for FLW reduction.
ANNEX A: Workshop Agenda
**Final Agenda**

**Date:** February 28, 2019  
**Location:** Pearson Convention Centre, Brampton, Ontario

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Speakers/Topics</th>
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<tbody>
<tr>
<td>8:30 am</td>
<td><strong>Registration</strong></td>
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<tr>
<td>9:00 – 9:15 am</td>
<td><strong>Welcome and Introductions</strong></td>
<td>Environment and Climate Change Canada (ECCC), Matthew Hamilton</td>
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<td>Marc Valois, Group Intersol, Facilitator</td>
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<tr>
<td>9:15 – 10:30 am</td>
<td><strong>Plenary Session – Understanding Canada’s Food Loss and Waste</strong></td>
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<td>Measuring Canada’s Food Loss and Waste – Susan Fraser, ECCC</td>
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<td>Measuring FLW at National Level – Martin Gooch, Value Chain Management International (VCMI)</td>
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<td>Provincial/Regional Approaches – Avery Gottfried, British Columbia Ministry of Environment and Climate Change</td>
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<td>Household Food Waste Research in Ontario – Vivian De Giovanni, City of Guelph</td>
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<td>Reducing Food Loss to Simultaneously Increasing Profits and Sustainability – Bruce Taylor, Enviro-Stewards Inc.</td>
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<tr>
<td>10:30 – 10:45 am</td>
<td><strong>Break – with coffee</strong></td>
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<tr>
<td>11:00 – 11:45 am</td>
<td><strong>Working Group Session – Understanding Canada’s Food Loss and Waste</strong></td>
<td>Working group table discussions will provide an opportunity for input on topics such as:</td>
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<tr>
<td></td>
<td>Quantifying food loss and waste on a national or regional basis</td>
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<td>Assessing facility or company level food loss</td>
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<td>Characterizing and researching household and consumer food waste</td>
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<td>11:45 am – Noon</td>
<td><strong>Reporting back – In plenary, tables will be asked to share some key ideas generated during discussions.</strong></td>
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<tr>
<td>Noon – 1:00 pm</td>
<td><strong>Lunch and networking</strong></td>
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<tr>
<td>1:00 – 1:25 pm</td>
<td><strong>Plenary Session – Work to date</strong></td>
<td>Taking Stock - Reducing Food Loss &amp; Waste in Canada – Susan Fraser, ECCC</td>
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<td>Canada uni dans la réalisation du programme zéro déchet, maintenant et pour les générations futures – Denise Philippe, National Zero Waste Council (NZWC)</td>
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<tr>
<td>Time</td>
<td>Session</td>
<td>Approaches to Reducing Supply Chain Food Loss</td>
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<td>1:25 – 1:30 pm</td>
<td><strong>Move to breakout room</strong></td>
<td>ivering Up the Savings — Preventing FLW in Canadian Manufacturing - Simone Weinstein, Provision Coalition</td>
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<td>1:30 – 2:30 pm</td>
<td>Approaches to Reducing Supply Chain Food Loss Wholesale / Distribution – Martin Gooch, VCMI</td>
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<td><strong>Concurrent sessions</strong></td>
<td>Food Loss in Retail Grocery Store — Case Study— Melanie Vetza, Metro Ontario Inc.</td>
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<td>Sodexo Canada Ltd. ...it's time for some “out of the bin” thinking! — Meaghan Beck, Sodexo Canada Ltd.</td>
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<td>Second Harvest Canada’s largest food rescue organization — Lori Nikkel, Second Harvest</td>
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<td>2:30 – 2:45 pm</td>
<td><strong>Break – with coffee</strong></td>
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<td>2:45 – 3:45 pm</td>
<td><strong>Working Group Session – Approaches to Reducing Supply Chain Food Loss</strong></td>
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<td><strong>Concurrent sessions</strong></td>
<td>Working group table discussions will provide an opportunity for input on topics such as:</td>
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<td>› Taking stock report: key action areas</td>
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<td>› Policy and other interventions</td>
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<td>› Resources, guidance and tools</td>
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<td>› Forums and networks</td>
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<td>3:45 – 4:00 pm</td>
<td><strong>Break - Move back to plenary</strong></td>
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<td>4:00 – 4:30 pm</td>
<td><strong>Closing Plenary</strong></td>
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<td>Summaries from afternoon table discussion Next steps - ECCC</td>
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ANNEX B: Workshop Participation
Representatives from the following organizations participated in the workshop:

1. 2cg
2. A&W Food Services of Canada
3. Agriculture and Agri-Food Canada
4. Association des détaillants en alimentation du Québec
5. Association of Municipalities of Ontario
6. BC Ministry of Environment and Climate Change Strategy
7. Bimbo Canada
8. Canadian Agri-Food Policy Institute (CAPI)
9. Canadian Centre for Food Integrity
10. Canadian Food Inspection Agency
11. Canadian Produce Marketing Association (CPMA)
12. Canadian Roundtable for Sustainable Beef
13. Canadian Sugar Institute
14. Carleton University
15. City of Calgary
16. City of Guelph
17. City of London
18. City of Toronto
19. Commission for Environmental Cooperation
20. Conference Board of Canada
21. County of Wellington
22. CropLife Canada
23. Culinary Tourism Alliance
24. Dairy Farmers of Canada
25. Dalhousie University
26. Ecosource
27. Environment and Climate Change Canada
28. Enviro-Stewards Inc.
29. Fisheries Council of Canada
30. Food & Consumer Products of Canada
31. Food for Life
32. Food Secure Canada/Réseau pour une alimentation durable
33. Gay Lea Foods Co-operative Ltd
34. Genecis Bioindustries Incorporated
35. General Mills Canada
36. Gordon Food Service
37. Government of the Northwest Territories
38. Health Canada
39. High Liner Foods Inc.
40. Ideovation Inc.
41. Jane Goodall Institute of Canada La Tablée des Chefs
42. Leaders in Environmentally Accountable Foodservice (LEAF)
43. Loblaw Companies Limited
44. Manitoba Sustainable Development
45. Maple Leaf Foods
46. Meal Exchange
47. Metro Ontario Inc.
48. Metro Richelieu Inc.
49. Miller Waste Systems
50. Municipal Waste Association
51. National Zero Waste Organization
52. Nestlé Canada Inc.
53. Ontario Dairy Council
54. Ontario EcoSchools
55. Ontario Fruit and Vegetable Growers Association
56. Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA)
57. Ontario Ministry of Environment, Conservation and Parks
58. Ontario Restaurant Hotel & Motel Association (ORHMA)
59. Ottawa Valley Waste Recovery Centre
60. PepsiCo Foods Canada
61. Provision Coalition
62. Recycling Council of Ontario
63. RECYC-QUÉBEC
64. Regional Municipality of Peel
65. Regional Municipality of York
66. Restaurants Canada
67. Second Harvest
68. Simon Fraser University
69. Sobeys Inc.
70. Sodexo Canada Ltd.
71. Southwestern Ontario Gleaners
72. Starbucks Canada
73. Statistics Canada
74. Sysco Canada
75. Transport Canada
76. Unilever Canada
77. University of Guelph
78. University of Toronto
79. University of Waterloo
80. Value Chain Management International
81. Walmart Canada Corp.
82. Waste Management