

REDUCING FOOD WASTE & CUTTING CANADA'S CARBON EMISSIONS: POLICIES FOR REAPING THE ENVIRONMENTAL, ECONOMIC AND SOCIAL BENEFITS

**Comments provided by the National Zero Waste Council
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If food loss and waste were a country, it would be the third largest greenhouse gas emitter in the world.

- World Resources Institute

AN OVERLOOKED OPPORTUNITY

Two decades of effort have found no silver bullet to achieve Canada's greenhouse gas (GHG) reduction targets. Canada's challenge is to develop a suite of actions that together deliver the necessary reductions with accompanying economic, social and other environmental benefits. The National Zero Waste Council¹ (NZWC) believes the reduction of food waste is an overlooked opportunity in this potential suite of actions.

The food system – from farm to fork to dump – is both energy intensive and due to biological processes, a generator of landfill methane, a GHG 22 times more harmful than CO₂ in terms of climate change. Yet about a third of Canada's food never gets eaten, a staggering example of unnecessary waste. Addressing inefficiencies in production, processing, distribution and consumption has the potential to eliminate significant GHG emissions while also providing a broad array of co-benefits, such as improved community

¹ <http://www.nzwc.ca/>

resiliency, new business and employment opportunities due to technological innovation, and the economic and environmental advantages of improved resource efficiency.

GHG emissions from the disposal of organic material in landfills is estimated to be about four per cent of the national greenhouse gas inventory, and food waste is about half of all organics disposed. Due to the perishable nature of fresh foods, there are also opportunities to reduce GHG emissions associated with greater efficiencies in cold storage.

Canada's National Zero Waste Council has identified the reduction of food waste as a key priority and is developing a National Food Waste Reduction Strategy that will yield economic, social and environmental benefits. A partnership with the Government of Canada would dramatically improve the effectiveness of the Strategy. Federal involvement could include:

- Setting a national food waste reduction target;
- Stimulating increased donations of food to charities through a tax incentive;
- Through the CFIA, reducing confusion over “best before”, “use by”, “sell by” and “expiry” dates;
- Stimulating innovation in food-and-energy recovery technologies by ensuring their eligibility in existing research and development streams; and
- Partnering with the NZWC by supporting a national advertising campaign that ties reducing food waste with cutting greenhouse gases.

THE CHALLENGE: GHG EMISSIONS FROM FOOD WASTE

Reducing waste from the food sector has been largely absent from current proposals and strategies to reduce GHG emissions in Canada. However, new studies and initiatives at the global level have identified the sector as a significant opportunity to cut GHG emissions while achieving a broad array of co-benefits.

The global food system is responsible for up to 30% of all human-caused greenhouse-gas emissions, around 80% of which is associated with agricultural production.² Unfortunately, the Food and Agriculture Organization of the United Nations (FAO) estimates that about one third of all food produced is discarded, not eaten, because of inefficiencies in the system or wasteful behavior by consumers. The FAO estimates that the global carbon footprint of food not eaten is 3.3 billion tonnes of CO₂-equivalent per year³, or about eight per cent of global GHG emissions; to put this into perspective, eight per cent of global emissions is a quantity of GHGs almost five times larger than Canada's total carbon footprint⁴. These are global averages and the actual percentages will vary by nation depending on the type and strength of the agricultural sector, the character of the domestic food supply chain, food consumption customs and

² Vermeulen, S. J., Campbell, B. M. & Ingram, J. S. I., 2012. “Climate Change and Food Systems”. Annual Review of Environment and Resources 37, 195–222. Available at: <http://www.annualreviews.org/doi/abs/10.1146/annurev-environ-020411-130608>

³ FAO, 2013. “Food Wastage Footprint: Impact on Natural Resources” Available at: <http://www.fao.org/docrep/018/i3347e/i3347e.pdf>

⁴ National Inventory Report 1990-2014: Greenhouse Gas Sources and Sinks in Canada. Available at: <https://www.ec.gc.ca/ges-ghg/default.asp?lang=En&n=662F9C56-1>

behaviours and disposal systems. As a large importer of food products, Canada could have a positive impact on the global supply chain in reducing GHG emissions by reducing food waste domestically.

Quantification of Canada's GHG emissions associated with each step in the national food system has not been done. It is a challenge because much of our food is sourced globally, the domestic food supply chain is complex and dynamic, and food waste disposal methods vary across the country. Despite the challenges, work is underway to improve our understanding and identify the best opportunities to reduce greenhouse gases. The highest priority emission reduction focus areas are expected to be related to keeping organic waste out of landfills (due to methane emissions produced during decomposition), and reducing GHG emissions associated with moving and refrigerating perishable food throughout the food supply chain. Scrutiny of the refrigeration processes and technologies is important due to the extremely high global warming potential of many refrigerants currently in use.

GLOBAL ACTION

The United States, the United Kingdom and the European Union have recognized that addressing food waste can help deliver solutions to climate change, community resiliency and other resource efficiency issues. The links between reducing food waste and GHG emissions, while improving profit margins, is also being recognized by businesses, including corporate giants like Nestle, Tesco, and Unilever.⁵

In 2013 the EU agreed to reduce food waste 50% by 2020, providing a focal point and rationale for an array of actions by member states. This is more aggressive than Target 12.3 of the UN Sustainable Development Goals, which seeks to “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” by 2030.⁶ In the UK, the Courtauld Commitment 2025 represents a voluntary agreement by all major UK food retailers, brands, food service companies, trade bodies and local authorities to reduce food waste by 20% over 10 years.⁷ To engage consumers in the realization of this target, the *Love Food Hate Waste* consumer education campaign was developed by the Waste and Resources Action Program (WRAP-UK). In terms of legislative action, in 2016 France banned the disposal or destruction of unsold but edible food by supermarkets; instead this food must be donated to food banks and other charities. To make the ban effective, large food retailers must have contracts with agencies who provide food to those in need or face a penalty.⁸ Spain has passed similar legislation banning the disposal of edible food by supermarkets but encourages compliance by providing a tax incentive for donating unsold but edible food.⁹

In the US, another approach is under way. In early 2015, more than 30 leaders from business, non-profit organizations, foundations and government who are committed to reducing food waste created an organization called ReFED. Working collaboratively, ReFED developed *A Roadmap to Reduce U.S. Food Waste*, an action plan to tackle food waste at the national scale, which evaluates the economic, social and

⁵ <http://www.wri.org/news/2016/01/release-new-champions-123-coalition-inspire-action-reduce-food-loss-waste>

⁶ <https://sustainabledevelopment.un.org/sdg12>

⁷ <http://www.wrap.org.uk/content/courtauld-commitment-2025-transform-uk-food-and-drink>

⁸ <https://www.theguardian.com/world/2016/feb/04/french-law-forbids-food-waste-by-supermarkets>

⁹ <http://www.telegraph.co.uk/news/worldnews/europe/italy/12194549/Italy-set-to-pass-new-law-to-fight-food-waste.html>

environmental impacts of over 27 potential tools.¹⁰ In September 2015, the US Department of Agriculture and the Environmental Protection Agency announced a goal to reduce food loss and waste by 50% by 2030.¹¹ To succeed in reaching this target, the federal government acknowledged it will be working with communities, organizations, businesses as well as state, tribal and local governments.

In December 2015, Congresswoman Chellie Pingree introduced a proposed *Food Recovery Act*. If passed, the Act includes tax incentives for farmers, retailers and restaurants to donate foods, a strengthened Good Samaritan Act, and an infrastructure fund to support construction of large-scale composting to accompany banning organic materials to landfills.¹² Added to the mix, the Natural Resources Defense Council, a major NGO, in conjunction with the Ad Council has launched a national communication campaign, *Save the Food*, targeting consumer behaviour that leads to food waste.¹³

CANADA'S SITUATION AND RESPONSE

In Canada, as in other middle and high-income regions, the majority of food waste occurs in the post-harvest stages of the food chain – in processing, wholesaling, retailing and final consumption. This is significant because as the FAO indicates, the later food is wasted along the life cycle, the greater the environmental consequences per tonne of food wasted, since the impacts of each tonne accounts for embedded resources, energy, and labour involved in processing, packaging, transport, storage, and cooking.

The cost of food waste in Canada, from farms to consumers, has been estimated by the Value Chain Management International to be at least \$31 billion annually.¹⁴ Consumers account for 47% of this waste, followed by the processing sector (20%) and then the retail sector (10%). The analysis goes on to state that the full cost to the Canadian economy is actually far higher. Using the FAO's estimates of the cumulative cost of food waste associated with the use of energy, water, land, labour, capital investment, infrastructure, machinery, and transport, Value Chain Management International estimates the overall cost of food waste in Canada exceeds \$100 billion.

¹⁰ <http://www.refed.com/?sort=economic-value-per-ton>

¹¹ <https://www.epa.gov/sustainable-management-food/united-states-2030-food-loss-and-waste-reduction-goal#goal>

¹² <https://pingree.house.gov/foodwaste>

¹³ <http://savethefood.com/>

¹⁴ Value Chain Management International, 2014. "The Cost of Canada's Annual Food Waste".

Available at: <http://vcm-international.com/wp-content/uploads/2014/12/Food-Waste-in-Canada-27-Billion-Revisited-Dec-10-2014.pdf>

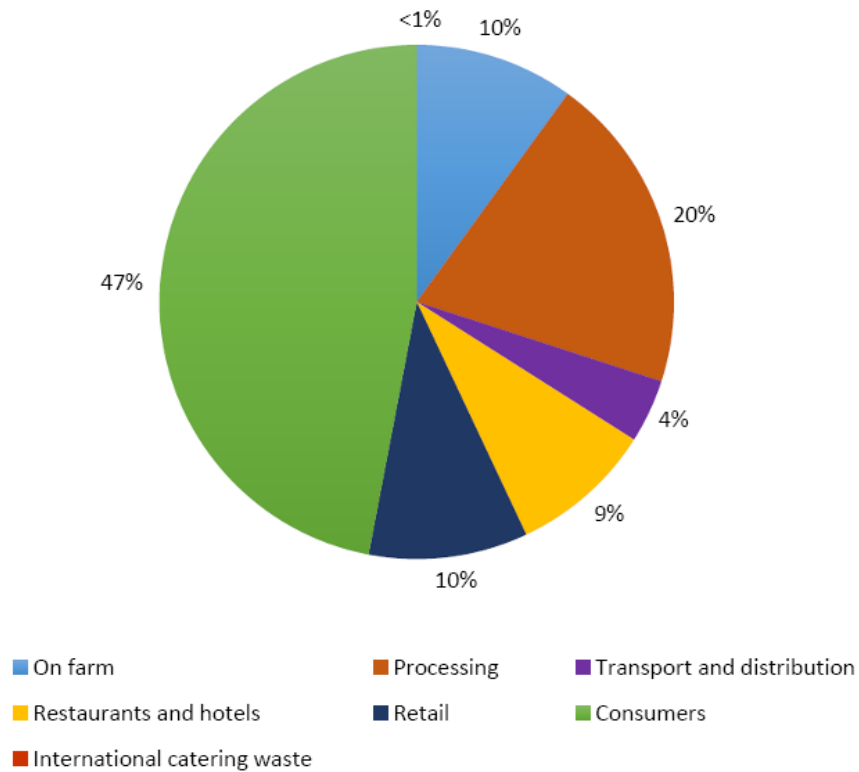


Figure 1. Where Food Waste Occurs Through Canada's Food Value Chain (% Distribution)
 Source: Value Chain Management International, 2014

While the opportunity for reducing food waste and its associated climate impact in Canada is similar to the situation in the US and Europe, we currently lag behind their efforts, and lack a coordinated, collaborative approach to tackling the issue. However there are initiatives under way in various parts of the country that are noteworthy:

- The provinces of Ontario, Quebec and British Columbia have introduced tax incentives to encourage food donations by agricultural operations;
- The BC Centre for Disease Control has issued guidelines for food donations for both donors and distribution agencies;
- Organics disposal bans are in place in Halifax and Nanaimo and most recently in Metro Vancouver and Quebec is considering a province-wide organics disposal ban by 2020; and
- Metro Vancouver and York Region have introduced consumer awareness campaigns aimed at changing behaviour so that less food is wasted.

While these initiatives begin to chip away at the environmental, social and economic costs of food waste, a national and collaborative approach engaging a complementary and effective set of policies, public engagement, and investments in both innovation and infrastructure is required.

NATIONAL FOOD WASTE REDUCTION STRATEGY

Canada's National Zero Waste Council is developing a multi-year, comprehensive National Food Waste Reduction Strategy that will:

- Reduce greenhouse gases;
- Promote innovation and clean technology;
- Lower garbage disposal costs for municipalities, allowing infrastructure savings to be better aligned with more critical infrastructure improvements;
- Build community resiliency by increasing family access to foodstuffs; and
- Engage Canadians in becoming part of the solution.

Cross-sector collaboration is foundational to the Strategy and is a strength that the NZWC brings to the table. Solving food waste will involve working across mandates, leveraging opportunities and strengths of different partners, and developing new approaches to changing consumer behaviour, business practices, and policy development.

The Strategy is built on three critical pillars to achieve its objectives:

1. Policy – National and Local
2. Innovation – Technology and Community Infrastructure
3. Public Engagement – Encouraging New Behaviours

The following sections identify the core actions that make up each pillar of the Strategy and how these deliver on climate change mitigation (and, in some cases, adaptation) objectives and the strengthening of an innovative clean technology sector.

Canada's **National Zero Waste Council** is a cross-sector leadership initiative focusing on waste reduction and emerging circular economies, which consume fewer resources and foster environmental sustainability. Founded by Metro Vancouver in collaboration with the Federation of Canadian Municipalities in 2013, the Council has brought together Canada's largest metropolitan regions with key business and government leaders, academia and non-profit organizations.

1. Policy – National and Local

Managing waste has historically been a responsibility of local government in Canada, with important policy initiatives, such as organics disposal bans, taking place at the municipal and regional level across the country. However, local governments operate with fiscal constraints and limited mandates that prevent securing significant reductions in food waste. Other orders of government must be involved. The National Zero Waste Council has identified four important areas for policy development.

1a Establish a national food waste reduction target

Establishing a national target for reducing food waste provides a common, measurable objective to drive actions by all levels of governments, businesses and NGOs. A national target of 50% food waste reduction by 2030 would align with the U.S. target. This would reflect that a significant portion of the food Canadians eat comes from the U.S., and that harmonization of the two targets would benefit food companies operating on both sides of the border. A food waste reduction target would elevate the awareness of the issue, demonstrate the commitment to act, and serve as a rallying point for public and private sector strategies and initiatives.

A national food waste target would support actions to achieve Canada's national 2030 GHG reduction target. Unfortunately, outstanding data gaps, both in the amount of food waste and the GHG emissions associated with food waste, prevent precise calculations of the savings. Developing better data and benchmarks will be important moving forward.

The National Zero Waste Council will be using its relationships across governments, businesses and NGOs to support a national dialogue among stakeholders on the importance of a national food waste reduction target and how to best deliver on it through actions across the food chain.

1b Stimulate increased donations of food to charities through a tax incentive

Ensuring that nutritious food is diverted from landfills and is directed to food banks and other charities who contribute to community resiliency is a critical component of a suite of policies to reduce food waste. In many countries, including the US and Britain, food donations are instrumental in helping deliver on food waste targets. To provide the social benefits desired, tax receipts are issued only for the donation of safe, healthy, nutritious food.

Most businesses need an incentive to donate rather than dispose food, because food retailers and food service providers incur additional costs associated with sorting, storage, and transport of donated food. A tax incentive that allows businesses to offset some of these additional expenses could increase the volumes of nutritious foods diverted from composting or the landfill, and directed instead to programs for increasing community resiliency in the face of increasingly volatile local and global food markets.

Businesses are seeking a policy signal, along with clear guidance on health, safety and brand risk protection, to create the internal processes and partnerships with food banks and charities required for

an effective food donation programs. Local governments across Canada already see the importance of a federal tax incentive and nineteen have passed a resolution to support it.¹⁵

Complementary agricultural tax incentives already exist for farmers in three provinces. Expansion of these tax incentive programs across Canada is important to ensure that nutritious food is diverted to those who need it and to avoid the GHG emissions associated with plowing food under on the farm.

The National Zero Waste Council will work to advance the tax credit by continuing to communicate and support champions in support of the policy, support donors and receiving agencies with co-developed materials, and to work with charities and local community organizations to help identify and respond to their barriers to receiving more nutritious foods.

Beyond the tax credit, the NZWC will identify and promote additional donation policy opportunities that encourage rescuing food destined for the landfill and eliminating its GHG contributions.

1c Reduce confusion over “best before”, “use by”, “sell by” and “expiry” dates

Buttressing policies and practices that support food donations is clarity on “best before” and food expiry dates. The Canadian Food and Inspection Agency has a clear role to play in establishing labelling policies that protect consumer health while limiting food waste.

The CFIA is already undergoing a review of food labelling requirements. However, as one of the consulted stakeholders, the National Zero Waste Council is unclear as to the new direction that the CFIA is taking, and whether it will align with policy changes taking place in other jurisdictions where leaders are looking to simultaneously deliver on food waste prevention and consumer health protection. The federal government, through the CFIA, can ensure that policy changes with respect to food date labelling will align with proposed changes in the US Food Date Labelling Act and similar legislation in the EU, and that consumer confusion leading to unnecessary disposal of perfectly edible and safe food is reduced.

The National Zero Waste Council will assist in consumer and business education efforts around “best before” dates and contributing to clear communication that explains how best to understand and work with this information.

1d Implement local organics disposal bans

Methane emissions from the decay of organic materials in landfills account for approximately four per cent of Canada’s GHG inventory.¹⁶ Based on an analysis of the solid waste streams in the Metro Vancouver region, of all the food waste disposed by consumers, approximately half could have been eaten. About one third of this avoidable food waste is disposed directly in the garbage, rather than into “green bins” for composting, and this represents a very significant opportunity for GHG reductions.

Strategies to reduce the waste of food, such as the tax incentive for food donations, and consumer campaigns to change individual behaviour will reduce the volume of food delivered to landfills and the

¹⁵ <http://www.nzwc.ca/food/tax-incentive/Pages/default.aspx>

¹⁶ National Inventory Report 1990-2014: Greenhouse Gas Sources and Sinks in Canada. Available at: <https://www.ec.gc.ca/ges-ghg/default.asp?lang=En&n=662F9C56-1>

associated emissions. However, these strategies will take time to deliver results, and cannot be expected to completely eliminate the disposal of food, as some food waste (such as egg shells, banana peels and other food trimmings) is unavoidable. For this reason, a critical component of a climate change strategy is a ban on disposing food scraps in landfills.

Landfill bans, along with consumer and business engagement plans to build awareness and encourage new behaviours, have been implemented in several Canadian cities and regions, and the Province of Quebec is considering a province-wide ban by 2020. The result of established bans has been a dramatic reduction in food disposal in landfills, and the growth of new businesses and technologies that turn food scraps into compost, bioenergy and high-quality animal feed.

These revenue-generating businesses reduce the costs of waste disposal for local governments, institutions and businesses, and create valuable products. For instance, anaerobic digesters accept food waste at a lower cost than do landfills, and they create both compost and methane that can be substituted for natural gas. From a climate perspective they not only eliminate the emissions that food waste would have created in a landfill, they also generate energy that can offset the need for fossil fuel development, and provide a soil amendment that can return fertility to degraded soils and reduce the need for some chemical fertilizers. In certain circumstances, the application of compost may help with adaptation to the changing climate in urban areas. For example, using compost to restore top soils degraded by development can improve rainwater retention and support vegetation growth, and may reduce erosion adjacent to waterways. Using compost for mine reclamation may also be recognized as a carbon storage or “sequestration” approach.

To encourage the implementation of organics disposal bans across Canada, the NZWC will:

- Provide online information supporting the introduction of organic disposal bans at both the local and provincial levels, including support for the creation of large-scale, industrial composting facilities and anaerobic digesters, and the eligibility for federal funds for these projects;
- Provide outreach and education, through webinars and other means, to other local governments and key industry stakeholders such as waste haulers on best practices in regards to the design and implementation of organics disposal bans and the recovery of nutrients and energy from food waste;
- Provide downloadable communications materials with proven success in encouraging the separation of food scraps from garbage for all community sectors, including schools, apartments, restaurants, other businesses and institutions;
- Provide online recognition and support for food waste diversion to piggeries and facilities producing animal feed.

2. Innovation in Techniques, Technology and Community Infrastructure

Preventing food waste throughout the supply chain – from processing to final waste diversion from landfill – presents a wide-range of opportunities in technology innovation. Research and development as well as investment in new technologies is already being led by Canadian start-ups, established businesses, and business associations who see food waste as a huge waste of revenue. The development of new technologies that reduce food waste and GHG emissions while increasing profit margins will help position Canada as an innovation leader. This is another opportunity for the federal government to play a leadership role by providing seed money to stimulate investment in technology and community infrastructure that will lead to a reduction in food waste.

2a Stimulate innovation in techniques that reduces food waste

Some innovative businesses in Canada are developing techniques that will reduce food waste. For instance, innovation in nanotechnology that prolongs the shelf life of food or food freshness is being developed. Other businesses are already working on innovation in food-sorting infrastructure, such as Hyperspectral Chemical Imaging, that helps reduce spoilage of food. While research is being driven by the business sector, the federal government can ensure this kind of innovation is supported by eligibility categories in the Natural Sciences and Engineering Research Council (NSERC) and other industrial and academic partnerships under Industry Canada.

The National Zero Waste Council will work with its members and supporters to host knowledge-transfer sessions that identify opportunities for new markets and re-sell opportunities, as well as innovative processing options for food off cuts and imperfect produce. The NZWC will host roundtables with industry and industry associations such as Provision Coalition, along with local government representatives, to make progress in this area.

2b Support for new and green technologies that enable efficient recovery of green energy and compost from organics

Landfill bans that direct food waste from garbage to the composting and anaerobic digestion are an extremely important policy tool to reduce greenhouse gas emissions (see 1D above). However, these facilities are capital intensive, and could be beyond the reach of many municipalities. Continued federal support for the construction and operation of composting and anaerobic digestion (biofuel) facilities is needed. The Federation of Canadian Municipalities' Green Municipal Fund currently provides local governments financial support interested in building public composting facilities and this will need to continue.

Other opportunities include working with organizations like the Solid Waste Association of North America and the Compost Council of Canada, academic institutions such as the University of British Columbia and the Environmental Research and Education Foundation (EREF) in Ontario to undertake applied research to develop new technologies for recovering materials and energy from organics. Again, there is a role for the federal government to invest in research and development, but also in facilitating partnerships around clean technology innovation that targets food waste and GHG capture and transforms it into a green energy source.

2c Facilitate increased donations of food to charities by encouraging investments in necessary infrastructure

Some of the technological innovation that is already emerging is not only transforming food processing and waste management infrastructure, it is also helping transform and make more robust community infrastructure within Canada. New applications and virtual platforms, like Flashfood and Ubifood, facilitate links with businesses and consumers or charities, and in doing so reduce food waste by preventing spoilage, and better support timely food recovery and rescue. Technological innovation in platforms that support ‘connector’ enterprises is increasingly in demand. The community benefits are many as the nutritious food that food banks and charities receive as a result of enabling communication technology is of greater quality and quantity. And the infrastructure supporting sharing and distribution no longer belongs only to food banks, but can be place-based, making best use of sharing economy advancements. Local food hubs, community fridges, as well as school meal programs can all better engage in food recovery and rescue if the right technology is in place. This kind of information technology will also facilitate the kind of connections required to address special dietary needs – for instance linking Muslim communities with available halal foods.

Good food rescue and recovery takes place when strong community infrastructure is present. Currently, in many circumstances the lack of cold storage and transportation prevents charities from receiving fresh nutritious foods. To address this barrier, the NZWC will help identify opportunities for receiving agencies to develop proposals for efficient, low emission, centralized cold storage facilities to hold donated perishable food for distribution. The Federal Government could provide private and community sector access to national infrastructure funds that would assist in the design and development of cutting edge, cold-chain storage. Support for design-to-build projects creates a market space for low-emission technological innovation while also enhancing the capacity of the community sector to receive donated food.

Using innovative SMART cold infrastructure technology in a “sharing city” approach to food recovery and rescue will contribute to the realization of social and environmental benefits from reducing food waste. By working with community organizations, food storage hubs can be created and GHG emissions reduced from refrigeration units in trucks, businesses and community sites. Shared food storage hubs in cities where a robust network of food processing, retailing and recovery takes place is part of a visionary technological shift taking place in some urban centres that helps better build connected communities. Innovation can be scaled up, ensuring that existing funding programs are protected and in some cases enhanced, and new partnerships across sectors are nurtured.

3. Public Engagement – Encouraging New Behaviours

With nearly half of food waste created at the consumer level, significant reductions in waste and the associated drop in greenhouse gases will require small but deliberate changes in the everyday life of Canadians. To achieve the results in this Strategy, Canadians will need to adopt new behaviours in two areas. First, to reduce wasted food – buying food that, for various reasons, never gets eaten – they will need new food purchasing, preparation and storage habits. Second, in order to ensure new investments in composting and bioenergy plants are successful, they will need to dispose of food scraps in compost bins, rather than the garbage.

3a Develop a national food waste reduction campaign aimed at consumers

A US estimate finds that Americans waste about a quarter of the food that they buy.¹⁷ The Value Chain Management Centre estimates that Canadian consumers spend \$14.6 billion on food that is wasted¹⁸. This waste increases families' food budgets, causes methane emissions from food rotting in landfills and, through the inefficient use of resources, generates additional GHG emissions through the entire food chain.

Communication campaigns to change behaviour have been developed in the US, with *Save the Food*¹⁹ and *Food, Too Good to Waste*²⁰; the UK, *Love Food Hate Waste*²¹ and Canada, also *Love Food Hate Waste*²². All conclude that the main causes of the waste are over purchasing, cooking portions that are too large while leaving unused leftovers, and inadequate storage practices. All campaigns include strategies to engage consumers in new habits to overcome these barriers.

The most successful to date has been the UK's Waste and Resources Action Program's *Love Food Hate Waste* campaign. Since its launch in 2007, avoidable household food waste has been cut by 21% over five years, saving UK consumers £13 billion.²³ The US and Canadian efforts have both been launched recently, and results have not yet been measured.

The US Environmental Protection Agency's food waste reduction toolkit, *Food, Too Good to Waste*, was used in targeted, one-month pilot projects in Honolulu and King County, Washington, and resulted in waste reductions of 20 and 28%.²⁴

Convincing people to change behaviour is challenging at the best of times, and particularly so for habits as personal and deeply ingrained as food purchasing and preparation. To be successful a national food waste reduction campaign needs several important elements:

- Wide advertising to gain attention and raise awareness,
- A convincing argument for change,

¹⁷ <https://www.nrdc.org/sites/default/files/wasted-food-IP.pdf>

¹⁸ <http://vcm-international.com/wp-content/uploads/2014/12/Food-Waste-in-Canada-27-Billion-Revisited-Dec-10-2014.pdf>

¹⁹ <http://savethefood.com/>

²⁰ <http://www.endfoodwaste.org/food-too-good-to-waste-by-the-epa.html>

²¹ <http://www.lovefoodhatewaste.com>

²² <http://www.lovefoodhatewaste.ca/Pages/default.aspx>

²³ <http://www.lovefoodhatewaste.com/content/facts-about-food-waste-1>

²⁴ http://westcoastclimateforum.com/sites/westcoastclimateforum/files/related_documents/pilotdescriptions.pdf

- A full suite of activities that are easy to access, understand and use to trigger new habits, and
- “Face-to-face” activities that engage consumers in making changes.

The National Zero Waste Council is developing a comprehensive campaign with all of these elements. It will leverage member and co-founder Metro Vancouver’s experience of its own regional *Love Food Hate Waste* campaign, which provides an array of activities designed to trigger new behaviours. In addition, both *Save the Food* and *Food, Too Good to Waste*, have similar sets of activities that could be used. The NZWC will work through its municipal partners to develop wide access to its materials.

To provide “face-to-face” activities, the NZWC is working with major grocery chains to look at options for point-of-purchase consumer engagement, and investigating opportunities to work with NGOs to activate their members. In the UK, the participation of grocery chains in engaging customers at the point of purchase was considered a critical success factor. The USEPA’s successful pilots were face-to-face efforts, such as in schools. Discussions are already underway with the US Natural Resources Defence Council and UK’s Waste and Resources Action Program on licensing agreements that support campaign activities.

Still missing from the campaign is a major partner capable of working on a national advertising campaign. We believe that the recent media attention to the global and national problem of food waste demonstrates the public salience of the topic. We are convinced that a national advertising campaign could gain strong attention, demonstrate a convincing argument for change, and tie directly to opportunities for action that would also be promoted by municipal, business and NGO partners.

A national advertising campaign demonstrating the connection between food waste and greenhouse gas reduction would send a positive message about climate change mitigation. There are no debates about the value of reducing food waste. While the primary purpose of the national campaign is to change consumer behaviour, it will also engage Canadians to play their part of a national effort to reduce greenhouse gases.

3b Provide educational materials to encourage the separation of food scraps from garbage

Organics bans are a necessary and powerful tool to remove food from landfills and encourage the introduction of composting and biofuel facilities. However, their success depends on individuals in their homes, businesses and institutions separating their food scraps from the garbage. When Metro Vancouver introduced its organics ban it accompanied the policy change with a broad advertising campaign to encourage the new behaviour.²⁵

In addition, to reduce confusion about how to recycle organic materials, Metro Vancouver developed signage to encourage consistency across the region. Seeing similar signage whether at work, school, or a common recycling room, helped reduce contamination and increase recycling rates.²⁶ The Metro Vancouver Organics Disposal Ban began in 2015, and the combination of public and private sector education with enforcement of the Ban increased the total amount of organics recycled by more than

²⁵ http://www.metrovancouver.org/media-room/media-releases/MediaReleases/2014-10-15-Food_isnt_garbage-Food_Scraps_Belong_in_your_Green_Bin.pdf#search=food%20isn%27t%20garbage

²⁶ <http://www.metrovancouver.org/services/solid-waste/recycling-signage-campaigns/recycling-signage-colours/Pages/default.aspx>

18% in its first year. Similarly, businesses and multifamily residential buildings with access to organics recycling programs was over 80% in 2016. This was only about 70% in 2015, and less than 25% in 2012.

The National Zero Waste Council will support municipalities who are considering introducing organics bans by providing all of these materials in a format where local governments, businesses or NGOs can download the materials and insert their own branding. In this way policy change will be encouraged and success facilitated.

3c Provide educational and communication materials supporting charitable giving of nutritious food

Increased charitable giving of safe and edible food is an important objective for countries leading on food waste reduction. Incentives to support charitable giving are found above under policy changes. However, to best support those policy changes, health authorities need to provide guidance to donors and receiving agencies on the best types of food to give, how to keep food safe during the donation process, and clarify donors' protection from liability risks, primarily through provincially-designed Good Samaritan Acts.

The BC Centre for Disease Control has produced donation guidelines that have been welcomed by both business and the charitable sector. As each province has a unique policy regime governing food safety and donor protection, similar guidelines need to be created for other provincial jurisdictions.

The NZWC is pursuing collaboration with health authorities in Ontario and Quebec, as well as select other provinces, to create provincially-specific donation guidelines.

In addition to producing a number of donation guidelines for businesses and the charitable sectors, the NZWC will also provide education and awareness-raising information and broker new relationships amongst businesses and communities, through webinars and workshops, on what to best donate, risk liability, and potential receiving agencies in local jurisdictions.

SUMMARY

The National Zero Waste Council is developing a comprehensive strategy to cut food waste that would significantly reduce greenhouse gas generation in Canada and provide an array of environmental, economic and social co-benefits. A partnership with the Government of Canada would dramatically improve the effectiveness of the Strategy. Federal involvement could include:

- Setting a national food waste reduction target;
- Stimulating increased donations of food to charities through a tax incentive;
- Through the CFIA, reducing confusion over “best before”, “use by”, “sell by” and “expiry” dates;
- Stimulating innovation in food-and-energy recovery technologies by ensuring their eligibility in existing research and development streams; and
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