



## REPORT FOR ACTION

### Sustainable Diets – Healthy Eating, Healthy Planet

**Date:** November 10, 2017

**To:** Board of Health

**From:** Medical Officer of Health

**Wards:** All

#### SUMMARY

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This report highlights the features of low-carbon diets that are good for health, result in lower emissions of greenhouse gases, and contribute to a more sustainable food system. It shows that Canadians overall eat more meat and fewer vegetables and fruits than is recommended for health. The production of meat, especially red meat, results in higher greenhouse gas emissions as compared to plant-based foods (vegetables, tubers, pulses, legumes, whole grains, and fruits). Moving towards diets that are more plant-based will benefit both health and the environment.

Specifically, it is important that environmental sustainability be incorporated as a guiding principle in the revised Canada's Food Guide and in the development of the national food policy, "A Food Policy for Canada". To support healthy, sustainable diets federal and provincial climate change adaptation and mitigation strategies should also consider access to healthy food for all populations and the promotion of sustainable food systems.

#### RECOMMENDATIONS

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The Medical Officer of Health recommends that:

1. The Board of Health request that the federal Minister of Health makes environmental sustainability a guiding principle in the revised Canada's Food Guide, including an emphasis on creating equitable and healthy food environments that promote nutritious, sustainable dietary patterns that are high in plant-based foods (vegetables, tubers, pulses, legumes, whole grains, fruits) to support Canada's effort to mitigate and increase resilience to climate change;
2. The Board of Health request that the federal Minister of Agriculture and Agri-Food makes adaptation and mitigation to climate change a central consideration across the food lifecycle (production, processing, distribution, storage, consumption, and waste disposal) in the development of "A Food Policy for Canada" to help ensure equitable access to nutritious, sustainable diets in Canada;

3. The Board of Health request that the federal and provincial Ministers of Environment and Climate Change include access to healthy food for all populations and the promotion of sustainable food systems in their climate change adaptation and mitigation strategies; and

4. The Board of Health forward this report and the attachment, Diets for a Cool Planet: Healthy, Sustainable Diets for Toronto, to the federal Minister of Health, federal Minister of Agriculture and Agri-Food, federal Minister of Environment and Climate Change, and provincial Minister of Environment and Climate Change.

## FINANCIAL IMPACT

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There is no financial impact resulting from the adoption of this report beyond what is in Toronto Public Health's 2017 budget.

## DECISION HISTORY

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At its meeting of June 29, 2015, the Board of Health adopted the *Climate Change and Health Strategy* which set out actions to better understand and respond to the health effects of climate change. Among these was the action to examine the promotion of sustainable diets that consider low-carbon strategies in the context of Toronto's diverse population. <http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2015.HL5.4>

At its meeting of July 4, 2016, the Board of Health adopted the report *Health Benefits of a Low-Carbon Future*. The report identified a shift in current diets to ones that are higher in vegetables and fruits, and lower in animal products as one of the actions that would benefit both climate and health.

<http://app.toronto.ca/tmmis/viewAgendaItemHistory.do?item=2016.HL13.4>

## COMMENTS

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### **Food production, processing, transportation and waste contribute to releases of greenhouse gases**

The way food is produced, how it is transported, the type of food that is eaten and the amount that is wasted results in emissions of greenhouse gases (GHG) that contribute to climate change. Globally, agriculture is estimated to contribute about 25 percent of total GHG emissions. The Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA) estimates that agriculture contributes 5 percent of Ontario's GHG emissions. This smaller proportion is because agriculture is a smaller part of Ontario's economy and it excludes food transportation emissions that are included in the global estimates. Studies that have looked at the lifecycle of food show that production contributes the most GHG emissions, about 80 percent. Transportation only contributes around 11 percent of emissions.<sup>1</sup> In addition, one third of all food produced is lost along the supply chain or wasted after purchase.<sup>2</sup>

The City of Toronto has committed to actions to mitigate climate change which include reducing emissions of GHG (for example, carbon dioxide, methane, and nitrous oxide). In July 2017, City Council unanimously approved "TransformTO: Climate Action for a Healthy, Equitable & Prosperous Toronto" that presents a set of long-term, low-carbon goals and a strategy to achieve them. It included a recommendation to explore consumption-based emissions that would include food-related GHG emission accounting. Toronto Public Health's reports *Climate Change and Health Strategy for Toronto* and *Health Benefits of a Low-Carbon Future* identified diets as an area to explore for improving health and reducing GHG emissions. This report highlights the links between climate and food, and the role of healthy sustainable diets in reducing GHG emissions. More information can be found in the report *Diets for a Cool Planet* (Attachment 1).

### **Climate change can have adverse impacts on food production and quality**

Climate change poses a significant risk to food production. GHG emissions negatively impact the quality and amount of food produced through changes in the environment where food is grown, including changes to soil, water, temperature, pollination and pests. Canada has already experienced severe weather, such as droughts, ice storms and excessive rainfall that have had a negative impact on food production. Such extreme weather events are expected to become more severe and more frequent. These weather events can also result in higher incidence of food- and water-borne diseases.

More frequent and severe extreme weather events could impact food processing, storage and distribution infrastructure. Toronto Public Health, in collaboration with the Environment and Energy Division, is conducting a climate change vulnerability assessment of the Toronto food system. Results of this assessment are expected to be available in 2018.

### **Sustainable diets are high in plant-based foods and low in meat**

Researchers have estimated the GHG emissions resulting from the production of different foods and for typical diets, including diets in Ontario. The foods we eat directly influence how much food and what type of food is produced, and thus directly affect emissions of GHG. Production of plant-based foods – such as vegetables, tubers, pulses, legumes, whole grains, seeds, nuts and fruits – result in much lower releases of GHG as compared to animal-based products. Among animal products, consumption of fish, dairy, poultry and pork have fewer associated emissions compared to red meat (beef, veal, mutton, goat and lamb). Sheep, goats and cattle produce a high amount of methane during digestion and require more water, land and energy to produce as compared to other foods. As such, diets that include red meats have a larger carbon footprint than diets that exclude such meats.

While there are opportunities to reduce GHG at the different stages of the food lifecycle, data show that even small changes in eating patterns could result in large reductions in GHG emissions by influencing the type and amount of food that is produced.<sup>3</sup>

## **The health of Torontonians would improve with more widespread adoption of sustainable diets**

Available information on food consumption in Canada and Toronto indicate that current dietary patterns are neither healthy nor sustainable. Toronto residents do not eat enough vegetables and fruit and a majority of people in Ontario have low intakes of fibre, calcium, magnesium and vitamin A, while consuming too much energy (calories) and sodium.<sup>4,5</sup> Meat intake is high in Canada and red meat represents around half of all meat choices.

For many people, shifting to more healthy and sustainable diets involves increasing consumption of plant-based foods and reducing consumption of meat. Increasing consumption of vegetables, tubers, pulses, legumes, whole grains, and fruits, and lowering meat consumption, as culturally appropriate, would contribute to improved nutritional health for Toronto residents. A balanced and varied diet that emphasizes plant-based foods is rich in key nutrients required to improve and maintain health, and reduces the risk of chronic disease. Plant-based proteins also tend to cost less than animal-based proteins. These changes in diets would help reduce GHG emissions and help achieve a low-carbon future. While this shift in diet is beneficial for healthy individuals, those with medical conditions should seek advice from a health care provider to determine what may be most appropriate to meet their needs.

### **Low-carbon is only one aspect of a sustainable diet**

While this report focuses on defining low-carbon diets, or those diets that result in fewer GHG emissions, the broader concept of sustainable diets includes many additional factors. The Food and Agriculture Organization defines sustainable diets as diets that are “protective and respectful of biodiversity and ecosystems, culturally acceptable, accessible, economically fair and affordable; nutritionally adequate, safe, and healthy; while optimizing natural and human resources.”<sup>6</sup>

Social, cultural and economic factors influence food choices. Healthy, sustainable diets are not necessarily diets with the lowest carbon footprint because other factors are taken into account when choosing what food to eat. Some of these factors include:

- **Organic agriculture:** Most assessments of GHG emissions from agriculture estimate that organic farming produces more GHG emissions than modern farming. However organic methods do contribute to sustainable agriculture by maintaining long-term soil health, promoting biodiversity, decreasing pollution and recycling materials and resources.
- **Buying local food:** While local foods are not necessarily low-carbon, buying local can result in lower GHG emissions if the food is in-season and grown with low energy inputs; local production also has economic, community and food system resiliency benefits.
- **Genetically modified organisms (GMOs):** Given that there is ongoing debate, it is unclear what, if any, role GMOs may have in meeting an increasing demand for food and adapting crops to a changing climate.
- **Cultural Appropriateness/Traditional Diets:** Many cultures and religions adhere to specific diets and many value consuming specific types of foods. The

promotion of sustainable diets needs to demonstrate respect for cultural, religious, and Indigenous traditions.

## **Promoting healthy, sustainable diets in Toronto**

Increasing awareness of the impact that dietary patterns have on climate change can promote a shift to healthy, sustainable diets among residents of Toronto. Despite the complexity of diets and climate change, dietary advice to the public must be simple, clear and consistent. Toronto Public Health already encourages higher consumption of vegetables and fruits, and a reduction in meat intake as part of healthy eating. Based on this work, Toronto Public Health staff will review nutrition resources and guidelines to ensure they support and promote sustainable diets. The Food Strategy, led by Toronto Public Health, promotes a healthy sustainable food system and facilitates a number of initiatives to reduce food waste and promote local production and access to healthy food.

The Environment & Energy Division, through its Live Green Toronto program, is developing an education campaign on many of the sustainability issues addressed in this report, including food waste, low-meat diets, and growing food at home. Solid Waste Management Services is developing a food waste reduction strategy as one component of the Long Term Waste Management Strategy.

## **Federal and provincial governments can support more widespread adoption of sustainable diets**

The Federal government is developing "A Food Policy for Canada" that will set a long-term vision for the health, environmental, social and economic goals related to food. To be effective this policy should address and ensure alignment of priorities across all stages of the food lifecycle from production to processing, distribution to storage, and consumption to waste disposal. Each part of the food system contributes to sustainability and is impacted by diets. The policy needs to provide the foundation for having a sustainable agricultural system, including sustainable diets, which will lead to healthy environments and healthy people and increased resilience and adaptation to climate change.

The food environments that people are exposed to do not always make the healthy choice the easy choice. A 'health in all policies' lens should be applied to the national food policy to ensure that this policy facilitates healthy food environments and equitable access to nutritious, sustainable food in the places that people live, work and play. Advocacy and engagement is required from multiple stakeholders to ensure that the national food policy takes into account the impact of climate change on food systems, the impact of eating patterns and food waste on climate change, and the impact of food environments on eating patterns.

Health Canada is also revising Canada's Food Guide. Proposed changes that were released in June 2017 during the Phase 2 stakeholder consultation align with the characteristics of healthy sustainable diets, particularly with greater emphasis on choosing plant-based foods. It is essential that this emphasis is maintained in the final Guide. Currently, the proposed changes identify environment as a "consideration" only.

Given the importance of a healthy environment for health, and the relationship between food and climate change, environmental sustainability should be made a "guiding principle". This will help ensure that new dietary guidance and resources for Canadian consumers promote dietary choices that support both human health and a healthy planet, and thus shift demand towards low-carbon diets.

The relationship between food and climate change is complex. The food system is vulnerable to the increased environmental stresses expected from a changing climate, while current food system practices, including eating patterns and food waste, are contributing to GHG emissions. The federal and provincial governments will need to coordinate their actions, build upon existing and forthcoming strategies, and integrate access to healthy food for all, promotion of sustainable food systems, and adoption of healthy sustainable diets as part of their climate change adaptation and mitigation strategies.

## **CONTACT**

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## **SIGNATURE**

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Dr. Eileen de Villa  
Medical Officer of Health

## **ATTACHMENTS**

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Attachment 1 - Diets for a Cool Planet: Healthy, Sustainable Diets for Toronto

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1 Weber, C. L., & Matthews, H. S. (2008). Food-miles and the relative climate impacts of food choices in the United States. *Environmental Science & Technology*, 42(10), 3508-3513.

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6 Burlingame, B. & Dernini, S. (eds.). (2012). Sustainable diets and biodiversity: Directions and solutions for policy, research and action. Proceedings of the International Scientific Symposium Biodiversity and Sustainable Diets United Against Hunger, 3–5 November 2010. Food and Agriculture Organization, Rome, Italy.