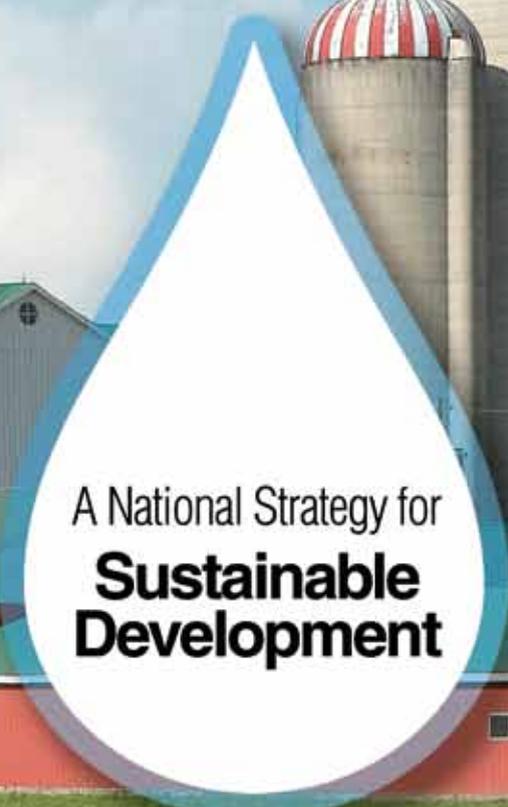




Dairy Farmers  
of Canada



A National Strategy for  
**Sustainable  
Development**

# Dairy Farmers of Canada: The Path to Sustainable Development

Canadian dairy farmers have long filled the role of environmental stewards. They manage the carbon cycle on their farms through the responsible use of fuel, fertilizers and electricity to clean their buildings, harvest their crops and milk their cows. Dairy farmers realize the importance of managing their resources well to operate efficiently, avoid costly losses of energy and nutrients while minimizing their impact on the environment.



**Dairy Farmers  
of Canada**

## **Our Vision for Sustainable Development:**

*Working within the context of a strong supply management system, Canadian dairy farmers will produce safe, nutritious food in an economically, socially and environmentally sustainable way to the benefit of Canadian society.*

## **Strategic objectives:**

- Reduce greenhouse gas emissions from dairy farms in Canada.
- Promote the efficient and sustainable management of natural resources on Canadian dairy farms.
- Benchmark the socio-economic performance of Canadian dairy farms.

**Climate  
Change**

A National Strategy for  
**Sustainable  
Development**

**Management  
of natural  
resources**

**Socio-Economic  
Performance**

### **Climate Change:** *Reduce greenhouse gas (GHG) emissions from Canadian dairy farms*

Canadian dairy farmers have participated in programs to mitigate the impact of dairy farming on the environment since the 90s. Stringent regulations exist federally and provincially to address the impact of agriculture on the environment. Through ongoing investment in research, dairy farmers collaborate to create science-based best management practices to increase their efficiency while reducing GHG emissions from farms.

Canadian dairy farmers are doing a good job but want to improve their track record on reducing emissions from farms. Dairy Farmers of Canada is partnering with Agriculture and Agri-Food Canada under the Canadian Agri-Science Clusters Initiative to invest in 13 research projects aimed at measuring emissions from dairy farms and more accurately identifying areas where best management practices can be applied. Better quality feed and cow nutrition, improved animal health, better management of farm nutrients and the development of new technologies that turn waste into energy will assist dairy farmers to meet their environmental objectives.

**ENVIROFACT:** *Carbon equivalent emissions from dairy farms have been reduced by over 25% between 1981 and 2006 as a result of efficiency gains made on farms. The trend shows a steady decline in GHG emissions from dairy farms of approximately 1% per year.*

### **Management of Natural Resources:** *Manage natural resources efficiently and sustainably*

Sustainable development aims to meet current economic and social needs and ensure future generations can also meet theirs. Dairy farms are located in every province in Canada. Many farms are multi-generational. To continue this tradition for future generations, dairy farmers carefully manage their farms' natural resources to ensure milk production is as efficient as possible. Part of the sustainability equation on a dairy farm means effectively managing soil, air and water quality.

**Soil** – Canadian dairy farms manage a unique combination of livestock and cropland requirements. Many dairy farmers grow their own feed and use on and off-farm nutrients to fertilize their soils. They apply best management practices like crop rotation, growing forages and no-till to improve soil quality, reduce GHG emissions and improve biodiversity. Dairy farmers invest in research on cropping systems and ways to capture carbon in soils on dairy farms.

**Air** – The way farmers collect, store and apply manure can impact air quality. Dairy Farmers of Canada is continuing to invest in research to improve air quality and reduce emissions from dairy barns and manure pits with technologies like biofiltration (natural process of aerobic degradation of air contaminants through bacterial oxidization).

Manure management systems and using best management practices to apply manure can improve air quality. Other technologies like anaerobic digestion (the process of degrading animal waste using microorganisms in the absence of oxygen to produce biogas) are also being developed.

**Water** – Canadian dairy farmers realize the importance of maintaining the safety of their production systems to protect water quality. The Canadian Quality Milk Program, an on-farm food safety system for milk production, promotes best practices to protect water sources from bacterial contamination. Practices include restricting cattle access to surface water and other natural areas; locating manure management systems in a way to prevent contamination of water; and creating buffer strips between land and waterways.

*Canadian dairy farmers are turning waste into energy through anaerobic digestion. Anaerobic digestion is a natural process that decomposes organic matter without oxygen. The process is similar to composting but occurs in specially constructed tanks called anaerobic digesters that prevent oxygen from entering the system. When the organic matter (manure) is broken down, it produces a methane-rich biogas and digestate (leftovers from the digestion process). The biogas is carbon neutral and transformed into renewable energy and the digestate is turned into fertilizer. The energy produced from certain biodigesters can provide enough electricity to heat and light as many as 300 households!*

### **Socio-economic Impact of Canadian Dairy Farms:** *Benchmark the socio-economic performance of Canadian dairy farms*

Canadian dairy farmers recognize the importance of minimizing their carbon footprint but also want to tackle the socio-economic aspects of sustainability. Dairy Farmers of Canada has commissioned research to carry out a full environmental and socio-economic Lifecycle Assessment (LCA) of milk production. The LCA is an internationally-recognized approach used to evaluate the environmental and social impacts of a product or service through its entire life cycle – from the time it is created to the time it is recycled or turned into landfill. The Canadian

dairy LCA result will provide important information on the dairy carbon footprint and the societal impacts of dairy farming. This will enable dairy farmers to identify areas for improvement and refine their practices.

**ENVIROFACT:** *Research has significantly contributed to improving our understanding of cows' needs, leading to improvements in efficiency for milk production in Canada. As a result, dairy farmers need less land and other resources, like water and fertilizers, to meet their production objectives. We need 50% fewer cows to produce enough milk for the Canadian population compared to 40 years ago. That means less methane and less manure, reducing greenhouse gas emissions from dairy farms.*

## **On the Right Path to Sustainability**

A strong supply management system in Canada has allowed dairy farmers to maintain economic stability – encouraging reinvestment in farms to be more efficient while mitigating impacts on the environment. The economic spin-offs in rural communities and society are widespread across the nation. Dairy farmers believe they are on the right path to maintaining a strong, viable and sustainable industry.

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*Nourishing a Sustainable Dairy Industry*

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