Measuring Progress: What the Canadian Chicken LCA and GHG Inventory Tell Us

Sustainability is a word that gets used a lot. For Canadian chicken farmers, it has a more practical meaning: producing safe, high-quality chicken while taking care of the land, the birds, the people on the farm, and the long-term viability of the business. That work has been going on for decades. What has changed is that we now have credible numbers to show where progress has been made and where the next opportunities lie.

In 2025, Chicken Farmers of Canada completed an update of its life cycle assessment, or LCA, and built the first greenhouse gas inventory for the sector. An on-farm survey of 226 producers rounded out the picture by capturing what farmers are doing and what they think the priorities should be. Together, these tools give the industry a clearer view of where it stands than ever before. This article will walk through what the results mean for individual producers and for the sector as a whole.

What an LCA actually measures

A life cycle assessment (LCA) looks at the environmental footprint of a product from start to finish. For Canadian chicken, the boundary runs from the production of feed ingredients in the field, through the hatchery and the broiler barn, to the gate of the meat processor. Everything in between counts: the diesel in the tractor that grew the corn, the propane heating the barn, the electricity running the processing line, the manure managed on farm. Results are reported per kilogram of eviscerated chicken, which lets the sector compare itself over time and against other proteins on a fair basis.

An LCA does not stop at carbon. It also looks at water, land use, acidification, eutrophication, and biodiversity. That matters because a change that helps one indicator can sometimes hurt another, and producers need the full picture to make sound decisions. The Canadian chicken LCA follows ISO 14040 and 14044 standards and was reviewed by an independent panel of experts. That review gives the numbers credibility with retailers, processors, and the public.

How a GHG inventory is different

The LCA tells you the intensity of impacts per kilogram. A greenhouse gas inventory tells you the total tonnes of emissions for the whole sector in a given year. Both are useful, and they answer different questions. Retailers and lenders are increasingly asking for inventory-style numbers because their own climate commitments are written in absolute terms.

Inventories sort emissions into three buckets. Scope 1 covers what burns or escapes on the farm itself, mostly natural gas and propane for barn heating. Scope 2 is the electricity bought from the grid. Scope 3 is everything else in the supply chain, from the carbon in purchased feed to the energy used at the processing plant. For Canadian chicken in 2023, Scope 3 represents about three-quarters of the total. That share will look familiar to anyone who has thought about where farm costs come from: the inputs you buy carry their own footprint with them.

WHAT THE NATIONAL RESULTS SHOW

The headline finding is that the carbon footprint of producing one kilogram of eviscerated Canadian chicken dropped by about 6 percent between 2016 and 2023, from 2.3 to 2.2 kilograms of CO2 equivalent. Progress was driven mainly by a better feed conversion ratio, which improved by roughly 7 percent nationally over the same period, and by changes in feed composition. Less feed per kilogram of meat means less of everything upstream: less crop production, less fertilizer, less transport. Reductions also showed up in freshwater eutrophication, acidification, and land use. The results highlight the continuous efforts Canadian chicken farmers are making to improve environmental sustainability. Through better feed efficiency and ongoing innovation in production practices, farmers have successfully reduced the carbon footprint of Canadian chicken while also lowering impacts on land use, acidification, and freshwater eutrophication. These results reflect a strong commitment across the sector to producing food more sustainably for Canadians.

At the sector level, Canadian chicken production accounted for about 2,974 kilotonnes of CO2 equivalent in 2023, or roughly 0.4 percent of Canada's total emissions. Feed and energy together drive most of that figure. Feed alone makes up about half of the cradle-to-gate impacts, while barn heating is the largest single contributor inside the broiler stage. Those two categories are also where the biggest improvement opportunities sit, which is why the next four articles focus on them in turn.

WHAT PRODUCERS THEMSELVES ARE DOING

The on-farm survey conducted in early 2025 added another layer to the analysis. The objective was to better understand the adoption of on-farm practices and perceptions of sustainability in the chicken farming sector. About 90 percent of respondents have already adopted efficient lighting, and close to 70 percent use some form of smart technology or automation in the barn. Half have improved their ventilation systems, and over 80 percent plan to do so in the next five years. There is also strong interest in feed additives and precision feeding, with more than half of producers using these approaches now or planning to within five years.

Producers were also clear about what gets in the way. Lack of budget was cited as the single biggest barrier to adopting new sustainability practices. When asked where they expect the sector to make the most progress over the next five years, respondents pointed to innovation and public trust. When asked what should be high on Chicken Farmers of Canada's agenda, the top answers were animal health and welfare, economic performance, and food safety, with strong support for more research and technical support.

WHERE THIS SERIES GOES FROM HERE

Numbers on a page do not change anything on their own. They become useful when they help producers, provincial organizations, and partners along the supply chain make better decisions.
Feed efficiency, feed choices, energy use in the barn, and manure and nutrient management all play an important role in reducing the environmental footprint of chicken production. Understanding these areas can also help producers demonstrate sustainability improvements in conversations with processors, lenders, policymakers, and the public.

The story these results tell is not one of dramatic transformation. It is one of steady, measurable improvement, built on the day-to-day decisions that have always defined good chicken farming. The next decade will bring more questions about the sector's environmental performance, not fewer. Having credible answers, grounded in evidence and shared openly, is how the industry holds its ground and keeps moving forward.