



THE ROAD TO
\$25 BILLION

Canada's Value-Added Journey to

Opportunity, Progress & Prosperity

in Ingredient Manufacturing & Food Processing

AN INITIATIVE OF
PROTEIN INDUSTRIES CANADA

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Bright Future Ahead

EXECUTIVE SUMMARY: A ROADMAP TO CANADA'S SUSTAINABLE FUTURE

The potential of ingredients, food and bio-based products in Canada rivals the transformative opportunity seen in the EV industry.

Just as EVs signify a sustainable evolution in transportation and an economic boon for Canada, so does ingredient manufacturing and food processing. The growth of Canada's ingredient manufacturing sector can offer economic prosperity, reduced emissions, a strengthened food supply chain and economic resilience, all in the face of a changing global landscape.

As a country, we must invest in sectors of the future. Ingredient manufacturing and food processing is one of them. By supporting the evolution of the agricultural sector from commodities to ingredients, food and bio-products, we will unlock a \$25 billion opportunity for Canada, supported by 17,000 jobs.

For sustained economic growth in Canada, it's imperative to champion innovation and support the growth of domestic enterprises.

For nearly a century, Canada has been a favoured trading partner and supplier of raw agricultural commodities. This legacy is both our strength and our constraint. Under our existing model, economic growth is incremental, relying largely on raising production and exporting these raw goods, a somewhat limiting proposition for economic value.

First, recent growing seasons have shown that increasing yields each year isn't always guaranteed, especially with unpredictable weather patterns causing more variations in production.

Second, over the past few years, challenges in transporting our commodities to the market—ranging from logistical issues to trade disputes—have hindered Canada's capacity to maximize the value of our commodities.

And third, when Canada sells a commodity, we sell the full seed and only once. This means the potential economic value vanishes as soon as the seed is on the boat.

In contrast, value-added processing allows us to manufacture, market and sell components of the seed—like starch, oil, fibre and protein—independently.

Building on the Government of Canada's investment of \$350 million into Protein Industries Canada, we can continue to ensure that the output from one processing stage can serve as the input for the next, perpetually adding value. Embracing this approach allows Canada to realize the seed's full component value by adding the economic activity and employment opportunities linked to its further processing and marketing.

Selling these individual seed components can enhance our economic returns up to fivefold compared to selling unprocessed commodities—including the addition of nearly 17,000 jobs nationwide. If overlooked, other nations will capitalize on this potential, possibly even selling us the finished products derived from our raw materials. Essentially, Canada risks forfeiting control over a prime, sustainable asset.

The time is now.

However, there's an alternative path forward. It's a route that drives transformative economic growth, maintains our legacy of an agricultural powerhouse, cements our role as a strategic trading partner, addresses global food security and ensures Canada's wealth generation and retention. This promising direction is rooted in domestic value-added processing, ingredient manufacturing, food production and bio-product development.

This can be our story of the future.



The path forward is clear. It's time to start the journey. Join us on The Road to \$25 Billion.

TABLE OF CONTENTS

- Executive Summary 1
- An Increasingly Hungry World..... 3
- A Head-On Response 5
- The Road Forward 7
- Our Value-Added Milestones 9
- This Is Where We Need To Be 11
- Staying Ahead of the Curve..... 14

An Increasingly Hungry World

It is an unpleasant truth that we are most likely on the brink of a global food shortage. After decades of surplus, we are ushering in a new era of geopolitical tensions, climate events and a growing global population. Countries around the world are grappling with how to produce more food within the realities of today's environment.

For Canada, this presents an opportunity. We should be a leader in a shifting global food system. However, decreased productivity, a lagging innovation economy and an increase in global competition has Canada fighting for a seat at the table.

It is time to shift gears in the way we convert our crops to ingredients, food and bio-based products.

Canada's productivity is declining. By almost every measure, we are falling behind our international counterparts. OECD data reveals that from 2000 to 2022, our productivity shrunk by nine per cent compared to the United States, standing at roughly 72 per cent of their productivity. Observing other countries optimize their potential is a wake-up call.

The current decline in productivity poses a significant threat to Canada's GDP growth, restraining future growth

and eroding our high standard of living. With chronic under investment in innovation, a decrease in Canadian-owned enterprises and a persistent shortage of skilled labour, notably in the manufacturing sectors, Canada is failing to build on industries that have the potential to create significant new economic growth. We must build on our advantages and fully leverage the potential of recent innovation investments to increase productivity and remain competitive as a country.

Our internal issues are compounded by having to navigate today's external realities.

Geopolitical tensions, climate change and heightened global competition are challenging Canada's ascent in the global food and ingredient domain. Just as our attention has been drawn to the transformative potential of EVs in addressing environmental and economic challenges, our agriculture and food sector, especially ingredient manufacturing, can do the same. Our goal is not only to enhance downstream food processing but also to support the transition to a future powered by renewable diesel, ethanol and a robust bio-based economy. Together, these sectors can propel Canada to the forefront of global sustainable innovation.

While our agricultural legacy is firmly anchored in commodity trade, resting on this legacy alone will not work. Respecting that the solution is complex and multi-faceted, the future demands evolution.

Our reliance on a commodity-based agricultural structure is restrictive and risky. The potential lies in amplifying Canada's stature as a global leader in the production of high-quality, high-protein crops and adding value to them locally by creating new high-value ingredients. The EV battery industry presented the same question—do we want to continue being an exporter of critical minerals? Or do we want to be a maker of high-value goods?

Our path is clear—it's time to seize the industry of the future.

In other words ...

Build an economy that recognizes the evolution of the global situation and that allows Canada to exploit our strengths and be resilient in the face of these factors.

Or continue to rely on others for many of our critical goods and products—and lose one of the largest opportunities ever presented to Canada.

2.5M **\$25 BILLION =**
METRIC TONNES
OF PROCESSING

A Head-On Response to Today's Challenges

HERE'S WHAT CANADA IS
UP AGAINST—AND WHY
THE ROAD TO \$25 BILLION
NEEDS TO BE BUILT NOW.



INCREASED GLOBAL COMPETITION

Countries are increasingly aggressive when it comes to creating their economic destiny. *The Inflation Reduction Act* and the creation of "Opportunity Zones" in the United States offer game-changing incentives. China is increasing their own ingredient and food production capacity. Australia is aggressively supporting capital investments.

Canada has a unique value proposition—which includes access to raw commodities, sustainable farming systems and the strength of our innovation economy. However, if we are to compete, government, at all levels, must recalibrate their approach and provide new incentives, placing more emphasis on the sector at every governmental level.



GEO-POLITICAL TENSIONS

Canadian raw agricultural commodities have long been at the mercy of tariff and non-tariff trade barriers. India's tariffs on Canadian pulses and China's halt on canola exports due to phytosanitary concerns resulted in billions of dollars in lost market and revenue. The Russia-Ukraine conflict has rendered 10 per cent of Ukraine's farmland unusable and disrupted commodity trade through the loss of key ports.

As global trade becomes increasingly more protectionist, we expect raw commodities to be more at risk for trade disruptions. However, ingredients, food and bio-based products are less vulnerable to tariff and non-tariff trade barriers. This is because by creating high-value products domestically, we offer a unique product (i.e., protein isolate) that cannot be as easily sourced as a commodity. This positions Canada and our products as more exclusive. So not only do we mitigate potential trade barriers, allowing the free flow of goods for a higher value product, we also capture more wealth at home before exporting.



POPULATION GROWTH

The increase in global numbers draws attention to a growing demand for food, particularly among the emerging middle class. These demands are further complicated by challenges such as unpredictable climate patterns, diminishing arable lands and geopolitical tensions, making the task of feeding the world increasingly complex.

In this evolving scenario, food systems are reshaping to serve dual goals: ensuring human well-being and safeguarding the planet. Amidst this transition, Canada finds itself at a crossroads. Many nations now view Canada primarily as a reservoir to enhance their own ingredient manufacturing strengths. This perception risks reducing Canada's stature from a pioneering force to a mere contributor in the global food chain.

By proactively steering our agricultural sector towards the next-gen transformation of crops into novel ingredients and diverse foods, Canada has the potential to redefine its global standing. Such a shift promises not just to harness the full economic potential of our crops but also to meet the global demand for food. This vision plants the seeds for future prosperity, lifting Canadians and setting a benchmark for global food security.



CLIMATE CHANGE

The increasing number of extreme weather events globally has led to more variability in crop production. The 2023 drought in Canada and weather events in Europe damaged crops of durum wheat leading to a 22-year low in supply to flour millers and food companies.*

More so, extreme weather events have added a new challenge in getting products to market. For example, heavy rain in British Columbia recently caused rail disruptions and impacted the flow of goods. Ingredients and other value-added products have more options for transportation, which means a steadier flow of Canadian goods through all available methods.

Canada's agriculture sector, centered on raw commodity production and shipment, is vulnerable to changes in weather. And as weather patterns become more unpredictable, the value of Canada's agriculture sector, based on the commodity trade, becomes more variable. Diversifying the sector and creating value in new products in Canada would help mitigate the risks related to downturns in commodity production or prices.

Ingredient manufacturing maximizes value, particularly in favourable global price conditions and provides protection against market downturns or price drops. Meanwhile, high-value ingredients present improved distribution options over whole seeds, minimizing transport-related risks.

*Source: <https://www.reuters.com/markets/commodities/high-pasta-prices-set-boil-over-canadas-wheat-witthers-2023-08-30/>



**\$25 BILLION =
NEW PROCESSING
PLANTS**

10-15

The Road Forward

INDUSTRIES EMBRACING CHANGE

As global dynamics evolve, our industries must change, too. Relying on past practices is no longer viable.

Canada can spearhead a transformative wave in the global food system. Expanding our capabilities in ingredient manufacturing, food processing, biofuel and other innovative sectors promises substantial economic growth, bolstered economic resilience and a surge in support for innovation-driven occupations. Intentional action is required to ensure Canada remains competitive in the changing global economy.

We need to capitalize on Canada's established success in commodity production.

Investing in the potential of food and bio-based products in Canada can create new economic avenues and cement our position as a competitive and resilient powerhouse for the coming generations.

BENEFITS ALONG THE ENTIRE VALUE CHAIN

It is clear how ingredient manufacturing can spur economic growth in the later stages of the value chain, but the benefits start right at the farm gate for Canadian producers. In addition to creating rural jobs and contributing to strong local economies, value added processing provides farmers with optionality. Additional markets lead to more competitive pricing and delivering to local markets reduces transportation costs, which can average up to \$45/tonne from the prairies to the port of Vancouver. These economic benefits are in addition to reducing the risk of tariff and tariff barriers and unforeseen transportation disruptions.

Our Value-Added Milestones

TOGETHER, WE CAN:

CREATE NEW ECONOMIC WEALTH FOR CANADA

Increasing domestic ingredient manufacturing will unleash the economic opportunity of Canada's commodities. It will expand our product offering and increase our available markets.



BRING NEW DEVELOPMENT TO LOCAL COMMUNITIES

To reach a \$25 billion industry for Canada we need to process an additional 2.5 million metric tonnes per year. This translates to 10 to 15 new processing plants across Canada and billions in new construction.



CREATE INNOVATION-BASED JOBS ACROSS CANADA

A \$25 billion ingredient processing industry requires 17,000 new jobs.



INSULATE CANADA FROM FURTHER GEO-POLITICAL TENSIONS

Ingredients, food and bio-based products, embedded within global supply chains, will better insulate Canada against tariff and non-tariff trade barriers and help create B2B strategic alliances.



PROVIDE MORE OPPORTUNITIES FOR FARMERS TO SELL THEIR CROPS CLOSER TO HOME

More processing plants in Canada will provide farmers with more options to sell their crops, including choices close to home, meaning a certainty of market, less risk related to trade barriers and fewer transportation disruptions.



LESSEN THE IMPACT OF EMISSIONS ON GLOBAL FOOD SYSTEMS

Plant-based foods as a part of global diets will help reduce emissions related to agriculture production and provide options for consumers. As well, the export of ingredients uses less energy for transport by shipping ingredients companies need versus the whole seed. This means we ship less air and only what companies want, resulting in less waste.



HELP SECURE CANADA'S FOOD SUPPLY CHAIN

With an increase in domestic processing, we will create a more reliant and secure food supply chain for Canadians, with options grown and processed here in Canada. Making our food more sustainable (less transportation and produced with the utmost care to the environment) will keep the cost of food down, too.



POSITION CANADA AS A LEADER IN THE GLOBAL FOOD SYSTEM SHIFT

As countries around the world grapple with the ever-increasing threat of food insecurity, Canada has an opportunity to be at the forefront of innovation and supply of high-quality ingredients and food, supporting the well-being of populations around the world, while creating new opportunities for Canadians.

This Is Where We Need To Be

WITH INGREDIENT MANUFACTURING, FOOD PROCESSING, BIOFUELS AND PROTEIN INNOVATION

It's an opportunity we simply can't pass by.

At best, if we don't change the road we're on, Canadians will be more exposed to variances in food prices. Farmers will remain limited in their selling options and at the mercy of geopolitical strife.

At worst, Canada's productivity will continue to decline, impacting our economy and eventually our quality of life. Canada will struggle to attract investment, to grow and scale our own companies and to remain competitive with other OECD countries.

Ingredient manufacturing, food processing and bio-products are industries of the future. They represent the needs of an evolving global population and consumers with different values and priorities. The need is only going to increase. Few countries have our potential. Making ingredient manufacturing and food processing a priority, we can contribute to a stronger, more productive and prosperous Canada.

Other countries are actively building out and cementing their ingredient

processing value chains as we debate the need.

The time to change the road we're on is right now.

HERE'S HOW WE'LL MAKE PROGRESS ON THE ROAD TO \$25 BILLION:

Focus on innovation and support the commercialization of IP.

One of the main drivers of Canada's decline in productivity is our lack of investment in research and innovation by both government and industry. General Expenditure on Research and Development (GERD) lags our G7 and OECD counterparts by an average of 40 per cent. In addition, in Canada, we disproportionately fund invention in favour of innovation and commercialization. The national flagship innovation program, the Strategic Innovation Fund (SIF), is underutilized by the agricultural sector.

As a sector we need to cooperate to ensure better utilization of existing programs and correcting the long-standing issue that, as a nation, we are "good at invention but lack innovation". Canada must consider:

- *Developing and implementing innovation programs tailored to the needs of the agrifood sector, such as improving the collaboration between the agrifood sector and SIF.*

- *Increasing overall federal and provincial support directly with the private sector to de-risk the commercialization of new technologies in value added agriculture.*

Create an enabling regulatory environment for plant-based food, feed and ingredients.

The rapidly changing food environment has created an urgency for jurisdictions to create an enabling regulatory environment; we need to keep pace with our competitors. We are capable of taking steps to support business growth within agriculture and agrifood sectors, while maintaining a food system that prioritizes health and safety. The federal government must prioritize the creation of an enabling regulatory environment by collaborating with domestic and international government agencies and support research that facilitates the application, creation and/or

modernization of regulations and policy that support Canada's ingredient manufacturing and food processing sectors and facilitates the transition to the bio economy. Canada must consider:

- *Ensuring the testing methods used to support protein labelling requirements are consistent with other jurisdictions and reflect the nutritional needs of Canadians.*
- *Creating efficiencies so the timelines of Canadian novel food regulations and policies align with that of other jurisdictions.*
- *Ensuring regulated nutritional requirements and mandatory fortification of simulated meat and poultry products in Canada are valid in context of Canadian dietary patterns.*
- *Expanding the utilization of emerging Canadian ingredients into profitable markets by seeking regulatory approval for new uses in high-volume regions (i.e., pet food in the U.S. market).*

Support the development of critical infrastructure.

The growth of Canada's ingredient manufacturing, food processing and bio-product sector requires increased access to critical infrastructure. This includes foundational infrastructure such as transportation (port infrastructure, intermodal transportation and cold chain), utilities and industry-specific infrastructure (research and development centres and scale-up facilities such as toll processing and co-manufacturing). When compared to other jurisdictions, Canada lacks the infrastructure and brownfield development opportunities, which is becoming a limiting factor when attracting FDI. Similarly, a lack of scale-up and toll processing facilities forces Canadian companies to look to other countries for those capacities, especially the United States. Canada must consider:

- *Continuing to implement the "Restart, Recover, and Reimagine Prosperity for all Canadians" recommendations for physical infrastructure including:*

- *With the support of the Canada Infrastructure Bank, drive nation-building projects by:*

- *Developing a strategic perspective on the highest productivity-enhancing infrastructure priorities for the country.*

- *Unlocking a pipeline of investable infrastructure projects by increasing the acceptability of user-pay models.*



More proactively incentivizing these projects to happen, including non-traditional asset classes.

Creating fast-track approval processes across all levels of government to increase the scale and velocity of investment.

- *Invest in strategic trade infrastructure that addresses critical bottlenecks (e.g., create gateways and corridors strategy for bulk commodities and containers).*
- *Coordinating across all levels of government to attract and incent private sector investment for the establishment of prairie-based infrastructure related to innovation, process scale up and toll processing of ingredients.*

Establish new markets for plant-based foods and ingredients.

A vibrant plant-based food and ingredient sector requires diverse markets domestically and, more importantly, internationally. For Canadians, the Canada Food Guide supports plant-based diets as they contribute to the health of Canadians and the environment. However, we know most of our ingredients and products are destined for overseas markets to help countries meet the needs of growing populations and their inability to produce enough food

on their own. The European Union and countries such as Singapore and South Korea offer great potential. Leveraging our trade agreements and Indo-Pacific Strategy to increase the export demand for our diverse and sustainably produced ingredients to support our trade and export goals. Canada must consider:

- *Coordinating across all levels of government to support market demand creation for Canadian-made plant-based ingredients and food products.*
- *Ensuring that ingredient manufacturing and food processing are considered as an important part of Canada's Indo-Pacific Strategy.*

Create new incentives and sources of capital to grow ingredient manufacturing in Canada.

Ingredient manufacturing is capital intensive; reaching the goal of a \$25 billion industry will necessitate the construction of 10 to 15 new processing facilities. It is expected that over the next decade, the industry will require \$6 to \$9 billion of capital investment for ingredient manufacturing alone. In addition, several jurisdictions are actively competing for investment and are offering game-changing incentives, including the United States through

The Inflation Reduction Act and the creation of Opportunity Zones and Australia through the Advanced Manufacturing Initiative. The combination of urgency and increasing global competition requires Canada to be both creative and aggressive in attracting capital investment. Canada must consider:

- *Using federal lending agencies to provide long-term patient capital into the ingredient manufacturing space, including consideration of a Developmental Fund to support ingredient manufacturing infrastructure.*
- *Completing an in-depth jurisdictional analysis on Canada's competitiveness on route to the development and implementation of a coordinated suite of globally competitive incentives that drive capital into the sector.*
- *Exploring additional mechanisms, such as flow through shares, to help de-risk private sector investment.*
- *Coordinating across all available resources including federal, provincial and regional investment attraction agencies to ensure our value proposition is well understood in key markets.*

Staying Ahead of the Curve

WITH A STRONGER WORKFORCE

Canada's ingredient manufacturing and food processing sector faces a pressing challenge: a shortage of skilled talent. This gap affects our growth and overall productivity.

Protein Industries Canada is spearheading this mission, collaborating with educational institutions and emphasizing inclusion for Indigenous Youth and New Canadians.

NAVIGATING THE CHALLENGES OF PEOPLE, SKILLS AND TALENT

To thrive, we'll need more chemical engineers, food scientists and expertise across the value chain.



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