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The atrophy of the Canadian manufacturing sector has gone too far

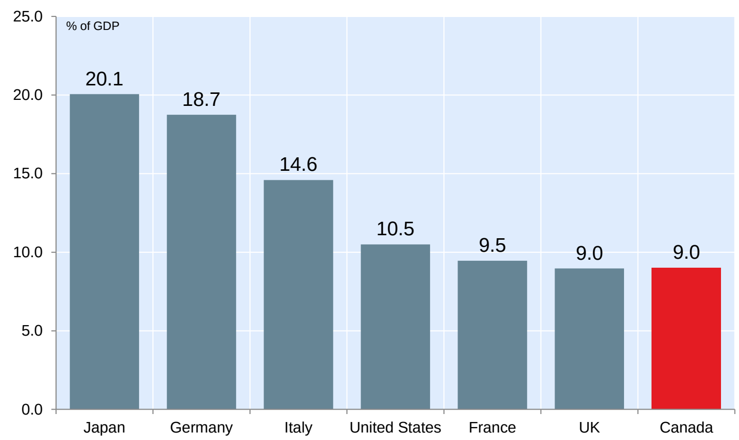
By Stéfane Marion & Ethan Currie

"Once manufacturing capabilities go away, so does much of the ability to innovate and compete"

Producing Prosperity: Why America needs a manufacturing renaissance

In an unpredictable world, maintaining a critical mass in manufacturing is essential for Canada's long-term resilience and ability to attract investment in both physical assets and research and development (R&D). In the current digital era, it seems that our policymakers fail to appreciate how critical domestically located manufacturing is for spurring innovation and productivity. Manufacturing often drives advancements in production processes, materials, and automation technologies. Unfortunately, Canada is a shadow of its former self when it comes to playing a key role in the G7 manufacturing chain. When world leaders gather in Alberta for the G7 Summit in June 2025, Canada will have the unfortunate distinction of having the smallest manufacturing sector among the member nations (chart).

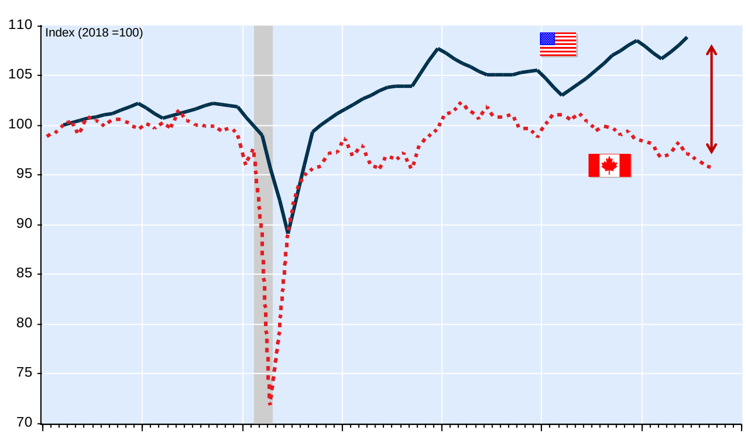
Canada: Smallest manufacturing in the G7
Manufacturing, Value-Added as % of GDP



*Note: 2024 data used for Canada and U.S. and 2020 data used for other countries
NBC Economics and Strategy (data via World Bank)

Some might argue that Canada's 9% manufacturing share of GDP isn't far off from the U.S.'s 10.5%, but the difference lies in how we got there. While the share of manufacturing in total GDP has been declining in both countries, the U.S. manufacturing sector has grown by 10% in real terms since 2018. In stark contrast, Canada's manufacturing sector has shrunk by 5% over the same period — a concerning indicator of economic erosion (chart).

Canada: Factory output down 5% from pre-Covid levels, while US up 10%
Real GDP in manufacturing: Canada and the U.S.



NBC Economics and Strategy (data via Statcan and Fred)

What's more, the decline has been broad-based, with no fewer than 15 of 18 manufacturing industries reporting negative growth during the same period (see table).

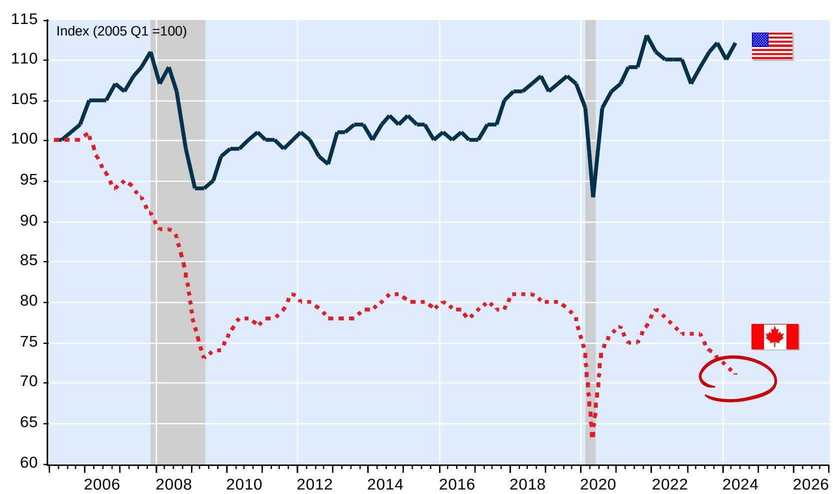
Canada: Widespread erosion
Change (%) in Real GDP by Sector / Subsector

Sector	Change
Printing and related support activities	-48.4%
Paper manufacturing	-19.6%
Beverage and tobacco product manufacturing	-15.9%
Textile, clothing and leather product manufacturing	-14.0%
Primary metal manufacturing	-13.6%
Transportation equipment manufacturing	-9.4%
Furniture and related product manufacturing	-8.6%
Wood product manufacturing	-6.9%
Petroleum and coal product manufacturing	-6.1%
All Manufacturing Sector	**-4.9%**
Chemical manufacturing	-4.2%
Fabricated metal product manufacturing	-3.1%
Plastics and rubber products manufacturing	-2.8%
Miscellaneous manufacturing	-1.9%
Non-metallic mineral product manufacturing	-1.1%
Electrical equipment, appliance and component manufacturing	-0.1%
Machinery manufacturing	4.7%
Computer and electronic product manufacturing	8.2%
All Sector (GDP)	**10.0%**
Food manufacturing	12.6%

*Note: Most Recent Data for Sep-2024. % Change Since Sep-2018
NBC Economics and Strategy (data via StatCan)

The atrophy of Canada's manufacturing sector becomes even more striking when viewed on a per-capita basis—a key proxy for our ability to meet domestic needs and build resilience against global supply chain disruptions. Since 2005, per-capita manufacturing output in our main trading partner has increased by 10%, while Canada's has contracted by 30% relative to its population (chart)!

Canada: This atrophy is concerning
Manufacturing GDP Per Capita



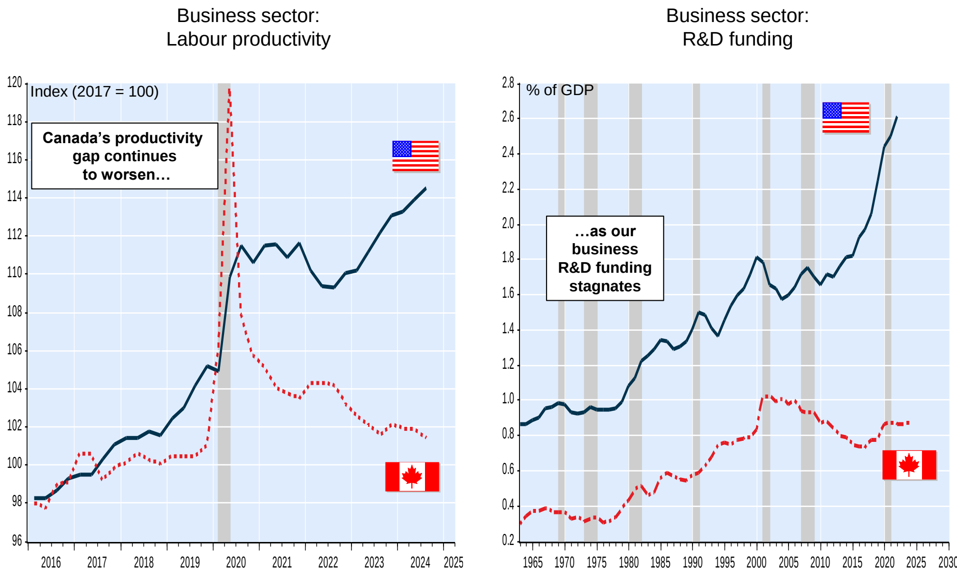
NBC Economics and Strategy (data via Statistics Canada, BEA and FRED)

This erosion has significant implications for Canada's productivity and standards of living. In their 2012 book, *Producing Prosperity: Why America Needs a Manufacturing Renaissance,* Harvard Business School professors Gary P. Pisano and Willy C. Shih argue that a decline in manufacturing leads to diminished innovation capacity and reduced competitiveness. They caution against the common assumption that countries can thrive as "innovators" without a robust manufacturing base, describing it as a perilous misconception. Supporting this view, the OECD highlights that manufacturing drives productivity growth more than any other sector, largely due to its critical role in technological diffusion and R&D intensity.[1]

[1] See OECD: **Reviving productivity growth: A review of policies**

The decline of Canada's manufacturing base may provide insight into the country's worsening productivity trends. Newly released data reveals that business sector productivity contracted at an annualized rate of 1.5% in Q3 2024—the third consecutive quarterly decline and the ninth drop in the past ten quarters. In stark contrast, U.S. productivity surged by 2.2% in the same period, marking eight consecutive quarters of growth. Adding to the concern, Statistics Canada recently reported that R&D spending remains lackluster, with the business sector allocating just 0.9% of GDP. Comparatively, this figure is 2.6% in the U.S., underscoring a significant gap in a factor widely recognized as a critical driver of productivity. In fact, the disparity in R&D spending between Canada and the U.S. has reached its widest point since 1963 (chart).

Canada: Addressing these gaps is imperative

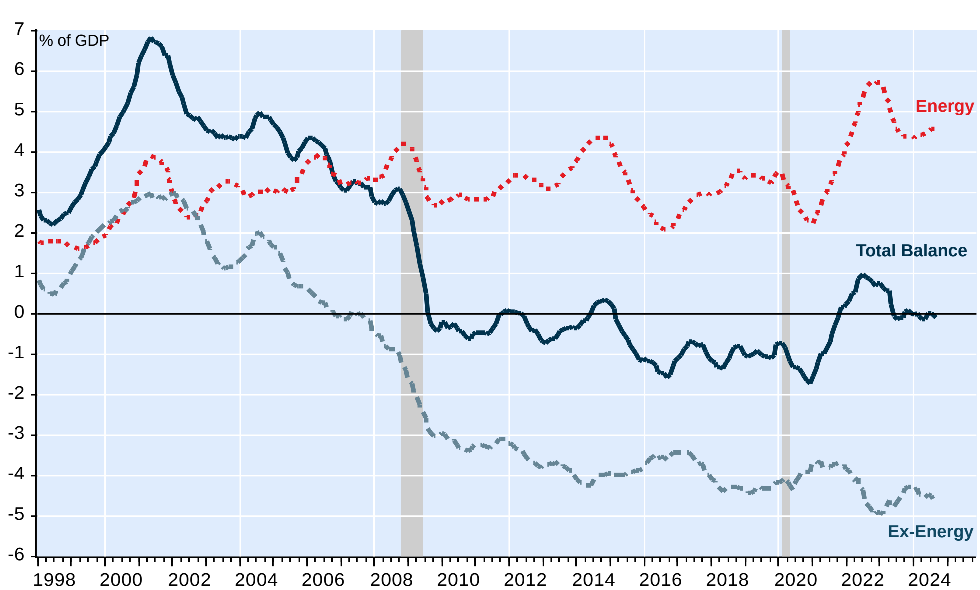


NBC Economics and Strategy (data via Statistics Canada, Bureau of Economic Analysis)

As Canada's manufacturing prowess diminishes, so does its credibility as a reliable partner within the OECD supply chain. Beyond energy, Canada has endured 16 consecutive years of trade deficits—an unprecedented trend that underscores the structural weaknesses in its trade portfolio. Without the support of its energy sector, the country's overall trade balance would plunge further into negative territory, revealing a critical reliance on resource exports to offset the decline in industrial competitiveness (chart).

Canada: As the manufacturing base goes, so goes the trade balance

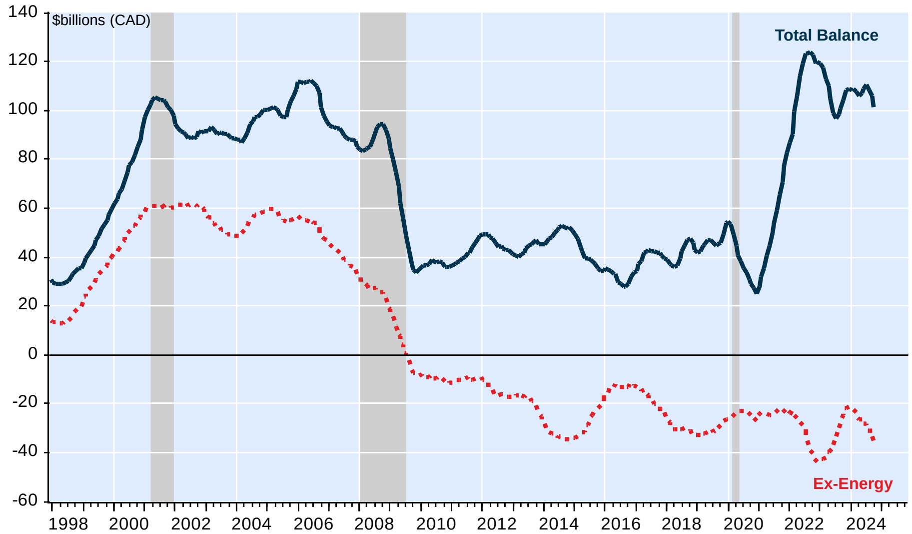
Global trade balance for good: Total and ex-energy balance



NBC Economics and Strategy (data via Statistics Canada)

The narrative is no different with Canada's largest trading partner. Over the past 12 months, Canada's $100 billion trade surplus with the U.S. (equivalent to 3.4% of GDP) has been entirely driven by energy exports. Strikingly, outside the energy sector, Canada's trade balance with the U.S. reveals an annual deficit of $40 billion (approximately 1% of GDP), highlighting the country's growing dependence on oil exports to sustain its trade position (chart).

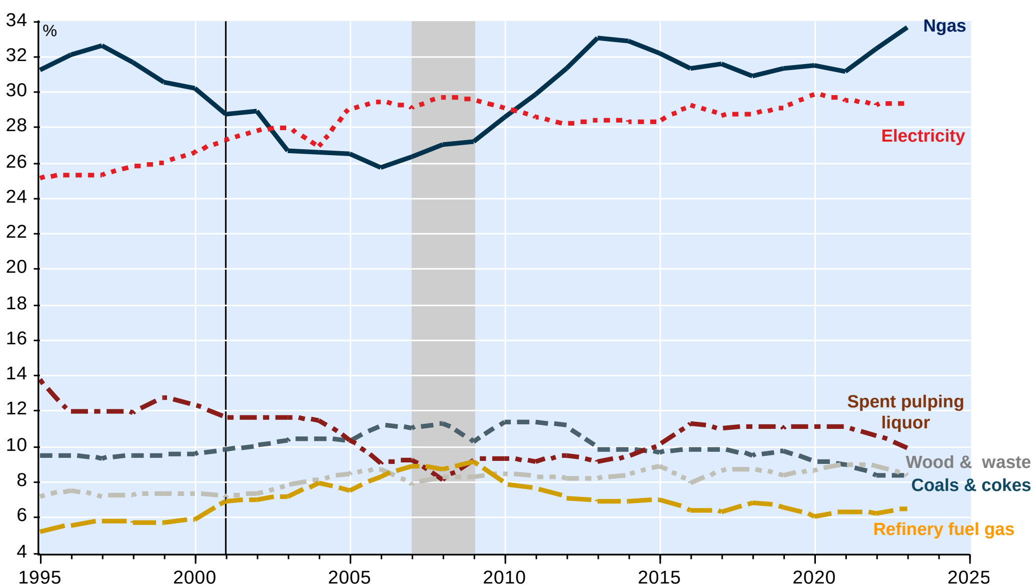
Canada: Trade surplus with US is all energy
Canada-US trade balance in goods: total and total excluding energy



NBC Economics and Strategy (data via Statistics Canada)

What's driving Canada's lackluster performance in manufacturing? Like other nations, manufacturing is an energy-intensive sector, with nearly 34% of its energy consumption coming from natural gas and 29% from electricity (chart). However, this dependence on energy should not be used as an excuse to neglect the development of the sector at a time when policymakers are pursuing ambitious decarbonization targets.

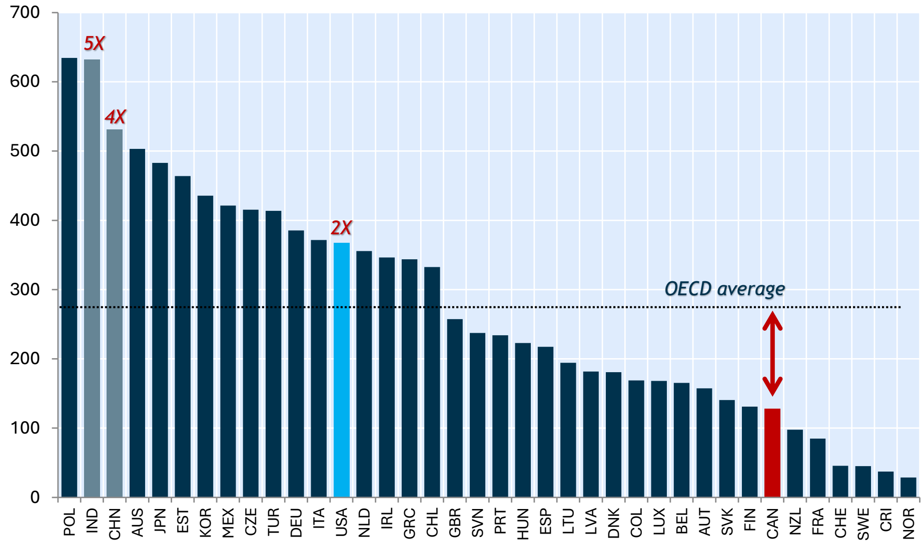
Canada: Manufacturing is energy intensive
Energy consumed by manufacturing sector



NBC Economics and Strategy (data via Statcan 25-10-0025-01)

In 2022, Canada's manufacturing sector accounted for approximately 6% of the nation's total greenhouse gas (GHG) emissions, compared to its GDP share of around 9%.[2] In contrast, the United States' manufacturing sector contributed 12% of its total emissions, exceeding its GDP share of about 10%.[3] This difference can be largely attributed to Canada's notably cleaner energy profile. Electricity generation in Canada is approximately 50% less CO_2-intensive than in the U.S., four times less than in China, and five times less than in India (chart). Additionally, Canada is recognized as one of the world's lowest emitting natural gas producers, further underscoring its advantage in sustainable energy practices.[4] There is a strong and compelling case for rebuilding Canada's manufacturing base domestically, given that production processes in Canada are more sustainable than those in most other countries worldwide.

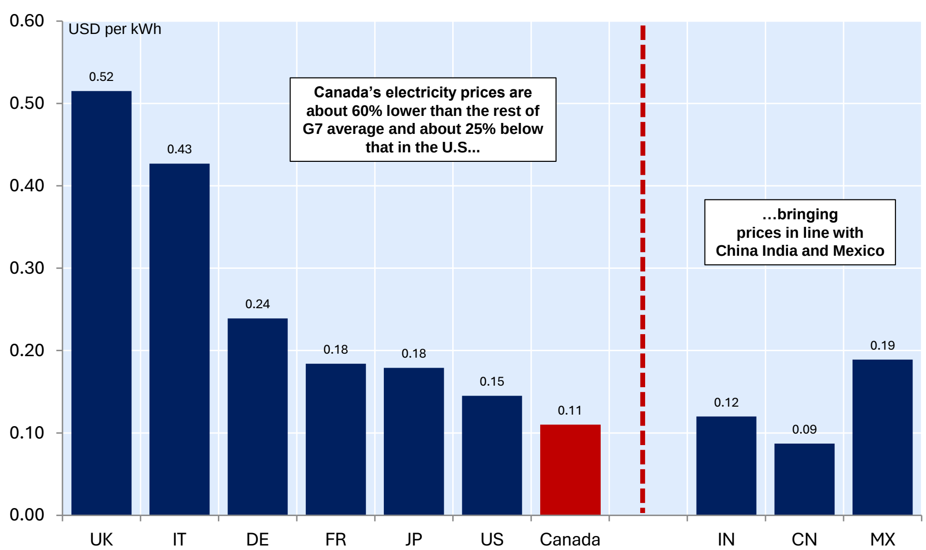
World: Canada's electricity grid is one of most resilient and cleanest
2022 carbon intensity of electricity (gCO2/kWh), OECD + China and India



NBF Economics & Strategy (data via Our World in Data)

Not only is Canada's energy cleaner than that of other jurisdictions, but it is also more cost-effective. Electricity prices for businesses in Canada are 60% lower than the average across the G7 and 25% lower than in the U.S. (chart).

Canada: Lowest electricity prices in the G7
Electricity prices in March 2024 for businesses (at market exchange rate)



NBF Economics and Strategy (data via GlobalPetrolPrices.com)

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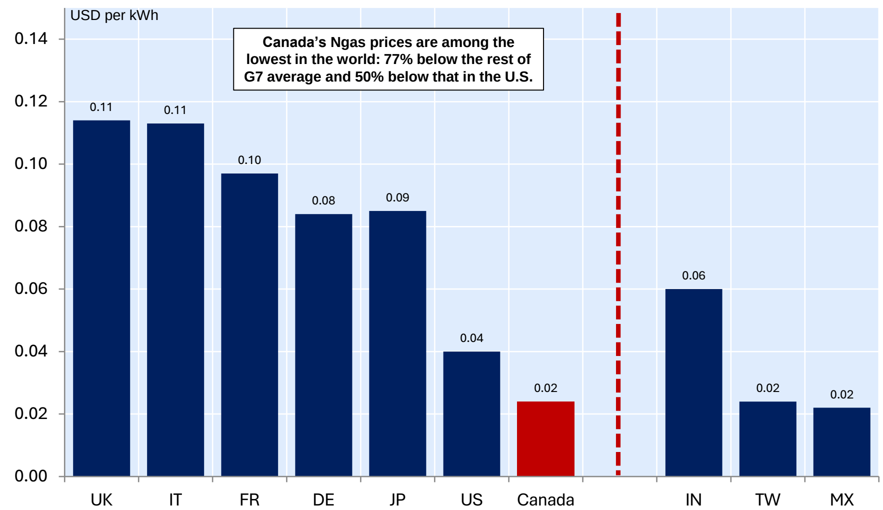
[2] See government of Canada: **"National inventory Report 1990-2022: GHG sources and sinks in Canada"**
[3] See CBO report: **"Emissions of Greenhouse Gases in the Manufacturing Sector"** (February 28, 2024)
[4] See NBF by Baltej Sidhu: **"Environmental, Social and Governance Canada Has a Vital Role in Deleveraging the Global Environmental Balance Sheet"**

When it comes to natural gas, the price advantage for Canadian businesses is even more striking. They enjoy access to some of the least expensive natural gas in the world—77% cheaper than the average across the G7 and 50% cheaper than in the U.S. While Taiwan's high-tech manufacturing sector, which produces 60% of the world's semiconductors, is often admired, few realize that this economic success has been heavily supported by substantial subsidies.[5] These subsidies ensure that Taiwanese businesses pay natural gas prices comparable to those in Canada, a major energy producer, despite Taiwan importing 98% of its energy requirements at a price that is considerably higher (chart).

Canada: Among the lowest Ngas prices in the world
Natural gas prices in March 2024 for businesses (at market exchange rate)



NBF Economics and Strategy (data via GlobalPetrolPrices.com)

Conclusion

The unprecedented decline of Canada's manufacturing sector stems from structural economic shifts, insufficient investment, inadequate policy support, and pressures—both competitive and uncompetitive—from global markets. Reversing this trend requires a coordinated effort centered on strategic industrial policies—including reforms to corporate taxes and regulations—that promote investment, workforce development, and the expansion of Canada's industrial base. Achieving a critical mass in manufacturing is not merely advantageous but essential for advancing R&D, ensuring long-term competitiveness, and bolstering economic resilience.

This priority is even more pressing as electricity becomes a critical competitive factor for reshoring manufacturing production and powering key infrastructure, such as industrial operations and AI data centers. These elements will define how swiftly economies can adapt to structural changes, leveraging more efficient feedback loops to enhance innovation and growth. A recently released IMF paper highlights that well-targeted industrial policies can address market failures and improve production efficiency by exploiting scale economies and internalizing knowledge spillovers. However, the success of such policies hinges not only on the amount of investment but also on their strategic allocation—focusing on the right priorities while avoiding costly missteps.[6]

While fostering manufacturing growth alongside sustainable energy solutions is essential, Canada must capitalize on its significant competitive advantage in affordable energy—particularly as many other economies grapple with energy insecurity. This becomes even more critical as Canada's global competitiveness continues to erode. Without decisive action, Canada risks becoming irrelevant in the North American and global manufacturing supply chains, along with its ability to drive innovation and sustained economic growth.

[5] Taiwan's industrial sector accounts for 56% of the country's total energy consumption, even though manufacturing accounts for 33% of GDP. See **"Why Taiwan and its Tech Industry are Facing an Energy Crisis"**.
[6] See **"Industrial Policy in Europe: A Single Market Perspective"** (December 2024).

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