

Which Comes First: The Wells or the Pipeline? Insights From the Last Oil Sands Boom

Canada's pipeline debate is a wells-or-pipeline-first dilemma: producers won't invest in growth without pipelines, and pipelines won't proceed without producer commitments. Past booms show the billions required and the risks of mismatched timing. Today, spending needed to just sustain output already consumes most capital expenditures. Who will finance the next wave of growth, and under what conditions?

Summary

- A hand up: On October 1st, 2025, the province of Alberta stepped forward as a lead sponsor for a 1 MMB/d pipeline to the northwest coast of BC.
- History's lessons: Past booms brought growth but also cost overruns, stranded barrels, and pipeline bottlenecks that cost producers billions.
- The scale of the challenge: Filling a new 1 MMB/d pipeline would take at least C\$100B in fresh investment over a decade, far above today's spend on growth. Where will the capital come from?

The Growth Stalemate

These days, there is a lot of talk about building export pipelines. Less discussed is the bigger question: how would the upstream industry fill these steel arteries with new oil production?

Pipelines, as instruments of geoeconomic ambition,¹ have reached the country's highest offices. On October 1st, 2025, Alberta Premier Danielle Smith announced the province will be sponsoring a new, one-million-barrel-a-day oil pipeline to the northwest coast of BC², urging fewer federal hurdles, engaging First Nations, seeding route studies and rallying private capital. It's a follow on to her words earlier in the year when she declared, "The world needs more Alberta oil and gas," calling for a doubling of the province's production.³ The prize for growing production and generating more export revenue is big for the Canadian economy.

Extracting, producing, and selling crude oil and natural gas is one of the country's largest industries. In 2025, top line revenue is estimated to reach C\$177 billion over 90% of which comes from oil sales. As such, the business is also one of the most lucrative contributors to public finances, with royalties and taxes expected to total C\$30.6 billion this year, not including indirect impacts to employment and GDP.

Prime Minister Mark Carney has anchored his stance in Bill C-5 and the new Major Projects Office, which has already put a liquefied natural gas (LNG) project on its initial list. For oil, he has signalled only conditional support. In May, he said, "It's time to build,"⁴ framing any major oil projects around carbon reduction and the need for industry sponsorship. In other words, upstream producers and their pipeline peers must bring forward projects that check multiple boxes — from economic viability to decarbonization plans to Indigenous participation, among other conditions — before Ottawa steps in.

But Alberta is stepping in first to help check those boxes, because exporting more oil remains a high-stakes stalemate, even within the industry. Pipeline companies won't sink billions without firm shipping commitments, while producers won't invest in output growth without certainty of new export capacity. And neither will do anything without federal regulatory reform.

In the absence of Alberta's pitch, it's a classic which-comes-first dilemma: the pipeline or the oil wells and facilities? Until one stakeholder makes the first move, the prospect of major new expansion remains uncertain. And neither pipe builders nor

¹ See Now You're Thinking Issue 001 - Gauging Canada's Energy Ambition, Studio.Energy, September 8, 2025

² Alberta to draw up proposal for new oil pipeline to B.C. coast by May; The Globe and Mail; October 1, 2025

³ Alberta Outlines Plan to Increase Oil Production; CPAC; January 6, 2025

⁴ Build, baby, build': Five things Carney has pledged to do as Canadian PM; BBC; May 2, 2025

producers are likely to step forward until the historical script changes.

A Movie Seen Before

When talking about the odds of building a pipeline, at the Studio we often say, “We’ve seen this movie before.”

Over the past two decades, Canada experienced a wave of oil production growth as oil sands megaprojects came online. The early 2010s were a period of remarkable expansion but also hard lessons. Multiple facilities were built at once, straining labour markets, driving up material costs, and creating inflation, delays, and ultimately shareholder frustration. When those projects finally started producing mid-decade, the pipes to move the oil to export markets weren’t ready. The result: nearly 15 years of bottlenecks, with recurring price discounts that forfeited an estimated US\$49 billion from upstream revenue.⁵

In large part that history explains today’s hesitation for upstream corporations and their investors to propose any new, greenfield drilling and production facilities. With memories of cost overruns, stranded barrels, and billions in lost revenue still fresh, few in the industry are eager to sponsor the next big push if the movie risks ending the same way.

Pipeline-building history has only deepened those doubts. Keystone XL was cancelled after years of political battles on both sides of the Canada-US border. Northern Gateway was approved in 2014 with 209 conditions, only to have its approval overturned politically in 2016. The 2019 Oil Tanker Moratorium Act (Bill C-48) ensured that any new pipeline to northern BC was effectively a brick wall to tidewater. And the Trans Mountain Expansion to Burnaby, though completed in May 2024, came billions over budget and more than a decade behind schedule due in large part to regulatory and court challenges.

In short, producers have learned that betting on pipelines risks losing billions, while pipeline

companies have learned that enduring Canada’s drawn-out approvals gauntlet is no less punishing.

That is why today’s debate carries the weight of a bad movie replayed too many times. If Canada’s upstream oil and gas industry is to add another one million barrels per day of output as the province of Alberta is proposing, the challenge will be not only to align capital, labour, regulatory processes, emissions reductions, Indigenous participation, and competitive viability, but to do so with assurance that pipeline capacity will be there to match production volumes destined to high-value markets — avoiding a rerun of the past.

But that’s the full story arc. For now, let’s take a barrel-half-full view and assume that a new pipeline plus announced expansions for up to 1.5 million barrels per day (MMB/d) is coming online. *How much upstream capital investment would it take to develop and produce enough oil to fill those steel arteries?*

The Ghost of Oil Sands' Growth Past

In the early 2000s, tight global supplies and rising fears of “peak oil” — the belief that aging fields could not keep up with surging demand — drove commodity prices higher. The price signal was heard, and capital investment quickly followed, flowing into exploration and development projects worldwide.

Alberta’s oil sands, holding 166 billion barrels of proven reserves, became a darling for that wave of investment. Over C\$227 billion poured in over a decade, much of it from foreign multinationals. The region went through two booms: 2005 to 2008 and 2010 to 2014, interrupted only by the Financial Crisis. These surges of capital financed greenfield mines and steam-assisted gravity drainage (SAGD) projects, plus peripheral infrastructure like roads and airfields. Although these investment booms have long passed, the foundations laid during that era still underpin ongoing brownfield production growth in smaller increments.

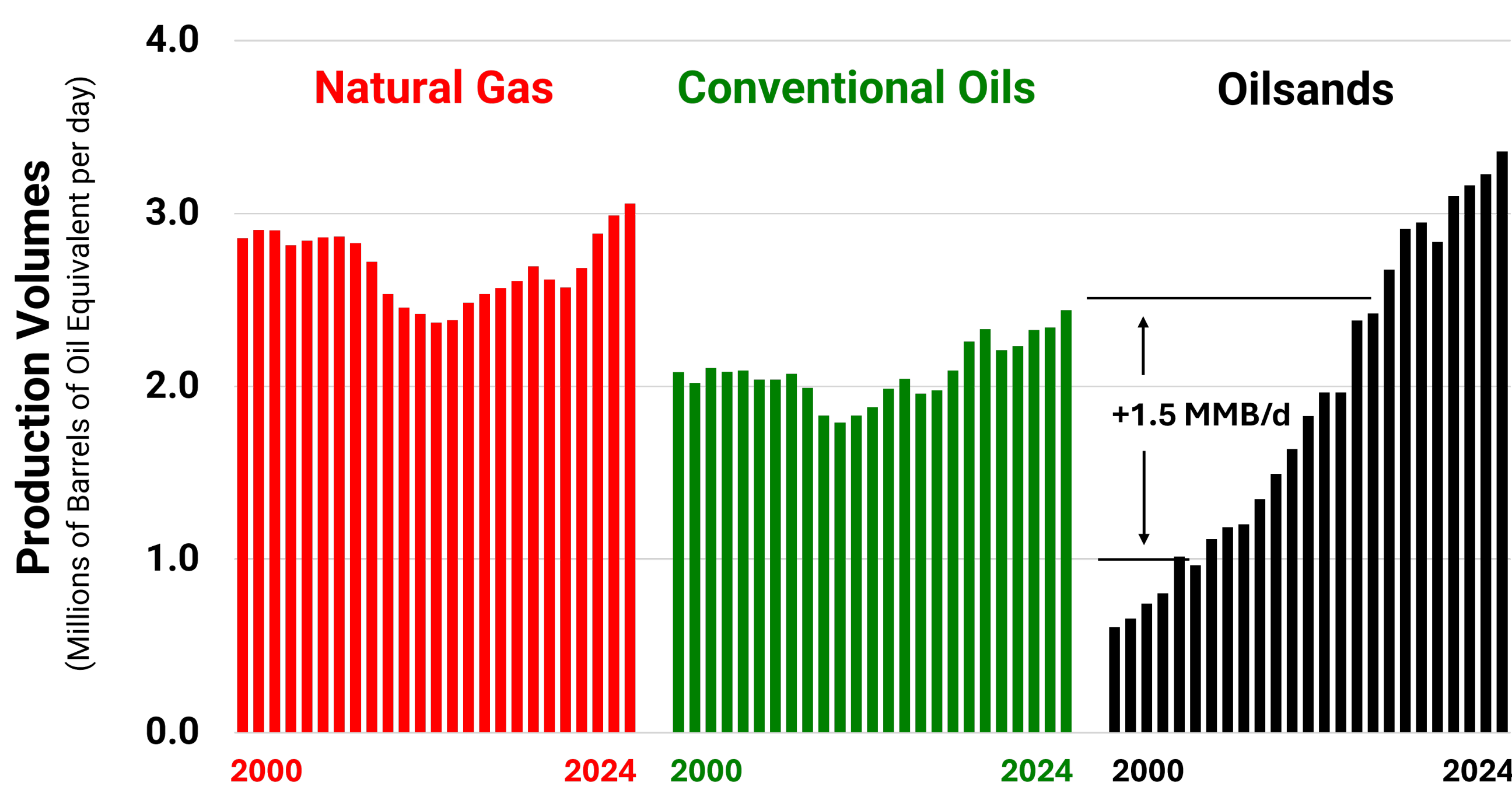
The result of the historical investment surge was

⁵ See Now You’re Thinking [Issue 003 — The Cost of Being a Market Hostage](#); Studio.Energy; September 8, 2025.

transformative. Over two decades, Canada's oil output nearly doubled — from 3.0 MMB/d in 2005 to 5.8 MMB/d in 2024. As the Canadian Oil and Gas Production chart shows, with conventional oil output only rising mildly; the oil sands provided virtually all that growth.

Notably, the chart also shows that it took over a decade for oil sands output to grow by 1.5 MMB/d between 2005 and 2016. Past dollar amounts and resultant volume increases serve as benchmarks—a prologue—for considering future growth to fill new pipeline expansions.

Canadian Oil and Gas Production By Type | 2000 - 2024



Sources: Canadian Energy Regulator; Studio.Energy

How Much Capital Will It Take?

Filling a new pipeline is not just an engineering challenge but a financing one. Let's take a closer look at that past C\$227 billion of investment.

With a smaller base of production in the 2010s, three-quarters of that investment — about C\$174 billion — went into growth CAPEX (upper black bars in the chart to the right) that directly added new barrels, rather than sustaining CAPEX to keep existing output from declining (lower gray bars).

The lesson is simple: as production grows, so does the dollar burden of sustaining the production base. In 2005, sustaining capital was only about C\$3 billion. By 2025, it more than tripled to about C\$11 billion. In other words, the first C\$11 billion of the industry's cash flow today must be reinvested merely to hold

output steady. Growth happens only if spending rises above that threshold.

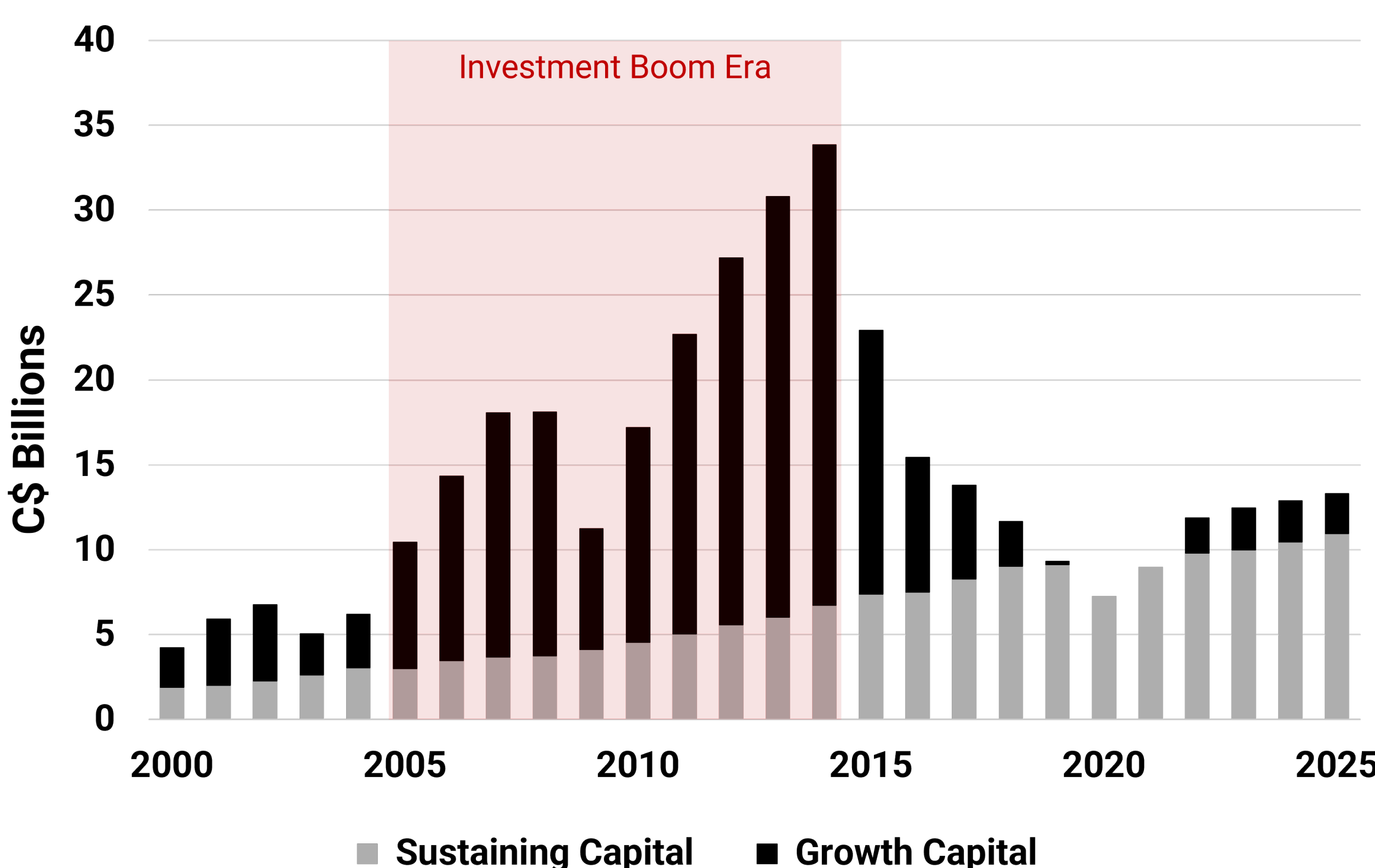
In 2025, total investment into only the oil sands is estimated to be C\$13 billion a year. At the moment, that's leaving only a narrow wedge of just over \$2 billion for incremental growth, in the absence of new investment.⁶

Over the past 10 years, oil sands producers have become adept at optimization and debottlenecking, adding incremental barrels at lower cost. But big step-ups in volume, certainly above 1 MMB/d, would require a return to greenfield projects likely with higher capital costs than in prior years.

In today's math, filling 1.0 to 1.5 MMB/d of additional pipeline capacity would take roughly a decade of sustained additions — many 30 to 100 thousand barrels per day (kb/d) projects advancing. The rough capital requirement would be at least C\$100B to fill and sustain flows in a big pipe. If a decade is the target, the cadence would need to mirror the last growth cycle, when a surge of capital drove steady builds and expansions.

But unlike that era, today's upstream industry would have to hold inflation in check, manage labour constraints, ensure Indigenous participation, reduce emissions intensity, and satisfy investors, who are increasingly drawn to darling tech sectors such as AI.

Upstream Capital Investments Into the Oil Sands 2000 - 2025E



Source: Studio.Energy

⁶ Canadian Oil and Gas Economic Model, Studio.Energy, 2025

The Repatriation of the Oil Sands

A defining feature of the oil sands boom years was foreign balance-sheet support. US, European, and Asian supermajors bankrolled Canada's multibillion-dollar projects, viewing the oil sands as a rare combination of scale, stability, and security. The chart below highlights the multinational investor base that underpinned the 2005–2014 surge in oil sands CAPEX.

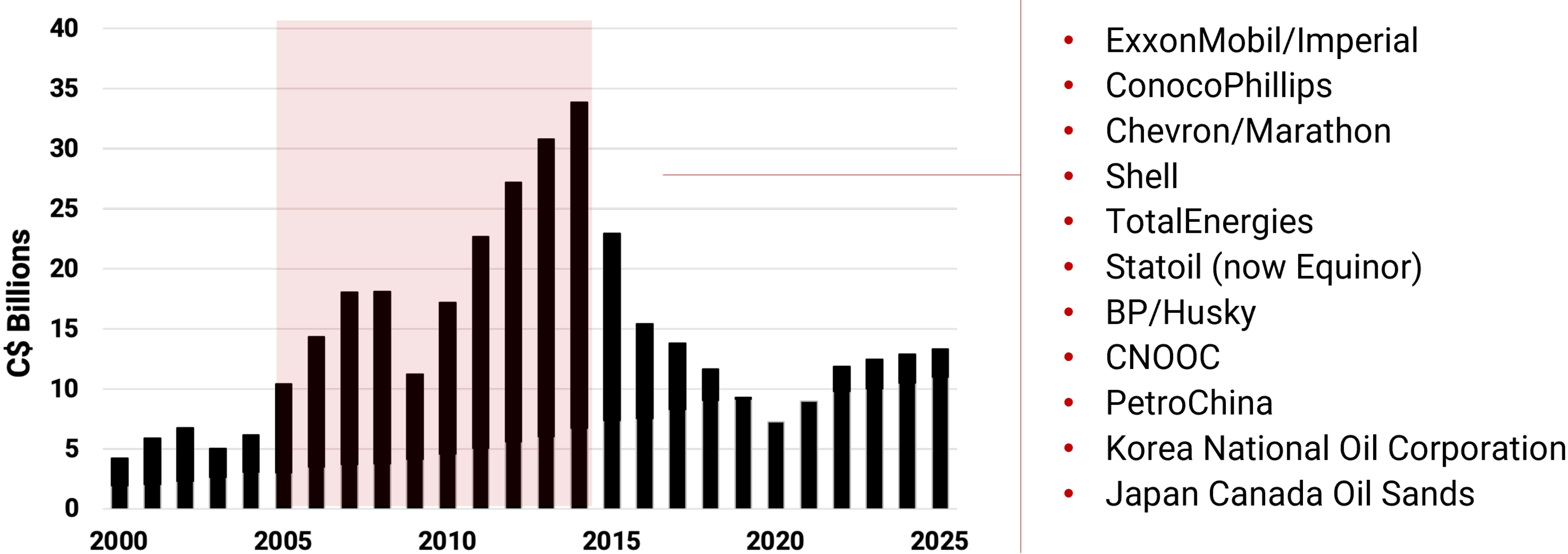
After 2014, most of those international players exited, and Canadian firms — CNRL, Suncor, Cenovus, Imperial, and Athabasca Oil — consolidated the oil sands assets representing a repatriation into domestic control. And that shift brought sharper focus and greater operating discipline (not to mention the positive aspects of greater control in Canadian board rooms), but it also substantially limited the global pool of corporate capital available to finance the next wave of growth. Balance sheets and discretionary cash flows of domestic firms now have less scale than those of the foreign multi-nationals, companies that once had both the appetite and the capacity to take on multibillion-dollar risk.

Efficiency gains and debottlenecking can still extend the life of existing assets, potentially delivering up to a few hundred thousand barrels of additional supply. But that outcome depends on incumbents boosting their growth capital investment above today's meagre C\$2 billion per year. To grow that million-plus-barrels-per-day would require stronger commodity prices and a green light from investors to recycle about C\$10B/yr of their cash returns back into funding more production. In the absence of that, new sources of investor capital from foreign multinationals would likely be required.

All this sounds extraordinary. Yet the last time this movie played, the opening scenes were full of excitement. Canada was seen as a desirable place to invest, a place where vital commodities could supply the world in greater quantity. In today's geopolitical environment, that part of the old movie is emerging as the easy one to rescript. In Asia-Pacific refineries, Canada's heavy oil is increasingly in demand. The rest of the script is ours to write.

Multinational Capital Providers to Oil Sands Projects

Upstream Capital Investment | 2000 - 2025

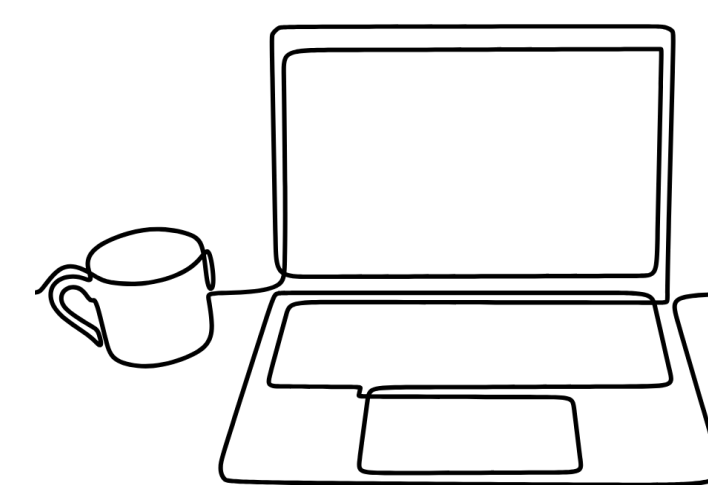


Source: Studio.Energy

Thoughts and Questions to Consider

If Canada is serious about adding significant new export volumes, the conversation must come back to capital. So, as you think about the prospect of growing upstream oil supply, ask:

- Do long-term market signals — from demand outlooks to forward price curves — clear the hurdle rates for sustained, multiyear capital programs?
- Is there enough balance-sheet strength and discretionary cash flow within Canadian producers to finance aggressive growth, or would multinational investors need to return?
- What policy or fiscal shifts would be necessary to attract large-scale foreign capital back into the oilsands?
- How much additional sustaining capital will rising output require, and can producers realistically cover both sustaining and growth simultaneously?
- Under today's tougher business conditions — higher capital and operating costs, regulatory constraints, and competing investment opportunities — what would make a new wave of oil sands projects financeable?
- Under what other conditions will Canada be able to marshal the financing needed to grow production, fill new pipelines, and finally resolve our long-standing well-or-pipeline-first dilemma? 🚧



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