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COUNTRY PROFILE – CANADA¹

2023 STEEL POLICY SCORECARD

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A smaller player with untapped potential

With huge renewables potential, iron ore resources and good access to key markets, Canada could move quickly to become the first all-green iron and steel producer in the world. However, Canada lags behind other G7 countries on public funding for demonstrating near-zero emissions technologies. It could also benefit from setting a clearer overarching clean industrial strategy.

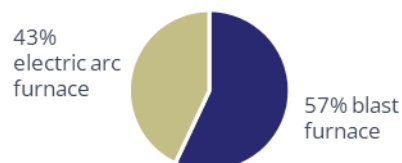
Country profile: Canada



Production capacity



Production methods



Source: Global Energy Monitor, 2023, 2023 Pedal to the metal



¹ This document supplements the main **2023 Steel Policy Scorecard report: Raising ambition on steel decarbonisation**.



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Canada has made progress on setting public procurement requirements and planning infrastructure for hydrogen and clean electricity. It is an active participant in international initiatives on industry decarbonisation. The steel sector is, however, missing an overarching clean industrial strategy and a sector-specific roadmap for reaching net zero. Initiating a roadmap for steel would provide certainty and confidence about the pace and direction of travel.

Priority recommendations for Canadian steel decarbonisation policy

- > Set out a net zero roadmap for the steel sector with an ambitious decarbonisation target and clear timelines for phasing out coal-based steelmaking, building on Canada's existing cement and concrete roadmap.
- > Scale up investments in demonstrating and deploying near-zero emission steel technology.
- > Apply stringent life-cycle emissions criteria to hydrogen production and consumption, and clarify plans for the application of low-emission hydrogen or CCS to DRI sites in dedicated strategies.

An opportunity for government to lead the way to phase out coal and phase in green energy

Canada is a minor steel producer, with a total of 15 Mtpa production capacity – 0.7% of global production. Almost two-thirds, 57%, of this is currently coal-based; the remaining 43% comes from scrap-EAF.² However, Canada has many of the preconditions needed to become a green steel leader: a relatively low-carbon electricity grid, strong renewable energy potential, access to iron ore, a highly educated workforce, a stable regulatory environment and a manufacturing base close to key markets.³ Being a net steel scrap exporter, Canada also has ample steel scrap resources.⁴ Currently, an additional 3 Mtpa green primary steel capacity is in the works,⁵ and Swedish H2 Green Steel is in talks with the Canadian government to build a further factory in northern Quebec.⁶

² Calculated from Appendix C in Global Energy Monitor, 2023, **Pedal to the Metal 2023**

³ Clean Energy Canada, 2023, **Decarbonising industry in Canada and the G7**

⁴ BIR, 2023, **World steel recycling in figures 2018–2022**

⁵ Global Energy Monitor, 2023, **Pedal to the Metal 2023**

⁶ Steel Times International, 2023, **H2 Green Steel considers Canada for green steel plant**



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At a federal level, Canada’s message to its steel sector could be clearer. Industry features in Canada’s Emissions Reduction Plan,⁷ and an emissions reduction **pathway** for iron and steel is presented, indicating around 35% reduction by 2030 from 2005 levels. Targets would be a useful addition, for industrial sectors more broadly and for the steel sector specifically.

Provincial level policies play an important role in Canada, as provinces hold key competencies such as energy. Canadian steelmaking is concentrated in two provinces – Québec and Ontario – with coal-based production mainly sited in Ontario. Provincial Ontario policies are therefore key for steel decarbonisation in Canada.

Building demand for green steel through public procurement

While there is no apparent movement on definitions for near-zero emissions steel, Canada is a front-runner in terms of public procurement. It is the only IDDI member that has publicly committed to pledges (1 and 3). In parallel, it is setting out to reduce the embodied carbon of structural materials used in major public construction projects by 30% – starting in 2025.⁸ As a smaller steel producer, Canada needs to ensure alignment and strong partnerships with other countries on building “lead markets” if it is going to ensure market access for future green iron and steel exports.⁹

More efforts are needed to bridge the cost premium between green and fossil-based steel production

Canada’s federal-level carbon pricing system (OBPS) has only limited impact on trade-exposed industries such as steel. The overwhelming majority of steel production does not face any carbon costs as the carbon price only applies to emissions above a performance standard based on the national average emissions intensity. Still, this federal system comes into play if a provincial scheme does not show similar ambition. Having scrapped its provincial ETS (emissions trading system) in 2018, Ontario is currently subject to the federal system, while Québec has its own system linked with California.

When it comes to public funding, Canadian industrial R&D spending is generally very low compared to other G7 countries. This results in little funding being

⁷ Government of Canada, 2022, **2030 Emission Reductions Plan**

⁸ Treasury Board of Canada Secretariat, n.d., **Greening Government Strategy: A Government of Canada Directive**

⁹ Clean Energy Canada, 2023, **Decarbonising industry in Canada and the G7**



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available for developing low-carbon steel technologies.¹⁰ Most of the coal-based facilities in Ontario receive direct grants to support their transition, from both federal and state governments. The Canadian Growth Fund highlights CCfDs (Carbon Contracts for Difference) as a potential area of future policy action¹¹ and a possible avenue for operational funding support.

Ambitious hydrogen targets but a mixed bag of end-use applications

Canada's hydrogen strategy focuses on both blue and green hydrogen. It clearly emphasises its geographical advantage of producing fossil-based hydrogen with CCS, as well as biomass-based (red) hydrogen. It has a 2030 hydrogen production target sufficient to cover multiple end-uses, but steel is not prioritised over less important end-uses, such as residential heating.¹² The strategy mentions the use of CCS in the production of hydrogen for use in the steel sector, but Canada's recently adopted carbon management strategy does not provide clear enough overarching direction and ambition.¹³ One of the first "H₂-ready" DRI projects in the world is being developed at the Hamilton site in Ontario. This will initially be powered by fossil gas, with no clear plans for CCS. There are provisional talks about building a H₂-DRI unit in Quebec. Several provinces have also released their own hydrogen strategies.

Strong focus on clean electricity provision in provinces

Canada's federal 2030 Emissions Reduction Plan stresses that the necessary increase in electricity supply must be net zero. The Canadian grid is already largely decarbonised, though overall progress on greening it fully is slower than expected. Clean electricity regulations¹⁴ are also being developed, recognising the need to electrify industries and setting a 2035 power system neutrality target. Energy is however a provincial competence, and hence provincial policy plays a key role. Ontario is already generating 92% of its electricity from renewable energy sources.¹⁵ The province's government also has specific plans to enable electrification of its steel plants, for instance through building a power transmission line to the Hamilton plant.

¹⁰ Clean Energy Canada, 2023, **Decarbonising industry in Canada and the G7**

¹¹ McMillian, 2023, **Canada's budget 2023: Compromise and competition - climate, carbon and CCfDs**

¹² IRENA, 2022, **Geopolitics of the Energy Transition. The Hydrogen Factor**

¹³ Government of Canada, last updated 2023, **Canada's Carbon Management Strategy**

¹⁴ Government of Canada, last updated 2023, **Clean Electricity Regulations**

¹⁵ Government of Canada, **Canada's Renewable Power – Ontario** (last accessed: 2023)



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About E3G

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E3G builds broad-based coalitions to deliver a safe climate, working closely with like-minded partners in government, politics, civil society, science, the media, public interest foundations and elsewhere to leverage change.

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