

Green Steel Premiums: Promise or Illusion?



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Independent Analysis of Green Steel Pricing, Market Volume, Buyer Behaviour, and the Policy Conditions for Market Growth

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Executive Summary

A market for green steel premiums exists. Pricing agencies track it. Offtake contracts reference it. Some of the world's largest car manufacturers are paying it. And yet, measured against the scale of the global steel industry, the certified premium green steel market is little more than a rounding error. It amounts to well under one percent of world output, confined almost entirely to Europe, and concentrated in a single end-use sector.

This article examines the green steel premium as it actually is, rather than as its advocates hope it will become. It looks at what buyers are paying, which sectors are paying it, what the volume picture looks like today and over the next fifteen years, and what structural problems are holding the market back. It also considers the conditions under which the premium could grow substantially — and why, in the absence of regulatory intervention, voluntary demand alone is unlikely to deliver the market transformation that the steel industry's decarbonisation requires.

Four findings stand out. First, the premium is real in Europe but ranges very widely — from negligible on the spot market to €350 per tonne on certified long-term contracts — making headline figures misleading without context. Second, the automotive sector is the only buyer category currently paying a meaningful premium at scale; no other sector comes close. Third, the absence of a common definition of

green steel is the single biggest structural obstacle to market development. And fourth, regulation — principally the [CBAM](#) and tightening Scope 3 reporting requirements — will do what voluntary demand has not. It will convert the green premium from an optional extra into a structural cost of market access.

What Is a Green Steel Premium?

The green steel premium — sometimes called the "greenium" — is the additional price a buyer pays for steel produced with significantly lower carbon dioxide emissions compared with conventional production. In commodity markets, it is the price gap between a certified low-carbon product and its standard equivalent: the difference between a tonne of carbon-accounted [HRC](#) and conventional [HRC](#), for instance.

The concept is straightforward. The measurement is not. There is currently no single agreed definition of what constitutes green steel. Fastmarkets defines European green flat steel as material produced with Scope 1, 2, and 3 emissions at a maximum of 0.8 tonnes of [CO₂](#) equivalent per tonne of steel. S&P Global Commodity Insights tracks a [CASP](#) based on a threshold of below 1,000 kg [CO₂e](#) per tonne. The [GSCC](#) uses product-level carbon intensity thresholds aligned to 1.5°C science-based targets. ResponsibleSteel, by contrast, offers site-level certification based on broad [ESG](#) performance rather than a fixed carbon intensity threshold. These differences matter enormously in practice. A product that qualifies as green under one scheme may not qualify under another. Buyers and producers operating across different standards cannot easily compare or price their positions. Readers wishing to calculate actual emissions intensity by process route can use the [Steel Production Emissions Calculator](#).

The premium is both a cost to buyers and a value signal for producers. It is also, increasingly, a regulatory inevitability. The [EU's CBAM](#), now in its transition phase, prices the embedded carbon in imported steel products. Once fully operational, it will impose a carbon cost on high-emission imports equivalent to the [EU ETS](#) carbon price — effectively creating a mandatory greenium for any non-European producer wishing to retain market access. The premium will shift from voluntary to compulsory for a growing share of steel trade.

The Numbers: What Premiums Actually Look Like

The available price data covers Europe almost exclusively, which itself reflects where the market is most developed. Outside Europe, the premium is negligible to non-existent.

In Europe, Fastmarkets tracks a weekly green flat steel premium differential against the [HRC](#) index. This assessment stood at €100–170 per tonne in January 2026, having peaked at around €200 per tonne in late 2023. It then fell sharply to €50–75 per tonne in late 2024 as European steel demand weakened and

conventional HRC prices fell. Through 2025, the premium stabilised in a range of roughly €120–180 per tonne. This suggests that European buyers with long-term sustainability commitments are prepared to sustain a premium of that order for certified flat steel.¹

However, these assessed prices require careful interpretation. They reflect a market that is immature and illiquid. The volume of certified green steel actually trading at these prices is very small. Mills offering carbon-certified HRC with emissions below 1 tonne of CO₂ per tonne have quoted premiums of €200–350 per tonne in long-term bilateral contracts with automotive customers. Spot buyers — steel service centres and stockholders — have reported premiums of €50–100 per tonne, and some deals have reportedly concluded below that level when mills were willing to reduce their green premium to move volume.²

Outside Europe, the picture is clear: premiums are negligible or absent. In China, where production costs for low-carbon steel are typically around \$140 per tonne higher than conventional production (see EAF Cost Model for underlying cost structures), buyer willingness to pay is capped at around \$20 per tonne. That gap makes commercial green steel production in China economically irrational without regulatory compulsion.¹ In the US, where the EAF route already accounts for approximately 70% of production, a recognised green premium has yet to emerge at all: Fastmarkets' green steel US HRC differential has sat at zero since its launch in May 2024.² This is not simply a failure of market development — it reflects a structural reality. Because American steelmaking is already predominantly low-carbon by global standards, the industry's prevailing view is that US steel is inherently cleaner than imports from blast-furnace-heavy producers, and there is no domestic incentive to pay extra for a further marginal improvement.

This has an important longer-term implication. As the global EAF share rises — driven by decarbonisation transitions in Europe and elsewhere — the baseline carbon intensity of steel production will fall across the board. That will gradually compress the differential between conventional and certified green steel, reducing the headroom for a meaningful premium. The US today may therefore offer a glimpse of what a mature, high-EAF European market might look like in twenty years: a market in which lower-carbon steel is the norm rather than the premium exception.

A 2024 survey of 23 European steel consumers found that only around 20% were willing to pay more than \$75 per tonne for green steel produced via the EAF/DRI route. None were willing to pay more than \$330 per tonne for hydrogen-route steel — a figure that does not come close to covering the additional production cost of hydrogen-based steelmaking at current hydrogen prices.³

A Market in Name Only: The Volume Problem

The most important fact about the green steel premium market is how small it is. Global crude steel production amounted to approximately 1,885 million tonnes in 2024, according to the World Steel Association. Against that, the volume of steel that is genuinely certified to an independently verified

carbon intensity threshold — and on which a premium has actually been paid — is estimated by Steelonthenet at well under 5 million tonnes. That is roughly 0.25% of world output — a share our [1% Rule analysis](#) identifies as the approximate ceiling for genuinely strategic steel demand.⁴

Commercial market research reports quote wildly inconsistent figures for the size of the green steel market, ranging from \$4 billion to over \$700 billion for 2024. These figures are almost entirely useless as a guide to the premium market. They define green steel so broadly — often including all [EAF](#) production regardless of carbon intensity or certification — that they bear no relationship to the market in which a verified price premium is actually transacted.

The most credible anchor for future volume is project-level data. Stegra, the Swedish hydrogen-based green steel project (formerly H2 Green Steel), has pre-sold offtake agreements covering over 1.5 million tonnes per year of its planned initial output of 2.5 million tonnes. Contracts have been signed with automotive buyers including Mercedes-Benz, Porsche, Scania, and Volvo.⁵ The plant is targeting 2.5 million tonnes by 2028 and 5 million tonnes by 2030. ArcelorMittal's new [EAF](#) at Dunkirk is targeting approximately 2 million tonnes per year of low-carbon flat steel. [SSAB's](#) HYBRIT process remains at pilot scale. These three plants together represent the bulk of genuinely certified European green flat steel production.

⚠ Green Investment Delays: A Systemic Pattern, Not Isolated Setbacks

The supply-side constraints on the green steel premium market are not simply the result of individual project difficulties. Across Europe, major decarbonisation investments have been postponed, suspended, or cancelled in a pattern that is systemic in character. In Germany, ArcelorMittal cancelled investments in [DRI](#) and [EAF](#) production at two assets (June 2025), while Thyssenkrupp suspended its tender for green hydrogen supply to its planned [DRI](#) plant in Duisburg (March 2025), and Salzgitter pushed further stages of its Salcos project to 2028–2029 (September 2025). In Sweden, [SSAB](#) postponed commissioning of its new Luleå plant by twelve months due to power grid delays (June 2025). In France, ArcelorMittal suspended plans for a [DRI](#) unit and two [EAFs](#) at Dunkirk — though it has since confirmed plans for the first [EAF](#). In Spain, ArcelorMittal deferred its investment decision on a [DRI](#) plant at Gijón. In the Czech Republic, Třinecké železářny postponed its [EAF](#) and infrastructure completion date.

Common causes run through these deferrals: elevated electricity costs, hydrogen infrastructure immaturity, slow grid permitting, and weak near-term steel demand. The aggregate effect is that the certified green steel supply pipeline for the late 2020s is materially thinner than project announcements from 2022–2023 implied. The 2030 volume estimates in Table 1 above should be read with this in mind. The broader pattern of state support propping up unviable capacity is analysed in [Zombie Steel Mills: Why State Aid Delays the Inevitable](#).

The green long steel premium market is at an even earlier stage. There is essentially no functioning premium market for certified green rebar, sections, or wire rod at meaningful volumes. This matters because long products — the steels used in construction, infrastructure, and manufacturing — account for roughly 49% of global finished steel consumption. Their exclusion from the premium market reflects the fundamental problem: construction procurement, which drives most long product demand, is dominated by price, not carbon credentials.

The table below sets out Steelonthenet's best estimates of the certified premium green steel market — by product type — today, in 2030, and in 2040. These are independent estimates based on available project data and policy trajectories. They should be treated as a reasonable central case, not a forecast.

Table 1: Certified Premium Green Steel Market — Volume and Value Estimates

Product	Today (2025–26)	2030 (estimate)	2040 (estimate)
Flat products (HRC, CRC, coated)	3–5 Mt ~0.2% of global output Premium: €120–350/t Market value: ~€0.5–1bn	25–35 Mt ~1.3–1.8% of global output Premium: €75–175/t Market value: ~€2–5bn	100–150 Mt ~5–7% of global output Premium: €30–80/t Market value: ~€4–9bn
Long products (rebar, sections, wire rod)	<1 Mt <0.05% of global output Premium: €30–80/t Market value: <€0.1bn	5–10 Mt ~0.3–0.5% of global output Premium: €50–100/t Market value: ~€0.3–0.8bn	50–80 Mt ~2.5–4% of global output Market value: ~€1–3bn
Total certified premium green steel	~4–6 Mt ~0.25% of world output Total value: ~€0.6–1.1bn	~30–45 Mt ~1.6–2.4% of world output Total value: ~€2.3–5.8bn	~150–230 Mt ~7–11% of world output Total value: ~€5–12bn

Sources and notes: Steelonthenet estimates based on publicly available data from Stegra, ArcelorMittal, and SSAB project announcements; Fastmarkets and S&P Global premium assessments; and World Steel Association production statistics. No proprietary or client-confidential data has been used. Global output assumed at ~1,900 Mt (2030) and ~2,050 Mt (2040). Premium ranges assume compression as technology scales and supply increases. Long products 2040 premium range excluded pending greater market clarity. All figures rounded.

Two points about these estimates deserve emphasis. The 2040 figures assume that CBAM, tightening Scope 3 reporting obligations, and green public procurement mandates all develop broadly as currently signalled by European and UK policy. If any of these stall — or if hydrogen costs fail to fall on projected trajectories — the volumes will be materially lower. Equally, premium compression is almost certain as supply scales: the premium that exists today partly reflects scarcity value, and producers who plan their business models around €200/t premiums indefinitely will face significant margin pressure by 2035.

The Definition Problem: Why the Market Cannot Function Properly

The green steel market's single biggest structural obstacle is the absence of a common, independently verified definition of what green steel actually is. Without one, buyers cannot confidently pay a premium, producers cannot reliably capture one, and the premium itself risks being undermined by greenwashing — producers applying "green" labels to products whose actual carbon credentials are unverified or exaggerated.

Two competing certification frameworks currently dominate the debate. ResponsibleSteel offers site-level certification based on broad ESG performance, with a sliding scale adjusted by scrap input. The GSCC takes a product-level approach, setting fixed carbon intensity thresholds aligned with science-based 1.5°C targets and requiring third-party verified emissions reporting. These are not simply different standards — they reflect fundamentally different views about what should count as green. A site that performs well on ESG criteria but continues to operate blast furnaces might qualify under ResponsibleSteel but fail the GSCC threshold. The Metalshub Green Steel Conference in May 2025 concluded bluntly: there is still no agreed definition of green steel, and the market is not yet large enough to support vibrant trading.⁶

Mass balancing is a further source of confusion. Under a mass balance approach, a producer blends conventional and low-carbon production in a shared process but allocates all the green attributes — on paper — to a subset of customer orders. The physical steel delivered may be identical to conventional steel, but the buyer receives a certificate stating that their tonnes are "green". Total certified green output can therefore exceed the plant's actual low-carbon production. This approach is contested: some buyers accept it as a legitimate accounting method during a transition period; others reject it as a form of greenwashing that does not represent a genuine reduction in overall emissions.⁷ The absence of a ruling standard means both practices coexist in the market, making like-for-like price comparison almost impossible.

When producers apply green labels without independently verified carbon intensity data, buyers stop trusting the premium. Legitimate low-carbon producers then lose their ability to differentiate their product in the market. This dynamic — sometimes called the "lemons problem" in economic literature,

after Akerlof's analysis of markets where buyers cannot verify product quality — is one of the main reasons the spot market for green steel premiums has remained so illiquid. Despite several years of sustained attention from both producers and pricing agencies, the market has not deepened.

The Greenwashing Risk

The green steel market faces a structural credibility problem. Without standardised, facility-level carbon intensity data verified by independent auditors, the premium loses meaning. Buyers who have been misled once will apply a scepticism discount to all green claims — including legitimate ones. The experience of other commodity markets suggests that the solution is a mandatory, government-backed certification standard rather than a voluntary one. In the absence of that, the premium market will remain thin, opaque, and vulnerable to the kind of inconsistent claims that currently slow adoption at scale.

Who Is Actually Paying — and Why

The sector picture is stark. Of all the industries that buy steel, only one is currently paying a meaningful green premium at any significant volume: automotive. The table below shows the current and likely future position across the main steel-consuming sectors.

Table 2: Green Steel Premium Willingness to Pay by End-Use Sector

Sector	Typical steel product	Premium willingness today	Outlook to 2030	Key driver / constraint
Automotive	Flat: CRC, coated, advanced high-strength	High — €150–350/t on certified long-term contracts. Premium segment OEMs leading	Strong growth. Offtake contracts being signed now for 2026–2030 delivery	Scope 3 emissions, brand risk, steel is small share of vehicle cost but large share of lifecycle emissions

Source: Steelonthenet analysis. Premium ranges for automotive based on Fastmarkets and S&P Global Commodity Insights assessments. Other sector assessments based on industry reporting and procurement analysis.

Sector	Typical steel product	Premium willingness today	Outlook to 2030	Key driver / constraint
Offshore wind / energy infrastructure	Plate, sections, large-diameter pipe	Emerging — project-level sustainability credentials increasingly required by financiers	Growing. Green finance conditions and <u>ESG</u> reporting likely to formalise requirements	Project finance conditions, <u>ESG</u> lender requirements, government clean energy policy
White goods / consumer electronics	Flat: coated, tinplate	Low to moderate — some interest but price sensitivity limits commitment	Modest growth. Depends on consumer pressure and brand differentiation strategies	Consumer sustainability awareness vs. tight product margins
Construction	Long: rebar, sections, wire rod	Very low — commodity procurement dominates; price is primary criterion	Slow growth without mandatory standards or procurement policy. <u>GPP</u> mandates could change this significantly	Price-driven procurement; no voluntary pull without regulatory mandate
Industrial machinery / equipment	Flat and long: plate, sections	Very low — little Scope 3 pressure; end products not consumer-facing	Slow. Likely driven by customer cascade rather than own-initiative	Absence of consumer-facing sustainability narrative
Defence / aerospace alloys	Speciality: armour plate, forgings, aerospace alloys	Niche but growing — strategic value outweighs cost in some specifications	Expanding. Rearmament demand adds volume; defence procurement increasingly includes sustainability criteria	Strategic value, government procurement requirements, security of supply
Source: Steelonthenet analysis. Premium ranges for automotive based on Fastmarkets and S&P Global Commodity Insights assessments. Other sector assessments based on industry reporting and procurement analysis.				

Automotive: The Market's Only Serious Buyer

The automotive sector is the green steel market's dominant force, and for good reasons that have little to do with altruism. Car manufacturers face stringent Scope 3 emissions reporting obligations. Steel is a small share of the cost of a vehicle but a significant share of its lifetime carbon footprint — particularly for electric vehicles, where tailpipe emissions are eliminated and embedded material emissions grow in relative importance. A premium-segment manufacturer like Mercedes-Benz or Porsche can absorb €150–350 per tonne of green steel without meaningfully affecting its vehicle pricing, whilst gaining substantial benefit in supply chain sustainability credentials.

The arithmetic is revealing. Steel accounts for roughly 830 kg of a typical passenger car. A green premium of €200 per tonne therefore adds approximately €165 to the manufacturing cost of a vehicle. That is less than 1% of the average transaction price for a premium-brand car, and well within the margin that consumers in surveys say they are prepared to pay for a more sustainable product. This cost-to-benefit ratio makes automotive uniquely well positioned to absorb the green premium. No other major steel-using sector shares this combination of high value-added end product, consumer-facing sustainability narrative, and regulatory Scope 3 pressure.⁸

The consequence is that the majority of certified green flat steel currently traded under long-term offtake agreements flows to automotive buyers. Stegra has pre-sold over 1.5 million tonnes per year of its planned output to customers including Mercedes-Benz, Porsche, Scania, Volvo, and ZF. This is not a broad market — it is a small number of premium buyers locking in supply from an even smaller number of certified producers, through private bilateral contracts at undisclosed prices. The "market" for green steel is, in reality, a collection of bespoke commercial relationships.

The Long Products Gap

The absence of a functioning premium market for certified green long steel — rebar, sections, wire rod — is the most important structural problem facing the green steel transition. Long products account for roughly 49% of global finished steel consumption. They are used primarily in construction and infrastructure. And construction procurement is almost entirely price-driven: a contractor building a housing development or a road bridge buys steel to a specification at the lowest available price. The carbon credentials of the rebar are irrelevant to that decision unless they are required by the client or the planning authority.

Without a mandatory standard or a procurement policy that rewards lower-carbon long steel, this market will not develop voluntarily. The economics simply do not support it: unlike an automotive manufacturer, a construction contractor passes costs directly to clients without a consumer-facing margin that can absorb a sustainability premium.

The MENA region holds a paradoxical position in the green steel landscape. Its steelmaking industry is comparatively recent and almost entirely EAF-based, producing CO₂ emissions well below one tonne per tonne of steel — far below the global average of approximately 1.9 tonnes. It is also one of the world's largest producers of DRI, with output from the region (excluding Iran) reaching 28.55 million tonnes in 2024. On carbon intensity, MENA producers already meet or approach European green steel thresholds — without the capital-intensive transition that European mills face.

Yet the region cannot readily exploit this advantage. Europe — currently the only market with meaningful buyer willingness to pay a green premium — imports predominantly flat products, whereas MENA production is concentrated on long products. New EU trade restrictions are projected to cut long steel imports into Europe by roughly 50%, limiting the rebar and wire rod volumes that MENA producers can sell into the one market that currently rewards low carbon credentials. The region has genuine low-carbon production advantages and a structural cost advantage in DRI — but the green steel premium market it would need to monetise those credentials is in the wrong product category. For MENA producers, the practical path forward likely lies in downstream diversification into sections, sheet piles, and higher value-added products, or in supplying DRI and HBI feedstock to European EAF operators as they transition away from blast furnace ironmaking.

★ Government Purchasing Power: The Missing Market Maker for Green Long Steel

Governments are among the largest single buyers of steel in most economies. In the UK alone, public bodies procured over 445,000 tonnes of steel in 2022–23, at a market value of approximately £472 million. Steel is embedded in almost every category of public infrastructure: roads, railways, hospitals, schools, bridges, and offshore wind foundations. This purchasing power, if directed at certified low-carbon products, could create the demand anchor that the green long steel market currently lacks entirely.

Policy development in this area is moving, if slowly. The UK government's DESNZ consultation of September 2025, *Growing the Market for Low Carbon Industrial Products*, proposes an A–G carbon intensity rating system for steel, cement, and concrete, with product-level green procurement policies enabling buyers to commit to purchasing steel of a defined carbon class by a specified date — for example, Class D steel from 2030 onwards. The UK Steel Strategy (March 2026) also signals that from Allocation Round 8 in 2026, offshore wind developers may include UK steel manufacturers in Clean Industry Bonus applications. Internationally, the IDDJ GPP Pledge — signed by the UK at COP28 — commits signatory governments to time-bound targets for procuring low and near-zero emission steel, cement, and concrete across four commitment levels.

The strategic importance of this goes beyond volume. A published government procurement premium — a price that a public authority is prepared to pay above conventional steel for certified low-carbon long products — would function as a public benchmark. It would provide the price signal that the long steel premium market currently lacks, potentially unlocking private investment in green long steel production that cannot be justified against voluntary demand alone. This is exactly the mechanism by which government procurement has historically anchored new markets for clean technologies in other sectors. There is no structural reason it cannot work for green long steel.

Nor is this thinking confined to Europe. India — the world's second largest steel producer — is actively considering a phased mandate for green steel in public procurement. The CII, supported by Climate Catalyst, estimates that a 26% commitment to low-carbon steel in public procurement could unlock up to 16 million tonnes of certified green steel supply from Indian manufacturers by fiscal year 2029/30. Indian government infrastructure and development projects currently consume approximately 31.6 million tonnes of steel per year, generating around 70 million tonnes of carbon emissions annually. In December 2024, India's Ministry of Steel announced a classification formula for green steel, dividing products into three categories by carbon intensity. Government procurement agencies surveyed identified four conditions for launch: a national mandate with defined percentage thresholds, standardised tender provisions, procurement training, and time-limited financial support in the initial stages.¹⁰ If India proceeds, it would represent by far the largest single GPP commitment to green steel anywhere in the world — and would substantially alter the 2030 volume projections in Table 1 above.

The Scunthorpe situation makes this directly relevant to the UK. A credible green public procurement commitment for long products — rail, sections, rebar — would substantially improve the investment case for any future EAF-based production at Scunthorpe or elsewhere, anchoring demand for exactly the product mix that UK primary steelmaking is best placed to supply.

Why the Premium Will Grow — But Not Quickly Enough on Its Own

Three forces will drive the green steel premium market over the next decade, each operating through a different mechanism.

The Regulatory Push: CBAM and EU ETS

The EU's CBAM is the most powerful structural driver in prospect. The European Commission sets China's default embedded emissions value for HRC at 3.187 tonnes of CO₂ per tonne of steel — against a typical EU EAF intensity below 0.5 tonnes. At current EU ETS carbon prices, this translates to a CBAM cost of

around €145 per tonne on Chinese HRC imports.² In effect, CBAM will impose a mandatory carbon cost on high-emission imports that approximates — and in some cases exceeds — the voluntary premium currently being paid for certified green steel. For importers, the choice becomes stark: either demonstrate lower actual emissions and reduce the CBAM liability, or pay a carbon surcharge that will make conventional high-emission imports progressively less competitive. The wider consequences of this carbon-driven divide between producers are examined in Two Worlds: Carbon Pricing Splits the Steel Industry.

Scope 3 Reporting: The Supply Chain Cascade

Corporate Scope 3 emissions reporting obligations are tightening across Europe and the UK, requiring companies to account for the embedded carbon in their purchased materials. For steel-intensive manufacturers, this creates direct financial incentives to source lower-carbon steel: it reduces their reported Scope 3 emissions, improves their own sustainability ratings, and insulates them from the risk that future carbon pricing is extended to Scope 3. The automotive sector has been the earliest and most consistent adopter of this logic. As Scope 3 reporting becomes mandatory rather than voluntary across a wider range of industries, the number of buyer categories capable of paying for a green steel premium will gradually expand.

Premium Compression: The Counterweight

Both forces operate against a countervailing dynamic: premium compression. As green steel supply scales up — more EAF capacity, more DRI plants, falling hydrogen costs — the scarcity value that currently supports the premium will erode. Producers who have structured their investment cases around premiums of €200 per tonne or more will face margin pressure as supply grows and the premium narrows. This compression is not a sign of market failure; it is a sign of market maturation. But it does mean that the financial case for investing in green steel production today depends critically on assumptions about how quickly costs will fall and how long the premium will hold.

The Sylvera analysis of the broader greenium concept makes the point clearly: premiums driven by scarcity are temporary; premiums driven by regulation are more durable. For green steel, this argues that producers investing in certified low-carbon capacity should regard the regulatory trajectory — CBAM, Scope 3 mandates, green procurement policies — as the more reliable long-term demand driver than voluntary buyer enthusiasm.⁹

Conclusions and Policy Recommendations

The green steel premium market is real, small, and structurally fragile. It exists because a small number of highly motivated buyers — primarily premium automotive manufacturers — are prepared to pay significantly above conventional steel prices for independently certified low-carbon flat steel. Outside that

narrow buyer group, and outside Europe, the market barely exists at all. On Steelonthenet's central estimates, the total certified premium green steel market amounts to roughly 4–6 million tonnes today — under a quarter of one percent of world output. By 2030, it may reach 30–45 million tonnes. By 2040, perhaps 150–230 million tonnes. Those projections carry downside risk: a pattern of project deferrals across Europe in 2024–25 has left the certified supply pipeline for the late 2020s materially thinner than earlier announcements implied. These are still small shares of a global market producing close to 2,000 million tonnes per year.

The gap between these volumes and what the steel industry's decarbonisation requires is not a reason for pessimism. It is a reason for policy clarity. Five specific measures would accelerate the development of this market in ways that voluntary demand cannot achieve alone.

First, establish a mandatory common standard for green steel. The current proliferation of competing certification schemes is the market's biggest single structural obstacle. Governments and the European Commission should work with industry to establish a single, mandatory product-level carbon intensity threshold for certified green steel, with independent third-party verification as a condition of any premium claim. Without this, greenwashing risk will continue to suppress buyer confidence and keep the spot market illiquid.

Second, deploy green public procurement at scale for long steel. Government purchasing of certified low-carbon long products — rebar, sections, rail — should become a formal policy commitment with defined carbon intensity thresholds and published price tolerances. The UK's DESNZ product classification consultation and the IDD! GPP Pledge provide the framework. The missing element is implementation at sufficient scale to create a functioning price signal for green long steel. A government prepared to pay a defined and published green premium for construction steel in public infrastructure projects would do more for the green long steel market than any amount of voluntary corporate commitment.

Third, accelerate CBAM implementation and close the mass balancing loophole. CBAM is the most powerful market mechanism available. Its effectiveness depends on accurate, facility-level emissions data from exporters. Default values — which apply when exporters do not provide verified data — should be set conservatively to avoid creating incentives to submit incomplete information. The mass balancing practices that allow some producers to claim green credentials without genuine carbon reductions should be excluded from CBAM calculations.

Fourth, require Scope 3 emissions reporting for all major steel-consuming industries, not just automotive. The automotive sector's leadership on green steel procurement is directly attributable to the Scope 3 pressure it faces. Extending mandatory Scope 3 reporting to construction, industrial equipment, and energy infrastructure will expand the number of buyer categories that have a direct financial incentive to pay for verified low-carbon steel. This will broaden the market beyond its current single-sector concentration.

Fifth, be honest about premium compression and plan for it. Producers investing in green steel capacity today should not assume that current premium levels will persist as supply scales. Governments and financiers providing support for green steel investment should build their business case models on conservative premium assumptions, with costs falling towards conventional steel parity by 2040 as the market matures. The commercial case for green steel ultimately rests on cost reduction — in hydrogen, in renewable energy, in electrolyser technology — not on the permanent preservation of a scarcity premium.

The green steel premium market is at a critical moment. The foundations are in place: real premiums, real buyers, real certification frameworks, and a regulatory direction of travel that will eventually convert voluntary commitment into mandatory compliance. What it lacks is the volume, the standardisation, and the policy architecture to function as a genuine market rather than a collection of private bilateral agreements. Closing that gap is not primarily a challenge for industry — it is a challenge for government. The consequences of inaction are examined in [What If Steel Stays Dirty?](#)

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⁶ Metalshub (2025). *Uncovering Green Premiums in Steel: A Data-Driven Path to Sustainable Value*. Presentation, Green Steel World Conference, May 2025. Documents the Platts [CASP](#) data series, the competing certification frameworks of ResponsibleSteel and [GSCC](#), and the conclusion that the market is not yet large enough to support vibrant trading and that no agreed definition of green steel exists.

⁷ Mass balance accounting in steel: A producer running one low-carbon furnace alongside conventional furnaces pools all output, then allocates the carbon-intensity benefit to specific customer orders up to the volume actually produced by the low-carbon route. The physical steel delivered may be identical to conventional steel, but the buyer receives a certificate stating their tonnes are "green". Critics argue this allows producers to sell the same low-carbon benefit multiple times. Importantly, the [EU's CBAM](#) does not permit mass balance accounting — importers must demonstrate actual facility-level emissions data, so a product certified "green" under mass balance may still attract full [CBAM](#) costs.

⁸ Fastmarkets (2026). *Why Automakers Are Set to Lead Green Steel Adoption in Europe*. London: Fastmarkets. Notes that early decarbonisation in automotive is concentrated in premium segments where higher margins absorb the cost, and that by 2035 only 42% of automotive steel purchases are expected to come from conventional blast furnaces. Available at: fastmarkets.com/insights

⁹ Sylvera (2026). *Greenium Explained: How to Quantify the Green Premium for Low-Carbon Commodities*. London: Sylvera. Defines the greenium as the price difference between a low-carbon product and its conventional equivalent, and identifies six factors determining its size and durability: verified carbon intensity difference, regulatory incentives, supply scarcity, buyer willingness to pay, market maturity and transparency, and verification and trust. A broadly similar three-phase premium trajectory has been proposed by other market analysts: a scarcity premium phase (peak, 2025–27), a scaling phase in which supply grows and premiums moderate (2028–30), and a normalisation phase (2031–35) in which the premium effectively inverts — becoming a penalty on conventional high-carbon steel rather than a bonus on green. This trajectory is broadly consistent with the volume and premium compression estimates presented in Table 1 of this article, though the Steelonthenet estimates extend to 2040 and are more conservative on the pace of premium compression in the 2030s. Available at: sylvera.com

¹⁰ Yermolenko, H. (2026). 'India is considering introducing a requirement for green steel in public procurement', [GMK Center](#), 5 March. Reports that India's [CII](#), supported by Climate Catalyst, estimates a 26% public procurement commitment to low-carbon steel could unlock up to 16 million tonnes of certified green steel supply by fiscal year 2029/30. Notes that 93% of manufacturers surveyed (representing approximately 88 million tonnes of annual output) are ready to supply certified green steel at scale if the government provides clear authority and cost reimbursement mechanisms. India's Ministry of Steel announced a three-category green steel classification system in December 2024. Available at: gmkc.center

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