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Ms. Lauren Sanchez
Chair, California Air Resources Board
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Re: Comments of Pacific Steel Group on Proposed Amendments to the California Cap-and-Invest Regulation (ISOR, January 23, 2026) — Steel Melting Industry

Dear Chair Sanchez:

Pacific Steel Group ("PSG") respectfully submits the following comments on the California Air Resources Board's ("CARB" or "Board") Proposed Amendments to the Regulation for the California Cap on Greenhouse Gas Emissions and Market-Based Compliance Mechanisms (the "Proposed Amendments"), as set forth in the Initial Statement of Reasons ("ISOR") published January 23, 2026.[1] PSG is actively developing California's first new steel manufacturing facility in more than 50 years — a more than $630 million, fully electrified Mojave Micro Mill currently under construction in Kern County. As a prospective covered entity under the Cap-and-Invest Program (the "Program"), PSG has a direct and substantial interest in the policies governing emissions-intensive, trade-exposed ("EITE") industrial allocation through 2035 and beyond.

PSG is committed to advancing both California's climate objectives and the restoration of clean local manufacturing. These goals are not in conflict — they are the central premise of PSG's ongoing investment. But the Proposed Amendments, as currently structured, create conditions under which that investment faces meaningful long-term competitive risk, and under which future investment in California-based steelmaking becomes increasingly difficult to justify. These comments explain why and offer a series of targeted policy modifications that would allow CARB to achieve ambitious decarbonization while preserving the viability of in-state steel production.

[1] CARB, Initial Statement of Reasons for Proposed Amendments to the Regulation for the California Cap on Greenhouse Gas Emissions and Market-Based Compliance Mechanisms (January 23, 2026) ("ISOR").

I. The EITE Program Is a Critical Mechanism to Prevent Emissions Leakage Across Both Direct and Indirect Emissions

The Emissions-Intensive, Trade-Exposed industry allocation framework — comprising the product-based benchmark, electricity emissions benchmark, assistance factor, and cap adjustment factor — reflects CARB's foundational recognition that unilateral carbon pricing in a globally competitive economy creates the risk of emissions leakage. Emissions leakage occurs when production, and its associated greenhouse gas emissions, relocates to jurisdictions operating under less stringent carbon constraints, potentially increasing global emissions due to less stringent regulations, dirtier electricity grids, and higher transportation emissions. CARB has, from the inception of the Program, correctly identified that leakage does not reduce global emissions — it merely shifts, and in some cases increases, them — while simultaneously undermining in-state production, supply chains, employment, tax base, and investment.

California's approach to leakage mitigation has evolved through successive legislative mandates. AB 32 authorized the Program and required CARB to minimize leakage risk. AB 398 mandated 100% assistance factors for all EITE sectors through 2030, reflecting the Legislature's determination that the leakage threat remained unresolved. The recently enacted SB 1207 authorizes CARB to extend a 100% assistance factor to all covered industrial sectors through 2035, removes the requirement that cap adjustment factors be set strictly proportional to the overall allowance budget, and directs CARB to prioritize leakage minimization in structuring industrial allocation. PSG commends SB 1207 as a significant and necessary step forward.

The Proposed Amendments implement these directives in a framework that PSG broadly supports. The rulemaking extends the 100% assistance factor through 2035, introduces the Manufacturing Decarbonization Incentive ("MDI") allocation, and transfers responsibility for indirect electricity allocation from the California Public Utilities Commission ("CPUC") to CARB. Each of these elements reflects sound policy design. However, as detailed below, several features of the proposed cap adjustment factor schedule, the MDI structure, and the treatment of the steel melting sector require targeted modification to ensure the Program achieves its leakage-prevention mandate in practice.

Emissions leakage in industrial sectors is driven by compliance cost exposure across both direct and indirect emissions. Direct emissions arise from on-site combustion of fossil fuels and industrial processes. Indirect emissions arise primarily from purchased electricity. For a sector like Electric Arc Furnace ("EAF") steelmaking — which has already adopted electrification as its primary production process — indirect emissions represent the dominant compliance exposure. A leakage framework that addresses only direct emissions while undervaluing indirect compliance costs does not adequately minimize leakage. California's electricity rates embed some of the highest carbon compliance costs and associated policy costs — including renewable portfolio standard ("RPS") requirements and procurement directives — in the nation. This creates a material cost differential for any electricity-intensive industrial facility in California versus one operating in a jurisdiction without comparable policies, and poses a significant barrier to

electrification and other decarbonization investments that reduce direct emissions but increase electricity consumption.

The Proposed Amendments represent a pivotal opportunity. By unifying direct and indirect emissions under a single, whole-facility framework administered by CARB, the Board can evaluate leakage risk comprehensively and ensure that the full compliance burden facing electrified and aspiring-to-electrify industrial facilities is subject to appropriate mitigation. PSG urges CARB to embrace this opportunity to fundamentally strengthen the Program's leakage prevention holistically and encourage investment in clean manufacturing.

II. California Has No In-State Raw Steel Production: An Object Lesson in Completed Leakage

California was once home to a regional steel industry that served infrastructure, construction, and manufacturing markets throughout the western United States. That industry no longer exists in the state. The closure of the Tamco Steel facility in Rancho Cucamonga facility marked the end of steel melting in the state: the facility stopped melting steel in 2019 and permanently closed in 2020, the last steel mill in California. This closure followed a broader decades-long contraction that had already seen other California steel operations exit primary melting. Today, California produces zero tons of raw liquid steel within its borders.

The consequences are real and quantifiable. California consumes more than one million tons of steel reinforcing bar ("rebar") annually for infrastructure and construction projects alone — and imports every ton from facilities in other states and countries operating under far less stringent environmental standards. The demand for steel does not disappear because California closed its mills; it is simply met elsewhere, under conditions that are significantly more carbon-intensive than what could be achieved in California today. This is not a hypothetical leakage risk — it is leakage that has already occurred, including during the life of the Program. While many factors contribute to any facility's decision to close, the economic pressures imposed by the Program are among them.

Rebar represents only one segment of California's total steel consumption. The state also receives substantial imports in several other forms: semi-finished slab and ingots for further rolling and processing at in-state facilities; structural shapes, angles, and merchant bars for electric transmission towers, bridges, and commercial construction; and finished manufactured goods — from appliances to automobiles to consumer products — incorporating steel produced elsewhere. When the full spectrum of steel-containing goods consumed in the state is considered, California's dependence on imported steel is far greater than the rebar figure alone suggests, and none of it is produced in the state today.

This is the context in which CARB's EITE allocation decisions for the steel sector must be evaluated. There are no legacy steel melting facilities to protect or wind down. There is no established in-state industry defending the status quo. The only raw steel production in California is prospective — and the central question is whether the Program's design will encourage or

discourage the return of that production under cleaner conditions, and whether new production that does return will be able to compete over the long term.

III. The Technical Basis for Steel's Energy Intensity and Emissions Profile

A. Blast Furnace Steelmaking: Chemistry, Inputs, and Emissions

The blast furnace-basic oxygen furnace ("BF-BOF") route has historically dominated global steel production and remains the world's primary steelmaking pathway. According to the World Steel Association, approximately 70.4% of the 1.885 billion tons of crude steel produced globally in 2024 was made via the blast furnace process — with China alone accounting for roughly 1.005 billion tons, nearly 90% of which was BF-BOF produced.[2]

The blast furnace process begins with ironmaking: metallurgical coal (coke) and iron ore are fed into a blast furnace with pre-heated air. The chemical reduction of iron ore by carbon is the defining reaction of the process. Iron ore (primarily Fe_2O_3 or Fe_3O_4) reacts with coke-derived carbon monoxide at temperatures exceeding 2,000°F to produce liquid pig iron and carbon dioxide as an obligate chemical byproduct. The mass balance of a conventional blast furnace illustrates its emissions profile: to produce approximately one metric ton of pig iron, the process requires roughly 1.5 to 1.7 metric tons of iron ore, 0.5 to 0.6 metric tons of metallurgical coke, and various fluxes including limestone; the process emits approximately 1.8 to 2.2 metric tons of CO_2 per ton of liquid steel ultimately produced. This CO_2 is not a combustion byproduct that can be eliminated by switching fuels — it is a stoichiometric product of the iron ore reduction chemistry itself. Blast furnace CO_2 is, in the most literal sense, a process emission.

The liquid pig iron is then converted to steel in a basic oxygen furnace (BOF), where oxygen is blown through the molten iron to reduce carbon content and adjust chemistry. Additional energy, flux, and alloys are added, and the resulting liquid steel is continuously cast into semi-finished slabs, billets, or blooms for rolling and finishing.

B. Electric Arc Furnace Steelmaking: An Industrial Innovation in Emissions Reduction

The electric arc furnace ("EAF") route represents a significant decarbonization innovation over the BF-BOF pathway. EAF steelmaking uses high-amperage electrical energy — delivered through graphite electrodes — to melt recycled steel scrap or a combination of scrap and virgin iron units into liquid steel. Because scrap has already been reduced from ore, it carries minimal inherent process CO_2 burden from iron oxide reduction. The EAF route can produce a ton of liquid

[2] World Steel Association (WorldSteel), World Steel in Figures 2025 (reporting 2024 global production data). Total global crude steel production was approximately 1.885 billion metric tons in 2024, of which approximately 70.4% was produced via the blast furnace-basic oxygen furnace (BF-BOF) route.

steel with direct emissions substantially lower than BF-BOF steel, depending on the use of virgin iron, scrap mix, electricity source, and injected carbon volumes.

EAF steelmakers must also introduce carbon and oxygen as process inputs. Carbon is injected to achieve required chemistry, support foamy slag practices, and increase heat transfer efficiency — all essential to meeting target steel specifications. Oxygen is injected to promote carbon oxidation and control temperature. These inputs represent an unavoidable process requirement of EAF operations, not inefficiency, and they generate meaningful direct emissions regardless of the electricity source. The key distinction from the BF-BOF route is that the iron oxide reduction step — the single largest source of CO_2 in conventional steelmaking — has been eliminated, replaced by electrical melting of already-reduced ferrous material.

EAF feedstocks can also include direct reduced iron ("DRI") and hot briquetted iron ("HBI"), produced by reducing iron ore pellets using natural gas or hydrogen in a shaft furnace without reaching a liquid state. DRI and HBI introduce virgin iron — with its associated carbon footprint from the reduction process — into the EAF charge mix when sufficient high-quality scrap is unavailable. Commercial producers have developed natural gas-based shaft furnace technology that remains the dominant technology for supplementing scrap-based EAF operations globally; more recently, hydrogen-based DRI pilots have shown promise but remain pre-commercial at scale. The carbon footprint of DRI and HBI feedstocks must be accounted for in any comprehensive lifecycle analysis of EAF steel.

In summary, the EAF route is not carbon-free, but it is a commercially proven and broadly deployable decarbonization pathway for primary steelmaking available today. Its adoption represents a genuine advance in emissions reduction relative to the blast furnace baseline that governs most steel produced globally.

C. The Energy Intensity of Steel Production: A Fundamental Physical Constraint

Whether produced via blast furnace or electric arc furnace, primary steelmaking is among the most energy-intensive industrial processes in the modern economy. This intensity is not a function of operational inefficiency — it is a thermodynamic and metallurgical requirement imposed by the chemistry of steel itself.

To produce steel with the properties demanded by end users, steelmakers must achieve and sustain liquid steel temperatures in excess of 2,900°F to 3,100°F (approximately 1,600°C to 1,700°C). At these temperatures, ferrous materials transition to a fully molten state, which is necessary for several critical metallurgical functions: complete homogenization of alloying elements; removal of dissolved gases (primarily hydrogen and nitrogen, which cause defects and embrittlement if retained); adjustment of carbon, sulfur, phosphorus, and other element concentrations to specification; and casting into homogeneous, defect-free billets or slabs.

The mechanical and chemical properties of the finished steel product — yield strength, tensile strength, elongation, toughness, hardness, and weldability — are determined by chemistry and by the thermal and mechanical treatment applied after solidification. For structural applications,

specifications are exacting and non-negotiable. Seismic-grade reinforcing bar used in California's earthquake-resilient infrastructure, for example, must meet ASTM A706 requirements for yield strength, tensile strength, and ductility ratios — properties that require precise control of carbon, manganese, chromium, vanadium, and other elements achievable only through high-temperature liquid metallurgy. Steel for water infrastructure piping, electric transmission tower members, and structural fabrication each carry their own specification regimes, but all share the fundamental requirement of passing through a liquid state at temperatures simply beyond the reach of any process that does not supply massive quantities of concentrated thermal energy.

According to the International Energy Agency, the iron and steel sector accounts for approximately 7–9% of global CO_2 emissions, making it one of the hardest-to-decarbonize industrial sectors.[3] Energy cost is one of the most significant variable cost components for any steelmaker, typically representing 15–25% of total production costs depending on the production route and energy market. In EAF steelmaking specifically, electricity and injected carbon and oxygen together are the dominant energy inputs for the melting process, often accounting for 50–60% of total facility energy consumption — with the balance attributed to electricity for rolling mills, natural gas for ladle heating, casting, and reheating furnaces, and other auxiliary fuels. The energy consumed in achieving and sustaining liquid steel temperatures is not reducible through operational improvement alone; it is dictated by the thermodynamics of the process.

This physical reality has a direct policy implication. The vast majority of energy consumption in a steel facility — and therefore the vast majority of compliance cost exposure under the Program — arises from the fundamental melting process, not from lighting, motors, or ancillary equipment. For an electrified EAF facility, this means that the overwhelming share of the facility's compliance exposure flows through purchased electricity and the embedded carbon and environmental policy compliance costs in California electricity rates. Leakage mitigation mechanisms that fail to adequately address this indirect compliance burden will not prevent steel sector emissions leakage.

IV. PSG's Mojave Micro Mill: Progress, Remaining Capital Decisions, and Competitive Context

PSG's Mojave Micro Mill represents the first primary steelmaking investment in California in more than 50 years. The more than $630 million project is currently under construction in Kern County, having broken ground in March 2025 following nearly five years of pre-construction development, permitting, engineering, and project financing. Commissioning is expected in 2027. Upon full

[3] International Energy Agency (IEA), Steel – Breakthrough Agenda Report 2023. The BF-BOF route accounts for approximately 70% of global steel production. The IEA estimates total direct CO_2 emissions from the iron and steel sector at approximately 3.7 Gt CO_2 in 2019, representing approximately 7–9% of global emissions.

operation, the facility is expected to produce rebar from 100% recycled scrap using a fully electrified process supported by significant on-site renewable energy generation.[4]

The Mojave Micro Mill is designed around California's grid and regulatory environment. Its fully electrified configuration will eliminate direct fossil fuel combustion across the entire site — including the rolling mill reheat furnaces and ladle heaters that are fossil-fueled at most comparable facilities — and the facility's carbon footprint is projected to be approximately 59% below the average U.S. EAF operation on a per-ton basis. Governor Newsom highlighted the project in his January 2026 State of the State address as an example of the California Jobs First Economic Blueprint in action, and PSG has worked closely with state agencies and local authorities to advance the project.[5]

However, the Mojave Micro Mill is not yet complete, and significant capital, design, and optimization decisions remain outstanding. Decisions regarding equipment specifications, energy procurement strategies, production scheduling, and operating cost structures are still being made. These decisions are sensitive to the regulatory environment — including, specifically, the structure of the Cap-and-Invest Program — that the facility will face upon commencing operations in 2027.

Moreover, the Mojave Micro Mill will not operate in isolation from competitive market pressures. From the day it begins producing steel, it will compete with producers in neighboring states — Arizona, Nevada, Utah, Texas, and beyond — that face no comparable carbon compliance obligations. It will compete with imports from Mexico, Southeast Asia, and other jurisdictions with substantially lower environmental standards and energy costs. In this environment, even a modest structural cost disadvantage created by the Cap-and-Invest Program can threaten operational competitiveness and, critically, PSG's ability to achieve the profitability needed to attract capital for ongoing operations, expansion, and the reinvestment essential to any long-lived industrial enterprise.

California's ability to maintain any steel production — and to attract future investments in cleaner steel technology across the broad array of steel products consumed in the state — depends on whether the Program's design sends the right signals. The stakes are not merely those of a single project; they define the future of an entire industry.

V. The Broader Steel Industry Perspective: A Level Playing Field for All Steel Commodities

While PSG's immediate investment is focused on long products — specifically rebar — the policy framework CARB establishes for steel melting has implications for the full range of steel commodities consumed in California. The state imports not only rebar, but flat rolled products,

[4] PSG, Comments to the California Air Resources Board (November 12, 2025).
[5] Governor Gavin Newsom, State of the State Address (January 2026), referencing the Mojave Micro Mill as an example of the California Jobs First Economic Blueprint.

structural shapes, pipe and tube, wire rod, and a wide variety of semi-finished and finished steel products. Many of these products are imported from both EAF and BF-BOF producers across the U.S. as well as from China, India, South Korea, Turkey, Mexico, and other jurisdictions without meaningful carbon pricing — and with direct emissions intensities that can be two to four times higher than what a modern California EAF facility could achieve.

The regulatory framework CARB establishes today will determine whether, over the coming years and decades, new investments in steelmaking become viable for the large rebar market that PSG will not have the capacity to fully serve, and for other product categories as well. A second best-in-class EAF facility producing semi-finished billets for flat rolled products — hot rolled coil, cold rolled sheet, or galvanized steel — would serve automotive, appliance, and construction markets currently supplied entirely by imports. An EAF producing merchant and angle steel would support California's transmission buildout with in-state-produced material. Each of these potential investments will be evaluated by capital markets against the regulatory cost environment CARB creates.

A Program design that imposes a steadily declining allocation cliff on a sector with zero in-state production today does not just threaten PSG's existing investment — it forecloses the next investment before it is even proposed. CARB has the opportunity to design a framework that is genuinely welcoming to the full range of clean manufacturing investment that California both needs and has publicly committed to attracting.

VI. Policy Recommendations

A. PSG Supports the Transfer of Indirect Electricity Allocation from CPUC to CARB

PSG strongly supports the Proposed Amendments' transfer of responsibility for indirect electricity allocation from the CPUC to CARB. This transfer — completing a process that the Proposed Amendments describe as necessary to administer leakage protection for purchased electricity in a unified framework — is both conceptually correct and operationally important.

Under the prior CPUC-administered framework, indirect emissions assistance was allocated through a separate process not integrated with CARB's direct emissions allocation. This created a fragmented compliance picture in which leakage risk from indirect emissions was assessed and mitigated by a separate regulatory body with different mandates, different data, and a different analytical framework than that applied to direct emissions.

The consolidation of direct and indirect allocation under CARB creates a unified, whole-facility framework for the first time. CARB will now be able to evaluate each covered entity's total compliance exposure — the sum of its direct and indirect costs — and assess leakage risk holistically. PSG urges the Board to take full advantage of this new capability as it evaluates the recommendations that follow.

B. Electricity Assistance Is Essential for Leakage Mitigation in Electrified Industrial Sectors

PSG's Mojave Micro Mill is designed to be a fully electrified facility. Its primary steelmaking process involves no direct fossil fuel combustion in the furnace, and all other fossil fuel consumers typical of modern EAF steelmaking — including rolling mill reheat furnaces and ladle heaters — have been electrified. This design choice was made deliberately, as a matter of both environmental commitment and long-term operational strategy.

But electrification does not eliminate compliance exposure under the Program — it transforms it. A facility that transitions from direct natural gas combustion to electricity shifts its compliance exposure from direct to indirect emissions and compliance cost. If the Program's leakage mitigation mechanisms effectively protect against direct emissions leakage but address indirect emissions through a separate, less comprehensive framework, then electrification imposes a new competitive penalty rather than delivering a regulatory reward.

California's electricity rates embed multiple layers of carbon and related policy costs: the direct cost of carbon allowances borne by generators and bid into wholesale markets; RPS compliance costs; renewable and storage procurement obligations; and various transmission and distribution charges reflecting the ongoing transformation of the state's energy system. Collectively, these embedded costs mean that electricity purchased in California for industrial use is materially more expensive than electricity available to competitors in neighboring states and countries. For an EAF steelmaker, this cost differential is one of the most significant drivers of competitive position.

With the transfer of indirect electricity allocation to CARB, PSG urges the Board to ensure that the indirect emissions benchmark and electricity allocation methodology provide meaningful and durable protection against the leakage risk associated with California's electricity cost premium. Indirect emissions assistance must be calibrated to reflect the actual compliance cost embedded in California electricity rates and the competitive pressure facing both existing electrified facilities and those looking to invest in electrification.

C. PSG Supports a Border Carbon Adjustment Mechanism as a Long-Term Complement to Industrial Allocation

PSG strongly supports the development and implementation of a border carbon adjustment ("BCA") mechanism applicable to steel and other highly trade-exposed industrial products. A BCA would require that steel products imported into California bear a carbon compliance obligation comparable to that imposed on in-state producers. By leveling the playing field at the point of market entry, a BCA would allow industrial allocation levels to decline over time without causing leakage, because the competitive cost differential between in-state and out-of-state production would be reduced or eliminated.

The European Union has demonstrated that this sequencing is feasible. The EU's Carbon Border Adjustment Mechanism entered its transitional phase in October 2023 and will impose full financial obligations beginning in 2026, specifically covering steel and iron products. Importantly,

the EU is phasing down free industrial allocation under the EU ETS in coordination with the CBAM phase-in, ensuring that reductions in free allocation do not create leakage vulnerabilities before the BCA is in place to provide equivalent protection.[6]

California has not yet implemented a comparable mechanism. In the absence of a BCA, reducing industrial allocation for trade-exposed sectors creates direct and unmitigated leakage risk. California should adopt the same sequencing principle applied by the EU: allocation reductions should follow, not precede, the implementation of adequate leakage protection mechanisms. PSG therefore recommends that CARB develop and implement a BCA applicable to steel and other EITE sectors, and that further industrial allocation reductions be conditioned on the existence of an effective BCA or comparable mechanism.

D. CARB Should Freeze the CAF Until a Border Carbon Adjustment or Equivalent Mechanism Is in Place

PSG recommends that CARB freeze the standard CAF for all sectors pending the availability of an effective BCA. This sequencing approach — maintaining industry assistance before substantially reducing it — is a practical method to minimize emissions leakage and is consistent with how comparable carbon compliance regimes have approached the same challenge.

Freezing the CAF would not reverse the declines that have already occurred, but it would prevent further erosion of the Program's leakage protection before a genuine alternative mechanism is available. It would also create a policy foundation consistent with the EU's CBAM sequencing model: maintaining free allocation at a protective level until the BCA is available to provide equivalent protection, then allowing a managed transition once the competitive playing field is leveled.

E. The Proposed CAF Schedule Creates an Unacceptable Allocation Cliff for the Steel Melting Sector

Under the Proposed Amendments, iron and steel mills (NAICS 331111) using EAF production are classified as standard CAF activities.[7] The standard CAF schedule continues its decline through 2031 — reaching a CAF of 0.494 in that year — and then drops sharply beginning in 2032 under an accelerated trajectory proportional to the overall allowance budget reduction.[8] By 2035, the

[6] CARB, ISOR, p. 60: "One of these jurisdictions is the European Union, which is phasing down free industrial allocation in its emissions trading system as it implements a carbon border adjustment mechanism."
[7] CARB, Proposed Regulation Order, Table 8-1: Assistance Factors for Industrial Facilities. Iron and Steel Mills (NAICS 331111), activity "Steel Production Using an Electric Arc Furnace," is classified as HIGH leakage risk with a 100% assistance factor through 2035.
[8] CARB, Proposed Regulation Order, Table 9-2: Cap Adjustment Factors. Standard CAF values: 2031: 0.494; 2032: 0.348; 2033: 0.324; 2034: 0.301; 2035: 0.279. Iron and Steel Mills (NAICS 331111) is a standard CAF activity.

standard CAF represents industry coverage of a mere 27.9% of compliance costs compared to the benchmark.[9]

To understand the severity of this trajectory for the steel sector, consider the comparison CARB provides in the ISOR: in 2023, California's ratio of free industrial allocation to covered emissions was 62% — significantly below Washington State at approximately 100%, Québec at 99%, and the EU at 84%.[10] The proposed CAF trajectory would extend this gap substantially further with a notable cliff starting in 2032.

No state or country with which California competes for steel investment or production imposes anything remotely equivalent to the proposed post-2031 CAF trajectory on the steel sector. Arizona, Nevada, and Utah — the states most likely to attract steel investment that might otherwise come to California — have no carbon price applicable to steel manufacturers. Steel imports into California face no comparable compliance obligation. A facility choosing between a California EAF investment and an equivalent facility in any of these jurisdictions will, under the proposed CAF schedule, face a growing and unmitigated cost differential with a cliff in 2032 that will affect both operational economics and capital allocation decisions for decades.

This problem is compounded by the fact that the steel sector in California currently has zero production. The declining CAF is not being imposed on a sector that has received years of transitional support while adapting its operations. It is being imposed prospectively on a sector that must re-enter the state from scratch, at a time when the cost of entry is already high due to electricity rates, permitting, grid interconnection, and capital market uncertainties. An overall industry assistance factor of just 27.9% by 2035 — merely eight years after PSG is expected to begin operations — does not provide adequate runway for the investments required to achieve the long-term decarbonization trajectory CARB envisions.

F. CARB Should Freeze the CAF for Iron and Steel Mills at Its 2019 Level Until Steel Is Again Being Melted in California

PSG recommends that CARB suspend any further decline in the CAF for iron and steel mills at the level in effect in 2019 — 0.869 — until California implements a border carbon adjustment or equivalent policy that subjects imported steel to comparable carbon compliance obligations.[11]

The rationale for this recommendation is grounded in a fundamental principle of regulatory fairness: a declining allocation factor is designed to reduce industry assistance as a sector adapts its operations and reduces its emissions intensity in response to the Program's price signal. But

[9] CARB, ISOR, Section on Table 9-2 Rationale: "The standard CAF declines from 0.494 in 2031 to 0.279 in 2035, which is proportional to the decrease in proposed annual allowance budgets from 2031–2035 in Table 6-2."

[10] CARB, ISOR, Table 6: Ratio of Industrial Allocation to Covered Emissions in Various Jurisdictions (2023). California: 62%; Washington State: ~100%; Québec: 99%; European Union: 84%; United Kingdom: 72%.

[11] CARB, Proposed Regulation Order, Table 9-2: Cap Adjustment Factors. Standard CAF in 2019: 0.869; Standard CAF in 2027: 0.613; Standard CAF in 2035: 0.279.

this logic presupposes that the industry in question is present within the state, receiving the price signal, and has the opportunity to respond. When California's last steel mill stopped melting steel in 2019 and permanently closed in 2020, the steel melting sector became a sector with no in-state presence. There are no existing California iron and steel mill facilities receiving free allocation under a declining CAF and using that allocation to support the emissions reductions CARB contemplates.

The CAF for iron and steel mills has continued to decline every year since 2019, even as no steel has been melted in the state to which that declining allocation is theoretically directed. This is a mechanical outcome of the Program's design, and it has resulted in a situation where the allocation available to the sector upon re-entry is materially lower today than it was when the last California steel mill was operating. When PSG's Mojave Micro Mill begins operations in 2027, it will enter the Program at a CAF of 0.613 — already 29% lower than the 0.869 level in effect when in-state steel melting was last occurring in 2019. Under the proposed schedule, that figure falls to 0.279 by 2035, merely eight years after startup.

The ongoing CAF adjustments since 2019 have been squeezing a non-existent industry. The CAF level in effect when production ceased in 2019 should be the level applied to the first year that any new steel melting occurs in California. Resetting the clock to when the industry last operated is the most principled and logical approach to restoring a viable basis for in-state steel production.

G. PSG Recommends Reconsideration of Alternate Cap Adjustment Factor Eligibility for Iron and Steel Mills

Iron and Steel Mills (NAICS 331111) was assigned a high leakage risk classification by CARB from the inception of the Program, reflecting the sector's extreme trade exposure, limited ability to pass carbon costs through to customers given commodity market dynamics, high energy intensity, and demonstrated vulnerability to production relocation.[12][13] Despite this, CARB originally determined that the steel sector should receive the standard CAF rather than the alternate CAF that provides enhanced leakage protection to a more limited group of sectors. PSG requests reconsideration of this classification given: (1) the demonstrated extreme trade exposure evidenced by the total elimination of California steel melting since Program inception; and (2) the transfer of indirect emissions allocation to CARB, which creates a new opportunity to evaluate direct process emissions and electrified process emissions holistically.

[12] CARB, Allowance Allocation to Industrial Facilities, https://ww2.arb.ca.gov/our-work/programs/cap-and-trade-program/allowance-allocation/allowance-allocation-industrial. For the foundational leakage risk assessment see: Leakage Analysis, 2010 Regulation, Appendix K to the Initial Statement of Reasons.
[13] Fowlie, M., Reguant, M., and Ryan, S.P., "Measuring Leakage Risk" (CARB-commissioned study, 2016), https://ww2.arb.ca.gov/sites/default/files/cap-and-trade/meetings/20160518/ucb-intl-leakage.pdf. The study found leakage estimates are highest for sectors classified as "high" risk (Table 8-1) and estimated negative impacts on export volumes of 20% or greater for iron and steel.

CARB originally established the alternate CAF for sectors meeting three criteria: high leakage risk, high emissions intensity, and more than 50% of total emissions from process emissions.[14] The process emissions criterion was designed at the Program's inception in 2010 to identify sectors where emissions arise primarily from chemical reactions rather than fuel combustion, and where efficiency improvements and fuel switching offer limited abatement potential. The sectors currently qualifying for the alternate CAF are nitrogenous fertilizer manufacturing (NAICS 325311), cement manufacturing (NAICS 327310), and lime manufacturing (NAICS 327410).

Steel melting clearly meets the emissions intensity and — now proven beyond doubt — the trade exposure criteria. PSG respectfully urges CARB to revisit the application of the process emissions criterion in light of the transfer of indirect electricity allocation from CPUC to CARB. At the time the Program was designed, electricity consumption was handled separately and was not integrated into the direct leakage analysis. As a result, the process emissions criterion was applied only to direct, on-site emissions — and a sector like EAF steelmaking, whose primary process has already transitioned from blast furnace combustion to electricity, was not adequately considered for the intensely process-driven and unavoidable nature of its energy and emissions intensity.

Now that indirect electricity allocation has transferred to CARB, the Board has the opportunity and the analytical basis to evaluate a facility's total process energy and emissions — including electricity consumed in the melting process — in assessing whether its compliance exposure is fundamentally process-driven and not easily reduced through fuel switching or efficiency improvements alone. For an EAF steel mill where 50–60% of total energy consumption is electricity consumed in the primary melting furnace, the process-driven nature of compliance exposure is not materially different from that of a cement kiln or lime kiln, where process heat and chemical decomposition drive the majority of emissions. The fact that electricity is the energy carrier does not change the thermodynamic reality that the energy is consumed obligatorily in an industrial process with no chemical alternative to high-temperature melting.

Furthermore, the distinction between direct process emissions and electricity-based process emissions has blurred considerably with the continued advancement of electrification and carbon capture technology. The current alternate-baseline sectors are exploring electrification, carbon capture, and raw material substitution as primary decarbonization pathways, and rightly note the highly complex operational requirements, high capital requirements, and ongoing operational costs of each technology. If any of these alternate-baseline facilities were to reduce their direct process emissions through such investments below the 50% direct process emissions threshold, their leakage risk would not decline — in all likelihood it would increase substantially, reflecting

[14] CARB, Proposed Regulation Order, Table 9-2, footnote: "These are activities with over 50 percent of total emissions from process emissions, high emissions intensity and a high leakage risk classification in Table 8-1." The qualifying NAICS codes are 324199 (coke calcining only), 325311 (Nitrogenous Fertilizer Manufacturing), 327310 (Cement Manufacturing), and 327410 (Lime Manufacturing).

the higher capital and operational costs associated with these technologies that their out-of-state competition does not incur.

The steel mill that PSG is developing presents an analogous case. By fully electrifying its operations, PSG incurs substantially higher electricity consumption at California rates, and relies on raw material substitution by utilizing scrap metal instead of iron ore or DRI/HBI feedstocks. Like current alternate-baseline sectors, PSG is trading lower direct process emissions for higher indirect electricity costs — but in either case, the emissions leakage risk does not decrease; it substantially increases due to the higher capital and operational cost that out-of-state competitors do not bear.

PSG therefore urges CARB to revisit the alternate CAF eligibility criteria and to apply the alternate CAF to iron and steel mills, consistent with the sector's demonstrated extreme trade exposure and its fundamentally process-intensive energy and emissions profile. No matter which CAF is ultimately assigned to the sector, the Mojave Micro Mill will consume electricity in volumes comparable to those of the Rancho Cucamonga facility when it was operating — and will likely consume more, due to the additional electrified processes PSG has designed into the facility. That is because melting steel to 3,000°F requires energy, and no regulation changes that. The only question is how much leakage risk is allowed to persist.

H. PSG Supports the 100% Assistance Factor as Consistent with SB 1207 and Appropriate Given Broad Industry Leakage Risk

PSG supports CARB's proposal to maintain the 100% assistance factor for all covered industrial sectors through 2035. This reflects the Legislature's direction under SB 1207 and is well-calibrated to the current economic environment, in which leakage risks — including tariff-related supply chain disruptions, loss of federal industrial decarbonization funding, and developments in other jurisdictions' carbon pricing regimes — remain significant and in some respects are growing.

However, PSG urges the Board to recognize that the 100% assistance factor is a uniform instrument that does not distinguish among sectors by their actual leakage risk exposure. CARB's own analytical framework — which classifies sectors as having high, medium, or low leakage risk based on emissions intensity and trade exposure, as established in the 2010 Appendix K leakage analysis and reflected in Table 8-1 of the current regulation — provides the appropriate basis for providing differentiated leakage protection beyond the 100% assistance factor for the highest-risk sectors.[15] PSG encourages CARB to identify mechanisms, including the MDI discussed below, to provide additional leakage mitigation to sectors classified as High risk in Table 8-1.

I. PSG Supports the Manufacturing Decarbonization Incentive — With Targeted Modifications

[15] CARB, Allowance Allocation to Industrial Facilities (same as note 11). Additional reference to the 2010 Appendix K Leakage Analysis for the foundational high/medium/low leakage risk sector classification.

PSG supports the Manufacturing Decarbonization Incentive allocation as a meaningful and well-designed policy tool. The MDI provides eligible facilities with additional free allowances — beyond their product-based and electricity allocation — conditioned on the commitment and expenditure of those allowances on qualifying GHG emissions reduction projects.[16] The eligible project types — electrification projects, low-carbon hydrogen, renewable electricity generation and storage, solar and geothermal installations, and electrified thermal energy procurement — directly map onto the capital investments required for deep industrial decarbonization.

The MDI reflects CARB's recognition that the transition to low-carbon industrial production requires large, lumpy, and long-duration capital investments that cannot be funded from operational cash flows alone, and that carbon pricing does not by itself provide sufficient certainty of return or operational competitiveness to unlock this capital. By providing forward-vintage allowances tied to a commitment to invest in decarbonization, the MDI bridges the gap between the carbon price signal and the investment threshold for transformative industrial projects. PSG offers the following targeted recommendations to strengthen the MDI:

- **Eligible Project Costs Should Include Expenditures Incurred After ISOR Publication.** The MDI, as proposed, requires facilities to apply by September 1, 2026,[17] and does not specify when project costs must have been incurred to be eligible. PSG respectfully urges CARB to clarify that eligible project costs include expenditures incurred from and after the publication of the ISOR on January 23, 2026 for approved eligible projects. PSG is currently in active construction of the Mojave Micro Mill and plans substantial capital expenditures on electrification and renewable generation features that are precisely the type of investment the MDI is designed to incentivize. Excluding pre-application expenditures incurred after the ISOR is published would penalize early movers — the very actors the MDI is designed to reward — and would signal that slowing development to await regulatory clarity is the rational strategy for prospective MDI applicants.
- **The MDI Should Extend the Spending Window to Seven Years.** The five-year spending window proposed by CARB is materially inconsistent with the actual development timeline for large-scale industrial decarbonization projects in California. California's permitting environment — including environmental review under CEQA, air district permitting, and CPUC/CAISO grid interconnection processes — routinely requires three to five years before significant construction expenditures can begin. CEQA review alone often takes two to four years for major industrial facilities. Grid interconnection for new industrial load can require eight or more years under current CPUC-adopted energization timelines,

[16] CARB, Proposed Regulation Order, Section 95891(g)(7): manufacturing decarbonization incentive allocation allowance value must be spent within five years of the vintage year of the allocated allowances, with unused allowances returned to CARB.
[17] CARB, ISOR, p. 72: "Each eligible facility will be required to submit an application by September 1, 2026, to receive Manufacturing Decarbonization Incentive Allocation for vintage year 2027."

particularly when new substation construction is required.[18] Combined with feasibility studies, engineering design, and project financing timelines, the total development cycle for a major industrial decarbonization project regularly reaches six to seven years or more. A five-year spending window will, in practice, exclude many of the large capital projects the MDI is designed to support — precisely the projects that deliver the deepest and most durable emissions reductions. PSG urges CARB to extend the spending window to seven years.

J. The MDI Adder Should Be Tied to CARB's Own Leakage Risk Classification, Not CAF Baseline

The Proposed Amendments establish a two-tiered CAFM structure for the MDI: facilities on the standard CAF receive an MDI modifier beginning at 1.2 in 2027, while facilities on the alternate CAF receive a modifier beginning at 0.6.[19] The rationale is that facilities on the standard CAF face a steeper allocation decline and therefore warrant stronger decarbonization incentives from the MDI.

PSG respectfully disagrees with this structure, for reasons that go to the heart of the MDI's purpose. The MDI modifier should reflect leakage risk, not the rate of allocation decline. These are related but distinct considerations. A sector on a steep allocation decline trajectory faces greater program stringency — but that does not necessarily mean it faces the greatest competitive pressure to relocate production. Conversely, a sector on the alternate CAF trajectory may face significant leakage risk warranting strong MDI incentives even though its allocation declines more slowly.

CARB's leakage risk classification — based on emissions intensity and trade exposure data applied systematically across covered sectors since the Program's inception — provides the analytically appropriate basis for determining MDI adder levels. Sectors classified as high risk in Table 8-1 should receive the highest MDI modifier; sectors classified as medium or low risk should receive correspondingly lower modifiers. This approach requires no new analytical work — CARB's leakage risk classifications are already established and regularly updated. It is internally consistent with the Program's foundational framework. And it directs the MDI's strongest incentives to the sectors where the risk of production relocation is greatest, which is precisely where the incentive is most needed.[20]

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[18] California Public Utilities Commission (CPUC), adopted energization timelines. CPUC proceedings have acknowledged energization timelines of up to 8.9 years for new substation construction for load-side interconnection projects relevant to new large industrial loads.

[19] CARB, Proposed Regulation Order, Table 9-2a: Cap Adjustment Factor Modifier and Alternate Cap Adjustment Factor Modifier for Manufacturing Decarbonization Incentive Allocation. Standard CAFM: 1.2 in Compliance Period 6 (2027–2028), declining to 0.4 in Compliance Period 10 (2036–2038). Alternate CAFM: 0.6 in Compliance Period 6, declining to 0.2 in Compliance Period 10.

[20] CARB, Allowance Allocation to Industrial Facilities (same as note 11). The leakage risk classification framework established in Appendix K of the 2010 ISOR and reflected in Table 8-1 of the Regulation provides the appropriate basis for determining MDI adder tiers.

PSG therefore urges CARB to amend the MDI adder structure so that the CAFM tier is determined by each sector's leakage risk classification in Table 8-1, not by CAF type.

VII. Summary of Recommendations

PSG's recommendations are summarized as follows:

- **Support and implement a border carbon adjustment mechanism.** CARB should develop and implement a BCA applicable to steel and other EITE products.
- **Freeze the CAF for all sectors pending an effective BCA.** Consistent with the EU's sequencing model, the CAF should not continue to decline before an alternative competitive protection mechanism is in place.
- **Freeze the CAF for Iron and Steel Mills at the 2019 level of 0.869 until steel is again being produced in California.** The CAF level in effect when in-state production ceased should be the level applied when production resumes. The ongoing mechanical decline of a CAF for a sector with zero in-state production is both economically irrational and counterproductive to the Program's leakage prevention mandate.
- **Reclassify Iron and Steel Mills to the alternate CAF.** CARB should revisit the alternate CAF eligibility criteria in light of the transfer of indirect electricity allocation, the proven extreme trade exposure of the steel sector, and the fundamentally process-driven nature of steel melting energy consumption, and assign the alternate CAF to NAICS 331111.
- **Ensure the 100% assistance factor is maintained and supplemented for high-risk sectors.** PSG supports the 100% AF through 2035 as consistent with SB 1207, and urges CARB to use the MDI and other available tools to provide differentiated additional support to sectors classified as high leakage risk in Table 8-1.
- **Clarify that eligible MDI project costs include expenditures incurred after the ISOR publication date of January 23, 2026.** Facilities currently in active development should not be penalized for advancing projects in advance of the formal application deadline.
- **Extend the MDI spending window from five to seven years.** A seven-year window is the minimum necessary to reflect actual permitting, interconnection, and development timelines for large-scale industrial decarbonization projects in California.
- **Restructure the MDI adder so that CAFM tiers are determined by leakage risk classification, not CAF type.** The highest MDI modifier should go to sectors classified as high leakage risk in Table 8-1 — the sectors facing the greatest competitive pressure to relocate production.

VIII. Conclusion

California stands at a consequential juncture in its industrial and climate policy. The state's steel melting industry does not exist within its borders today. Every ton of rebar, structural steel, pipe,

and steel-containing product consumed in California is produced elsewhere — in most cases under conditions far less environmentally stringent than what California would impose. The Cap-and-Invest Program, designed to reduce global emissions, has instead contributed to a situation in which those emissions have been exported and in many cases increased, not eliminated.

PSG has made a substantial and specific commitment to begin reversing this outcome. The Mojave Micro Mill is an active construction project that will restore domestic steel production for California's infrastructure programs and reduce the carbon intensity of steel consumed in the state by a measurable, verifiable amount. That investment was made in the belief that California's regulatory framework would support the return of clean manufacturing and reward those willing to accept the risk of being first.

The recommendations PSG has offered in this filing are grounded in CARB's own analytical framework, consistent with the Legislature's direction under SB 1207, and aligned with the approaches taken by leading emissions trading systems globally. They do not ask CARB to compromise its climate targets. They ask, instead, that the Program's design recognize what its own leakage risk analysis has always shown: that the steel sector is among the most trade-exposed, most energy-intensive, and most vulnerable to production leakage of any sector in the California economy — and that a Program committed to reducing global emissions, rather than merely shifting them, must be designed accordingly.

Achieving California's statutory climate targets will require policies that not only reduce in-state emissions but also enable the return of industrial production to the state under cleaner operating conditions. The two objectives are inseparable. PSG remains committed to working collaboratively with CARB, the Legislature, and all stakeholders to design policies that prevent emissions leakage, support industrial innovation, and secure California's leadership in clean manufacturing.

We appreciate the opportunity to provide these comments and look forward to continued engagement throughout the rulemaking process.

Respectfully submitted,

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