

June 24, 2022

The Honorable Liane M. Randolph
Chair, California Air Resources Board
1001 I Street
Sacramento, California 95814

RE: Comments by California Steel Industries, Inc., on Draft 2022 Scoping Plan

Dear Chair Randolph:

We appreciate the opportunity to provide comments on the Draft Scoping Plan. We thought it was important to ask ARB what it is doing to avoid leakage among companies that rely on high heat intensity for their production processes.

The Draft Scoping Plan does not provide compliance options for companies like California Steel Industries, Inc. (CSI) to further reduce greenhouse gas emissions (GHG). As detailed below, CSI has taken every practical measure that we can to be an efficient producer and minimize emissions of GHG, including looking at electrification. Given our difficulties in making further reductions in GHG emissions due to our required heat-intensive combustion processes, we ask ARB to work with companies like CSI to find an option that would allow us to lower our GHG emissions in a way that is feasible and avoids leakage, as mandated by AB32.

CSI is the largest steel producer in the Western U.S. and one of the last survivors of the domestic steel industry in California. We are a major employer in the Inland Empire, with 900 excellent jobs. Our supply chain supports an estimated 6,500 external jobs in addition to the full-time jobs at CSI. We are proud that we've had NO layoffs in our 38-year history, despite the cyclical nature of the steel business.

CSI produces approximately 1.5 million tons per year of steel sheet in various forms, using purchased steel slabs as our raw material. Steel slabs weighing about 25 tons each are reheated in natural gas-fired furnaces and hot rolled in our rolling mill. Some of the resulting coils are sold as Hot Rolled Steel Sheet, an ARB benchmarked product under Cap and Trade. Most of the Hot Rolled coil is further processed downstream as ARB benchmarked steel sheet products or as line pipe.

CSI is an Energy Intensive, Trade Exposed (EITE) facility under the GHG cap and trade program. Additionally, the CSI facility is a high heat intensive facility that burns natural

gas in large quantities as part of its production processes. Our gas consumption at current steel production levels is approximately 10,000 MMBtus per day. Nearly 75% of this natural gas utilization is for heating the 25-ton, nine-inch-thick slabs to approximately 2,350 degrees Fahrenheit, so they may be converted into Hot Rolled Steel Sheet. Additional ARB-benchmarked production of Pickled Sheet, Cold Rolled Annealed Sheet, and Galvanized Sheet make up the remainder of CSI's natural gas demand.

We have survived in California, in part, by dramatically reducing GHG emissions per ton of steel produced (more than 40% reduction since the early 1990s); and by leading the nation's steel industry in reduction of criteria pollutants such as NO_x. Our investments to curtail emissions are in the hundreds of millions of dollars and put CSI at the forefront of furnace and burner technology and environmental excellence.

Our facility has a proven history of implementing improvements in processes and installing new equipment and emission control technology as it is available and proven. Some of the improvements that have been made include:

- High efficiency motors for rolling mill (in progress, \$36MM) (electricity)
- High efficiency boilers (NO_x, CO, SO_x, PM, GHG) (in progress, \$2.2MM)
- Selective Catalytic Reduction (NO_x) (in place and in progress)
- Facility wide fuel efficiency improvements (NO_x, CO, SO_x, PM, GHG)
- Waste heat steam generator (NO_x, CO, SO_x, PM, GHG)
- Afterburners to ensure complete combustion (CO)
- Mobile equipment switched to cleaner burning or electric units (NO_x, CO, SO_x, PM)
- Reduced VOCs through product approval program
- Wet Scrubbers (PM, Toxics)
- Baghouses, filtration and carbon absorber units and other various controls (PM, VOCs, Toxics)

Additionally, CSI employs the federal EPA best practice recommendations for reheat furnace carbon emission reduction that can be employed without building an entirely new hot rolling plant.

In addition to these improvements, CSI has been analyzing alternatives to natural gas that might be incorporated in its processes. All of these options are unproven at the scale that CSI would need, and they have other issues that make them impracticable for adoption at this point in time.

1. Hydrogen as Fuel or Feedstock. We understand that there has been limited implementation of this concept in the world. CSI has had discussions with a provider of industrial hydrogen in an effort to evaluate the potential for future development as a combustion fuel in our processes. We understand that to achieve meaningful hydrogen usage as a replacement for natural gas, hydrogen production must be heavily dependent upon renewable energy, which is still not a widespread practice. Otherwise, there is little chance for net carbon emission reduction. Additionally, the use of hydrogen would appear to face significant logistical and transportation barriers, likely requiring pipeline conversions or replacement. The price of the fuel is also an issue for companies that use large amounts of fuel in their processes.

2. Electrification of Heat. CSI has not been able to determine that any operation in the world is employing this idea for processes similar to those at CSI. However, CSI elected to look deeper into electrification, going so far as to engage a professional engineering firm to conduct a third-party, independent study. The study found that the cost of such a project would be untenable; the availability of the massive amounts of required electricity would be questionable (according to Southern California Edison); and greenhouse gas emissions would be increased in total based on current and anticipated fossil fuel electricity generation by the utility, required to support the demand level of production.

3. Carbon Capture Utilization and Storage (CCUS). CSI is open to further information sharing on this technology. At this point, it is not commercially available to CSI.

4. Biomass as Fuel or Feedstock. CSI has been open to exploring this concept for many years and has discussed it on more than one occasion with our natural gas utility, Southern California Gas Co. (SoCal Gas). As for future cost forecasts, the American Gas Foundation commissioned a December 2019 study by ICF. The study indicates that by 2040, ICF optimistically expects the majority of RNG to cost from \$7-\$20 per MMBtu, well above the historical average cost of natural gas. Purely as an emission reduction strategy, ICF claims that the cost of RNG is still competitive with other technologies, even with RNG carbon abatement costs ranging from \$55-\$300 per metric ton of CO₂.

The difficulty appears to be the continuing high cost of utilizing RNG vs. natural gas at scaled volumes. This is particularly challenging for serving a large industrial natural gas consumer such as CSI. Without cost-competitive, substantial volumes of RNG

and an effective transportation system, there will be no significant GHG emissions reduction.

At this time, there is no technology that we can use to eliminate the use of natural gas in our production processes or significantly reduce the GHG emissions associated with the use of natural gas.

The laws which gave us Cap and Trade are supposed to protect against leakage. However, the steel industry in California is “leaking”. Cap and Trade initially encompassed three in-state steel companies. One shut down and left California for a neighboring state, where they built a new steel mill. Another steel company has announced plans to close later this year. CSI is different. We would like to stay in California and grow here. To do that we have to keep doing what we do better than any comparable steel mill environmentally, without being smothered by costs that don’t lower emissions. Help us and other heat intensive industries to do that, and you will prevent leakage and help lower GHG emissions.

Thank you for this opportunity to present comments on this important issue.

Sincerely,



Scott Starr
Director, Operations & Quality

cc: Ms. Rajinder Sahota