SUBMITTED ELECTRONICALLY

November 8, 2024

California Air Resources Board
P.O. Box 2815
Sacramento, CA 95812

RE: Fortescue Comments on Proposed 2024 LCFS Amendments

Dear Members of the California Air Resources Board,

Thank you for the opportunity to provide comments regarding CARB's Proposed Low Carbon Fuel Standard (LCFS) amendments. Fortescue respectfully submits the following comments and proposed amendments, which are intended to facilitate the adoption of green hydrogen at scale in the state of California. Our comments are focused on the following areas: Hydrogen Book and Claim – Allowing for Power Related to Balance of Plant Operations, Tier I Hydrogen Calculator Process – Retroactive Crediting, and Hydrogen Refueling Infrastructure (HRI) Crediting for Heavy Duty and Light Duty Hydrogen Refueling Stations.

Established in Western Australia in 2003, Fortescue is the technology, energy and metals group accelerating the commercial decarbonization of industry, rapidly, profitably and globally. In 2020 Fortescue Future Industries was set up to move beyond fossil fuels by developing green electrons, green hydrogen and green technology at scale. In 2023 Fortescue Metals Group and Fortescue Future Industries moved to one brand, "Fortescue" to represent being a unified global metals and green energy company. By 2030, we have committed to have our Australian iron ore operations running on green energy by achieving our goal of Real Zero terrestrial emissions (Scope 1 and 2). Separately, we have a net zero Scope 3 emissions target by 2040, addressing emissions across our entire value chain.

Our Energy business is building a global portfolio of renewable green hydrogen and green ammonia projects and developing green technology solutions that show significant potential for decarbonisation and economic growth. We are investing in green electricity to directly support the green hydrogen supply chain, setting us up for our role as a world supplier of green energy alternatives. Our initial focus is on four green hydrogen projects across the United States, Australia, Norway and Brazil.

Earlier this summer, Fortescue officially launched its first U.S. green hydrogen production facility, Arizona Hydrogen, with soil turn ceremony in Buckeye, Arizona. Arizona Hydrogen is strategically positioned to significantly contribute to the decarbonization of the heavy-duty

on-road transportation sector. Arizona Hydrogen will be a vital player for reducing emissions in the mobility sector. As California ramps up its push to phase out combustion engine trucks on its roads over the next decade, Arizona Hydrogen is set to become a key player in the hydrogen-powered shift to green transportation in the region.

To further enable the LCFS eligibility of green hydrogen as a feedstock in transportation fuels, Fortescue recommends the following three amendments to the LCFS staff draft.

Hydrogen Book and Claim – Allowing for Power Related to Balance of Plant Operations

Regulation: *95488.8(i)(1)**:** Book-and-Claim (B&C) Accounting for Low-Carbon Intensity (CI) Electricity Supplied as a Transportation Fuel, Direct Air Capture projects, or Used to Produce Hydrogen as a transportation fuel. Reporting entities may use indirect accounting mechanisms for low-CI electricity supplied as a transportation fuel,* ***for hydrogen production and processing*** *for hydrogen used as a transportation fuel, or for direct air capture projects, provided the conditions set forth below are met.*

Concern: The current proposed regulations do not allow B&C for power related to the balance of plant (BOP) operations. We understand from CARB that B&C may be allowed for BOP on a case-by-case basis. By allowing B&C to expand to BOP, this could act as an incentive for early market hydrogen production enabling a lower CI calculation. By not allowing B&C for BOP could increase CI by more than 60gCo2/MJ, leading to more than 40 percent decrease in LCFS credits received thereby leading to higher prices and slow adoption.

Recommendation: Fortescue respectfully advocates for allowing B&C for BOP operations in electrolytic hydrogen production, as this is crucial for accelerating green hydrogen adoption in California by enabling producers to further green a larger portion of their power usage, resulting in lower carbon intensities and higher LCFS credit values.

Tier 1 Hydrogen Calculator Process – Retroactive Crediting

Regulation*: 95488.9.(b) Temporary Fuel Pathways*

Concern: CARB has proposed a new Tier 1 Calculator for hydrogen, however, applicants need to provide three months of production data to apply for the new pathway. As a result, applicants can only apply for a Tier 1 pathway three months *after* production begins.

We understand that due to the length of the approval process, which may be estimated between 4-12 months, CARB has proposed a new temporary pathway for electrolytic hydrogen that meets a CI of 55gCO2e/MJ (6.6kg CO2/kg H2). Although applicants can use temporary pathway, while awaiting CARB approval of official pathway, our concern is that the CI identified is high for the temporary pathway and therefore applicants could lose the opportunity to claim LCFS credits when using the high CI from the temporary pathway versus if they were able to use their lower CI pathway from the start of production.

Recommendation: Fortescue appreciates CARB's creation of the temporary pathway to alleviate wait times and proposes that CARB provide *retroactive credits* for any underestimation of LCFS credits resulting from using the temporary CI, should the CI from the

temporary pathway be higher than the CI approved after the full application process. This approach would ensure fairness and encourage early hydrogen adoption while maintaining the integrity of the final CI determination process.

HRI Crediting for Heavy Duty and Light and Medium Duty Hydrogen Refueling Stations

Regulation: *95486.4.(a)(2)(F)*

Concern: The calculation of HRI credits for light and medium duty (LMD) stations is set at 100 percent of station capacity for public stations, thus the volume of HRI credits is guaranteed for public LMD stations regardless of the volume of fuel dispensed. In contrast, heavy duty (HD) stations reach the HRI capacity at 3,000 kg/d, calculated as 50 percent the capacity of the station for public stations. Therefore, it is possible for a HD station to not generate HD HRI credits if it regularly dispenses more than half of its capacity.

Recommendation: Fortescue advocates for setting HRI capacity to 100 percent of station capacity for HD stations, mirroring the approach for LMD stations. This change would derisk heavy-duty refueling station development, help build the ecosystem and prevent excessive oversizing of stations to reach the maximum HRI credit threshold. To help accelerate and encourage the adoption of Class 8 trucks, heavy-duty stations require the same incentives as light-duty stations to ensure the continued construction and operation of the heavy-duty hydrogen refueling infrastructure ecosystem, thereby providing a strong signal to the market, and impacting the emerging industry's need for reliable fuel supply.

Fortescue appreciates the opportunity to provide input into this rulemaking and supports California's continued efforts to decarbonize inclusive of the use of green hydrogen. We appreciate CARB's consideration of our proposed amendments, and we look forward to continuing to work with CARB this effort moves forward.

Sincerely,

Andy Vesey
President & CEO
Fortescue North America