



October 15, 2018

Richard Corey
Executive Director
California Air Resources Board
1001 I Street
Sacramento, California 95814

RE: Adjustments to Table 9-2 of the Cap-and-Trade Regulations Required by AB 32

Dear Mr. Corey:

Thank you for the opportunity to comment on the amendments to the Cap-and-Trade Regulations, 17 Cal. Code Regs. § 95800 *et seq.* proposed by the California Air Resources Board (CARB) on September 4, 2018. On behalf of Guardian Industries Kingsburg Operation ("Guardian"), I write to request that flat glass manufacturing (NAICS code 327211) be added to the list of industries in Table 9-2 of the Regulations receiving slower declining cap adjustment factors ("Special Factors").

The flat glass industry in California has been decimated over the past 20 years with multiple plant closures resulting in the migration of activity and production capacity out of state, despite the growth in flat glass demand in California. Flat glass manufacturing requires higher temperatures than any of the industries currently receiving the Special Factors, and application of the standard declining cap adjustment factors will result in tens to hundreds of millions of dollars in additional compliance costs over the 20-year life of a flat glass plant.

Who We Are. Guardian Industries, a global company headquartered in Auburn Hills, Michigan, employs 18,000 people and operates facilities throughout North America, Europe, South America, Africa, the Middle East and Asia. Guardian companies manufacture high-performance float, coated and fabricated glass products for architectural, residential, interior, transportation and technical glass applications, and high-quality chrome-plated and painted plastic components for the automotive and commercial truck industries. Guardian's vision is to create value for customers and society through constant innovation using fewer resources. Guardian's flat glass products can be seen in some of today's most impressive buildings, including San Francisco's Sales Force Tower, New York's One World Trade Center, and Dubai's Burj Khalifa.

Our History in California. In 1978, the company opened a facility built on a small plot of farmland in Kingsburg, California. The Kingsburg facility began with a flat glass furnace, a cutting and packing line, and a warehouse and shipping operation. These operations have provided economic opportunity to hundreds of local families.

Guardian's operation in Kingsburg has evolved along the way, keeping pace with California's developing environmental awareness and taking early action to operate systems that comply with an increasingly complex regulatory environment.

In 2004, the Kingsburg facility added a magnetron sputtering plasma vapor deposition coater, allowing the production of low-emissivity, energy efficient glass. This process deposits various metals on the glass under vacuum in layers no thicker than several atoms. The coated glass can be fine-tuned to



match climates and building needs so that architects can optimize energy use in every building that uses Kingsburg glass in a window.

In 2008, Guardian completed a roughly \$100 million investment to rebuild the furnace and make other upgrades at the Kingsburg plant. The new furnace has a projected 15 to 20-year production life before needing major refurbishment, and runs non-stop 24 hours per day, 365 days per year.

Future Investments. In 2021 or 2022, the Kingsburg plant furnace will be reaching the end of its design life and Guardian will be faced with the decision of whether to rebuild the glass furnace at Kingsburg. One of the factors to be considered will be whether it makes sense to invest in the existing operations vs. an incremental spending increase at a site that may have a lower overall operational cost and compliance structure going forward.

Emission Intensity & Leakage. Several glass plants have left the state of California over the last 15 years, and large manufacturing operations have chosen to locate in Nevada, in part because approximately 80% of the raw materials needed to produce glass are located in Nevada and Wyoming. Currently, the Kingsburg facility must import the raw materials from these jurisdictions for our flat glass production. The additive impact of the cap-and-trade program costs in conjunction with these other factors significantly increase the operational cost structure for Kingsburg.

Manufacturing flat glass requires large volumes of raw materials and inputs of energy in the form of both fuel and electricity. Glass is primarily made from melting very high-purity silica sand, in a mix with limestone, dolomite, soda ash, salt cake, and various minor components.

To melt sand, furnace temperatures must approach 3000°F. This temperature is achieved through the combustion of natural gas in air, resulting in a process that is classified as Energy Intensive and Trade Exposed under the cap-and-trade program. In addition, the CARB acknowledges that cap-and-trade costs could result in the future closure of California glass plants, resulting in the import of glass produced outside the state. For this reason, the CARB has classified flat glass as a High Leakage Risk industry.

Compliance Costs. To illustrate the effect of compliance costs on its operations, Guardian compiled the following estimates for the projected life of a new furnace beginning operation by 2026 under the current cap-and-trade rule structure, assuming that the program extends indefinitely. At the allowance price floor, the projected costs to the facility were approximately \$85 Million over the furnace life. If the price reaches the second programmatic "speed bump", the cost reaches \$186 Million, and at the price ceiling, the cost is almost \$671 Million. These cost projections could reach prohibitive levels for the continuation of flat glass production within the state.

Consideration of addition of Flat Glass Manufacturing. Glass is a key way to control the environment within a building. Heat, cold, and precipitation can all be kept out, while light pours in and views are revealed. Interaction with flat glass happens every day, in our homes, our offices, our transportation systems, and even in our communication devices. Flat glass is an inseparable part of our lives, yet we rarely notice it.



In July 2018, Kingsburg employees were proud to celebrate the plant's 40th year of conducting business in California, with several employees being recognized for continuous employment since the opening of the facility. We hope to continue the legacy of the Kingsburg operation in California.

To mitigate carbon leakage in California, we request that flat glass manufacturing (NAICS code 327211) be added to the list of industries in Table 9-2 of the Regulations receiving a slower declining cap adjustment factors for industrial assistance.

Sincerely,

A handwritten signature in black ink, appearing to read "KBaird", is written over the printed name.

Kevin Baird,
President & CEO of Guardian Glass