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Protecting Communities and Building a Sustainable American Steel Industry

Strengthening the National Emissions Standards for Hazardous Air Pollutants at Integrated Iron and Steel Manufacturing Facilities

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The EPA's finalized rule will yield billions of dollars in public health benefits for nearby environmental justice communities, who are overexposed to toxic pollution.

Steel mills are an acute, major source of arsenic, chromium, lead, and other hazardous air pollutants, including toxic organic chemicals like dioxins and acid gases like hydrogen chloride, hydrogen fluoride, and chlorine gas. Even low levels of lead exposure can lead to irreversible brain damage in children and cardiovascular disease in adults. Short-term exposures to dioxins can cause skin lesions and alter liver function while long-term exposure to even tiny amounts of dioxins is linked to impairment of the immune, nervous, and hormone systems, and reproductive functions. Many of these pollutants are known or probable human carcinogens for which no safe threshold of exposure has been shown to exist.

Environmental justice communities and steel workers are at adverse risk of respiratory illness, brain damage and even cancer from steel mills toxic emissions. EPA's own demographic analysis shows 27% of people living within 3 miles of a steel mill are Black, despite making up only 14% of the share of the total U.S. population. EPA expects that this strengthening will yield as much as $3.7 billion in public health benefits in the first 10 years of implementation due to expected reduction in fine particulate matter (PM 2.5). Despite industry claims that their facilities do not impact surrounding communities, these companies continue to be on the hook for millions of dollars in settlement payments after years of public health violations.

The EPA's finalized steel mills rule will only cost a few million dollars for the entire multi-billion-dollar industry.

According to the EPA, this modest strengthening of the steel mills NESHAP will only cost companies $6.7 million annually in addition to upfront capital costs of $7.1 million. This represents a small fraction of the more than $2 billion in annual operating costs for this sector. Two companies, U.S. Steel and Cleveland Cliffs, own all the iron and steel mills in the country and had revenues of $18 billion and $20 billion respectively in 2023. There already exist other existing, proven, and more costly pollution control technologies that could reduce harmful emissions even further. These companies can afford to implement these bare minimum pollution control technologies that will better protect communities from worsening pollution exposure will not putting at risk their economic sustainability.

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The EPA's finalized steel mills rule is soundly scientific, economically feasible, and will make the American steel industry a stronger competitor among foreign markets.

Implementing stronger environmental regulations will not push American steel production overseas. Raising environmental standards for US manufacturing has not resulted in pushing production overseas to countries with lower environmental standards.[1] Instead, improved production techniques reduced emissions without significant impacts to domestic production, rather boosting technological innovation.[2] Through modernization and adopting novel technologies, the American steel industry can drastically reduce its emissions while competing with foreign markets.[3] The European steel industry is already implementing clean practices with strategies aiming to ensure competitiveness through increased resource efficiency and sustainability.[4] Existing smelting technology can reduce CO2 emissions by removing highly polluting processes, like sintering and coking.[5] The American steel industry can invest in technological innovation, energy efficiency improvements, and the adoption of renewable energy sources to compete with the European and Chinese steel industries.

The EPA's air rule proposal for steel mills underscores a commitment to scientific integrity, economic viability, and competitiveness on the global stage. This initiative not only aims to safeguard public health but also to ensure the American steel industry's revitalization through technological innovation and efficiency improvements. **By balancing economic benefits with environmental and health impacts, and embracing cutting-edge technologies and regulatory support, the American steel industry can lead in emissions reduction and sustainable practices.**

[1] Brunel, C. (2017). Pollution Offshoring and Emission Reductions in EU and US Manufacturing. *Environmental and Resource Economics*.
[2] Wu, R., & Lin, B. (2022). Environmental regulation and its influence on energy-environmental performance: evidence on the Porter Hypothesis from China's iron and steel industry. *Resources, Conservation and Recycling*, *176*, 105954.
[3] Holappa, L. (2020). A General Vision for Reduction of Energy Consumption and CO2 Emissions from the Steel Industry. *Metals*.
[4] Rieger, J., et al (2021). Residue Valorization in the Iron and Steel Industries: Sustainable Solutions for a Cleaner and More Competitive Future Europe. *Metals*, *11*(8), 1202. https://doi.org/10.3390/met11081202
[5] Cavaliere, P., & Cavaliere, P. (2019). *Clean ironmaking and steelmaking processes: efficient technologies for greenhouse emissions abatement* (pp. 1-37). Springer International Publishing.