Comment on Semi-Conductor Supply Chain in the US Federal Register
Due by Nov. 8, 2021

"Notice of Request for Public Comments on Risks in the Semiconductor Supply Chain"

https://www.federalregister.gov/documents/2021/09/24/2021-20348/notice-of-request-for-public-comments-on-risks-in-the-semiconductor-supply-chain

Comment:

Semiconductors are the foundation of the digital world. The pandemic and the global chip shortage have exposed how indispensable semiconductors are.

About three quarters of semiconductor manufacturing is in China and East Asia. Ninety two percent of the most advanced semiconductor manufacturing is in Taiwan and the remainder is in South Korea. As a result, the US is dependent upon these countries for its supply. That's a problem because semiconductors are a vital, strategically important product for the U.S.

One of the key inputs for semiconductor production is silicon metal (SiMe). Yet only two producers of silicon metal remain in the U.S., with the largest being Ferroglobe. Between the two remaining companies, the U.S. domestic production of silicon metal is approximately 136,500 metric tons. However, this does not meet the increasing demand for this metal in the U.S. To meet U.S. silicon metal demand for semiconductors, solar cells, and other products, another 95,000 metric tons[1] of silicon metal must be imported from overseas. Foreign supply represents 41% of the US's total silicon metal demand. Similar to semiconductors, reliance on overseas supply is a problem because silicon metal is a vital, strategically important product for semiconductors.

The global silicon metal market is expected to grow, with China leading the way. China produces more than it consumes. It engages in dumping practices to reduce its overcapacity. China dominates silicon metal production with 61 percent of the total refined production on average during 2010-2014[2]. This production is well above China's domestic consumption and higher than world demand for silicon metal. This is true even though other countries produce silicon metal including France, Spain, Germany, Norway, Bosnia, Iceland, Brazil, Australia, South Africa, Kazakhstan, Thailand, and the U.S.[3]

U.S. silicon metal producers face fierce and often unfair competition from other countries who at times are hostile toward U.S. interests.

Non-U.S. based suppliers can be disrupted by natural disasters, infrastructure shutdowns, and international conflicts. To reduce the risk of supply disruptions, the U.S. government should enact

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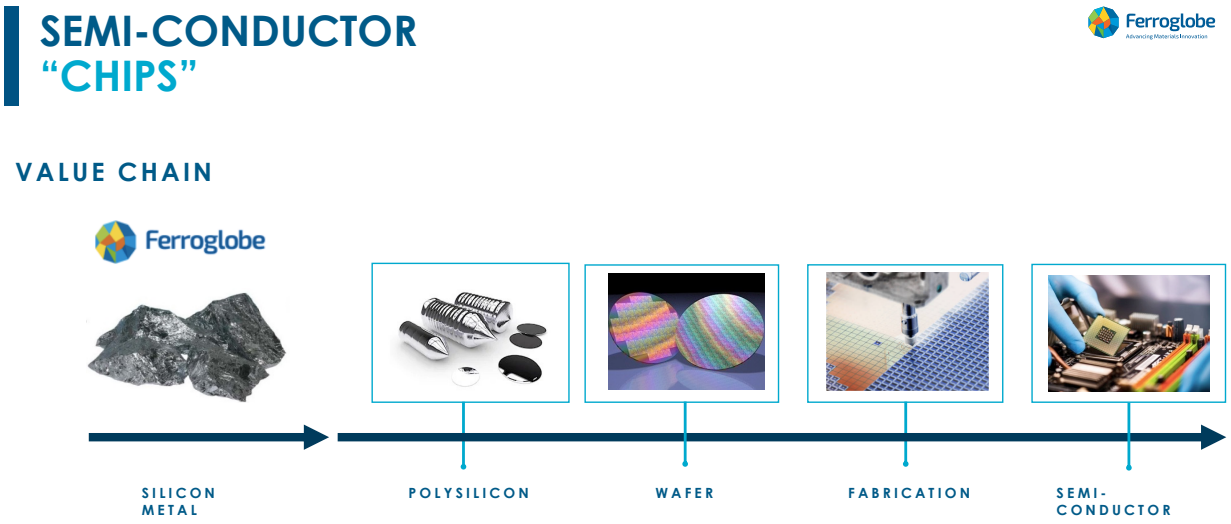
[1] Statista.com, Imported silicon into the U.S. by type 2016-2020, M. Garside, Feb. 19, 2021
[2] British Geological Survey, 2016
[3] CRM Alliance EU. https://www.crmalliance.eu/silicon-metal

incentive programs to bolster supply chain elements for U.S. production of silicon metal. These incentives should secure and expand manufacturing capacity in the U.S. to support the semiconductor supply chain.

Silicon metal should also be added to the U.S. government's "Critical Minerals" list administered by the U.S. Geological Survey and the "Critical Materials" list administered by the Pentagon. U.S.-based production of silicon metal must be encouraged and fortified to protect the vital semiconductor supply chain from disruptions and dependence upon foreign suppliers.



US Investment in Chip Production Must Include US-Based Silicon Production