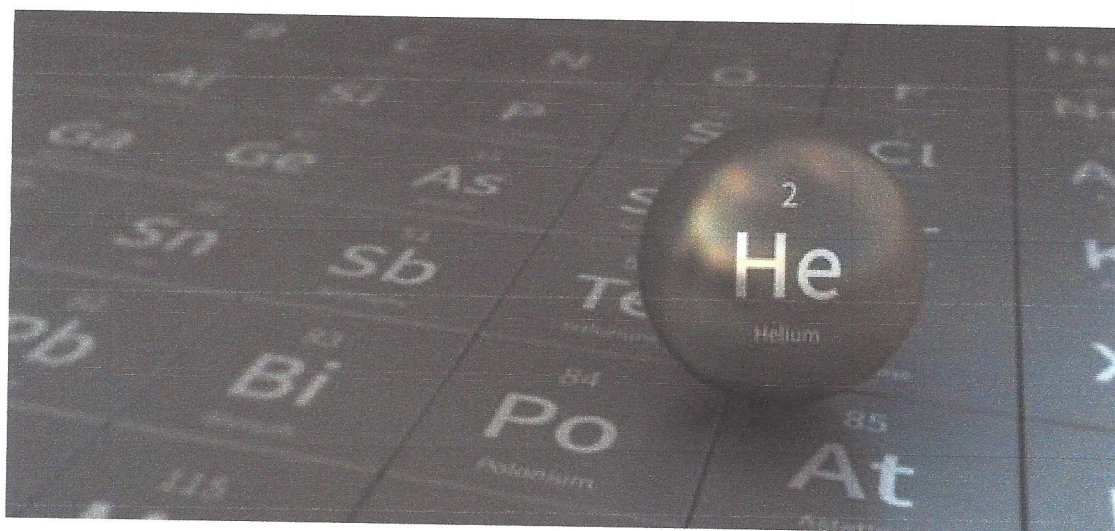


Helium removed from US critical minerals list

By Phil Kornbluth | 25 November 2021

Helium has not been included in the US Geological Survey's (USGS) 2021 Draft List of Critical Minerals, published in the Federal Register on 9th November.

The USGS, an agency under the Department of the Interior (DOI), is required by the Energy Act of 2020 to refresh the List of Critical Minerals at least every three years and the previous list of 35 critical minerals was published in May of 2018.



Helium, which is critical for applications such as semiconductor chip manufacturing, aerospace, MRI scanning, optical fibre manufacturing and nuclear power generation, and which has been prone to recurring shortages, was included on the 2018 list so it is a surprise to see helium not included on the draft 2021 list.

According to the Energy Act of 2020, critical minerals are defined as those which:

1. are essential to the economic or national security of the United States;

2. the supply chain of which is vulnerable to disruption (including restrictions associated with foreign political risk, abrupt demand growth, military conflict, violent unrest, anti-competitive or protectionist behaviours, and other risks throughout the supply chain); and

3. serve an essential function in the manufacturing of a product (including energy technology, defence, currency, agriculture, consumer electronics, and healthcare-related applications), the absence of which would have significant consequences for the economic or national security of the United States.

It should be clear to anyone familiar with the many important applications for helium that it meets the three criteria outlined above. Helium is critical to the semiconductor chip manufacturing process and the aerospace industry, which are the two fastest growing helium applications, as well as other important applications including MRI scanning, optical fibre manufacturing and nuclear power generation.

Moreover, the helium supply chain has experienced three periods of prolonged shortage during the last 16 years and has experienced disruption due to geopolitical events such as the Saudi-led embargo of Qatar between 2017 and 2021 and the current shipping bottlenecks related to the Covid-19 pandemic.

While the US is not currently dependent on helium from foreign sources and is still a net exporter at this time, there are valid concerns that the gradual decline of US production could lead to US dependence on foreign sources of helium within a relatively short period of time.

During my own career, I have observed the US share of global helium production decline from well over 90% in the early 1980s to less than 50% at present. By 2026, my estimate is that the US share of world helium supply will decline to around 35%. By that time, supply from Qatar and Russia will account for 25-30% of world supply each, with Algeria providing an additional 8%. Certainly, there are greater geopolitical risks associated with supply from all of these countries compared to domestic or North American supply.

While the US is not yet dependent on foreign supply, it seems very shortsighted on the part of the USGS to remove helium from the List of Critical Minerals, when the ongoing decline of domestic production puts us on a path toward reliance on foreign sources, and the primary alternatives to US production will be located in countries that are all subject to either geopolitical risk or supply chain disruption.

Kornbluth Helium Consulting believes that helium should be included on the 2021 List of Critical Minerals to highlight its importance to critical US industries, to continue to encourage development of new US and North American sources and to avoid future dependence on less reliable foreign sources.

The public is invited to submit comments on the draft 2021 List of Critical Minerals by 9th December, 2021. Comments can be mailed to: Draft List of Critical Minerals, MS-102, U.S. Geological Survey, 12201 Sunrise Valley Dr., Reston, Virginia 20192. Comments may also be submitted on-line at <http://www.regulations.gov> by entering "DOI-2021-xxxx" in the Search bar and clicking "Search".

About the author

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