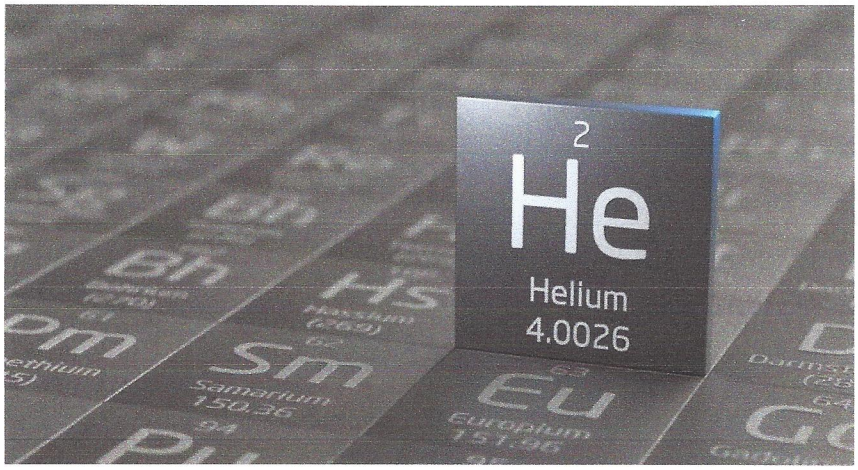


# Has Helium Shortage 4.0 come to an end?

By Phil Kornbluth on Apr 02, 2024 | 0 NEWS

Similar to economic recessions, it can be difficult to identify the precise start or end of a helium shortage.

All the same, Kornbluth Helium Consulting (KHeC) believes that, after winding down gradually during the second half of 2023, Helium Shortage 4.0 (HS-4.0) ended by the end of 2023 or early in Q1 of 2024. Since HS-4.0 began when the Bureau of Land Management's Crude Helium Enrichment Unit went down for an extended period in January 2022, this would mean that HS-4.0 lasted for about two years.

What are the primary reasons this period of shortage has come to an end? HS-4.0 began to ease mid-way through 2023 due to weak demand from the electronics industry, where demand for semiconductor chips and the associated demand for helium experienced a fairly significant decline. Helium demand for chip manufacturing is overtaking MRI as the most important application for helium, so a slump in this sector has a significant impact on overall demand.

At the same time, helium demand for MRI has continued its gradual decline as the latest generation of MRI scanners gradually replaces earlier generation scanners that consumed a lot more helium. New supply also came into the market from various sources during 2023, with the most significant event being the restart of deliveries from Gazprom's Amur plant in September. Gazprom reported the delivery of 110 containers by the end of 2023 and is believed to be delivering helium into the market at an annualized rate of at least 500 containers per year, equivalent to a roughly 8% increase in global supply. With the loss of a few percentage points of demand and the addition of 8% to 10% of new supply (including other new sources), that has been enough to restore a reasonable balance between supply and demand.

From here it will be interesting to see if market behaviour confirms the end of HS-4.0. To the best of my knowledge, two of the five helium majors were still allocating supply at the end of Q1. Although allocation rates have been increased significantly where they still remain in place, this would seem to indicate that some suppliers are still dealing with a supply deficit. However, other suppliers seem to have ample supply and, unlike previous cycles, an increasing quantity of helium is entering the market without passing through the hands of the helium majors. The fact that one or two of the majors are allocating supply does not necessarily indicate that there is a market shortage.

While market prices remain at or near historically high levels, and there are pricing cross-currents, KHeC has observed some softening of prices for both new and renewal business. It is no longer difficult for end users to obtain quotes for their business, for example. Spot prices for bulk liquid, which are another good indicator of whether the market is tight, fell by around half between July 2023 and Q1 of 2024. Moreover, even at recent price levels, there seems to be very little interest in purchasing spot loads. The balance of the evidence seems to confirm that HS-4.0 has ended.

Does this mean that the helium market is not going to have to deal with shortages going forward? I would say the supply-and-demand fundamentals are falling into place to support an extended period of ample supply. Gazprom has two more plants that it plans to start up at Amur in the coming years and Qatar Energy has announced plans

to begin production from its Helium 4 project around 2027. Together, three plants from Amur and Helium 4 could increase the world's supply of helium by 50% by 2027 or 2028.

However, the transition from shortage to plentiful supply will not happen overnight and there are plenty of things that could still go wrong. For example, there is still uncertainty about whether tightening trade sanctions could throttle the delivery of Russian helium to market. Plus, there is always the risk that geopolitical events in the Middle East or Asia could impact the flow of helium to market, or that planned or unplanned outages could reduce supply. So even in an environment where there should be a baseline of ample supply, it is likely that there will be occasional periods of tight supply. However, it is more likely that such periods of supply deficit would be of much shorter duration than we have experienced with the four multi-year shortages since 2006.

## About the author

Phil Kornbluth is President of Kornbluth Helium Consulting, LLC and is a member of gasworld's editorial advisory board. Phil has worked in the helium business for the last 41 years, including stints running the global businesses of both BOC Gases and the Matheson subsidiary of Nippon Sanso Holdings. Phil can be reached at Phil@KornbluthHeliumConsulting.com or +1 (908) 745-9779.