

Ukraine Conflict Could Exacerbate the Long-Term Shortage of Semiconductor Neon Supplies

USA, February 26, 2022

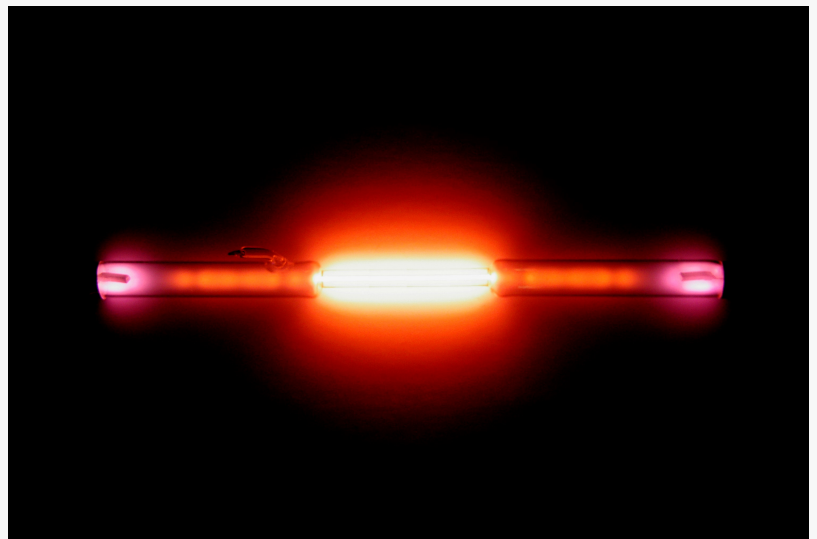
/EINPresswire.com/ -- Although experts of SIA (Semiconductor Industry Association) asserted that there's no adding proof that the Russia-Ukraine conflict would immediately risk semiconductor supplies since there are abundant suits of raw materials and gases to choose from; the long-term disruption on semiconductor supply chain related to [Neon gas](#) and palladium remain uncertain.

Ukraine and Russia are Prominent Exporters of Neon and Palladium

Ukraine supplies over 90% of semiconductor neon gas for the U.S. and 40% of krypton and 30% of xenon over the world, which means a lot to the semiconductor industry.

Neon gas is the key material of laser in the chip manufacturing process, especially Deep Ultraviolet Lithography (DUV) technology. The semiconductor exposure process requires mixing

special gases such as neon, fluorine, argon, etc. Chipmakers have reduced neon usage by 25~50% by adjusting software logic and optimizing the purging process of the inflatable program. Despite this, neon and other gases still play an important role in semiconductor production.



Both the krypton element and xenon element are extremely rare gas on the Earth. Used with argon, krypton is fundamental in improving brightness and extending the lifespan of fluorescent lights. While xenon element sees its uses as xenon lamps for photography, ruby lasers, and so on, and chemical compound xenon difluoride is generally applied to etch silicon [CPU](#).

At the same time, more than 45% of the palladium global supply used in sensors, memory, and other products comes from Russia.

The fear of penalties on Russia has pushed up the price of these metals. Palladium has a current selling price of about US\$2,700 per ounce, up more than 80% since mid-December. Palladium is utilized in a variety of applications ranging from vehicle exhaust systems to mobile phones to dentistry fillings. Nickel and copper costs, which are utilized in manufacturing and construction, have also been rising.

Chinese Market and Chip Makers' Reactions towards Ukraine Conflict

Before the Russia-Ukraine crisis, neon prices have risen sharply. According to analysis, the price of neon gas (99.99%) in China has risen from 400 RMB/m² in October 2021 to more than 1600 RMB/m² at present.

Ma Yinchuan, head of the CIGIA (China Industrial Gases Industry Association) stated that there is no serious shortage of China's inert gases, including neon, at the moment, but supplies will be tight and prices will rise, especially if countries such as Japan and South Korea increase neon imports from China amid European tensions, even though neon gas production can be improved through government mobilization if necessary. Although Ukraine is the world's largest producer of neon, ASML sources fewer than 20% of the gas it consumes from those countries, according to a spokeswoman on Wednesday.

Besides the above news that dampens the optimism, it is believed that most chipmakers are well-prepared by diversifying supply sources since the US-China trade deadlock. Some companies even set up expanding sources sooner after the 2014 Crimea crisis during which the price of neon gas soared 20 times.

Intel Corp claimed it did not expect any direct impact for sourcing raw materials for semiconductor supplies and so as the Taiwan chipmaker United Microelectronics Corp. However, TSMC, the world's largest maker for contracts reject to comment at the moment.

Ukraine Conflict Could Disrupted Semiconductor Shortage in Long-Term

Experts believe that supply delays from a Russia-Ukraine war and any following sanctions are unlikely to halt global chip production. However, the disruptions may put a strain on capacity, particularly for certain smaller businesses. And they will almost certainly lead to an increase in semiconductor pricing, at a time when chips have already become more expensive due to

abnormally strong demand and past COVID-19-related supply-chain interruptions.

Form [easybom](#)

Media Team

EASYBOM, INC.

+1 718-737-2822

[email us here](#)

This press release can be viewed online at: <https://www.einpresswire.com/article/564145174>

EIN Presswire's priority is source transparency. We do not allow opaque clients, and our editors try to be careful about weeding out false and misleading content. As a user, if you see something we have missed, please do bring it to our attention. Your help is welcome. EIN Presswire, Everyone's Internet News Presswire™, tries to define some of the boundaries that are reasonable in today's world. Please see our Editorial Guidelines for more information.

© 1995-2022 IPD Group, Inc. All Right Reserved.