

World faces hi-tech crunch as China eyes ban on rare metal exports

Beijing is drawing up plans to prohibit or restrict exports of rare earth metals that are produced only in China and play a vital role in cutting edge technology, from hybrid cars and catalytic converters, to superconductors, and precision-guided weapons.

By [Ambrose Evans-Pritchard](#)

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A draft report by China's Ministry of Industry and Information Technology has called for a total ban on foreign shipments of terbium, dysprosium, yttrium, thulium, and lutetium. Other metals such as neodymium, europium, cerium, and lanthanum will be restricted to a combined export quota of 35,000 tonnes a year, far below global needs.

China mines over 95pc of the world's rare earth minerals, mostly in Inner Mongolia. The move to hoard reserves is the clearest sign to date that the global struggle for diminishing resources is shifting into a new phase. Countries may find it hard to obtain key materials at any price.



China mines over 95pc of the world's rare earth minerals and is looking to hoard its resources.

Alistair Stephens, from Australia's rare metals group Arafura, said his contacts in China had been shown a copy of the draft -- 'Rare Earths Industry Development Plan 2009-2015'. Any decision will be made by China's State Council.

"This isn't about the China holding the world to ransom. They are saying we need these resources to develop our own economy and achieve energy efficiency, so go find your own supplies", he said.

Mr Stephens said China had put global competitors out of business in the early 1990s by flooding the market, leading to the closure of the biggest US rare earth mine at Mountain Pass in California - now being revived by Molycorp Minerals.

New technologies have since increased the value and strategic importance of these metals, but it will take years for fresh supply to come on stream from deposits in Australia, North America, and South Africa. The rare earth family are hard to find, and harder to extract.

Mr Stephens said Arafura's project in Western Australia produces terbium, which sells for \$800,000 a tonne. It is a key ingredient in low-energy light-bulbs. China needs all the terbium it produces as the country switches

wholesale from tungsten bulbs to the latest low-wattage bulbs that cut power costs by 40pc.

No replacement has been found for neodymium that enhances the power of magnets at high heat and is crucial for hard-disk drives, wind turbines, and the electric motors of hybrid cars. Each Toyota Prius uses 25 pounds of rare earth elements. Cerium and lanthanum are used in catalytic converters for diesel engines. Europium is used in lasers.

Blackberries, iPods, mobile phones, plasma TVs, navigation systems, and air defence missiles all use a sprinkling of rare earth metals. They are used to filter viruses and bacteria from water, and cleaning up Sarin gas and VX nerve agents.

Arafura, Mountain Pass, and Lynas Corp in Australia, will be able to produce some 50,000 tonnes of rare earth metals by the mid-decade but that is not enough to meet surging world demand.

New uses are emerging all the time, and some promise quantum leaps in efficiency. The Tokyo Institute of Technology has made a breakthrough in superconductivity using rare earth metals that lower the friction on power lines and could slash electricity leakage.

The Japanese government has drawn up a "Strategy for Ensuring Stable Supplies of Rare Metals". It calls for 'stockpiling' and plans for "securing overseas resources". The West has yet to stir.

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