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September 15, 2011

China Consolidates Grip on Rare Earths

By **KEITH BRADSHER**

BEIJING — In the name of fighting pollution, **China** has sent the price of **compact fluorescent light bulbs** soaring in the United States.

By closing or nationalizing dozens of the producers of **rare earth** metals — which are used in energy-efficient bulbs and many other green-energy products — China is temporarily shutting down most of the industry and crimping the global supply of the vital resources.

China produces nearly 95 percent of the world's rare earth materials, and it is taking the steps to improve pollution controls in a notoriously toxic mining and processing industry. But the moves also have potential international trade implications and have started yet another round of price increases for rare earths, which are vital for green-energy products including giant **wind turbines**, hybrid gasoline-**electric cars** and compact fluorescent bulbs.

General Electric, facing complaints in the United States about rising prices for its compact fluorescent bulbs, **recently noted in a statement** that if the rate of inflation over the last 12 months on the rare earth element europium oxide had been applied to a \$2 cup of coffee, that coffee would now cost \$24.55.

A pack of three 11-watt G.E. compact fluorescent bulbs — each the lighting equivalent of a 40-watt incandescent bulb — was priced on Thursday at \$15.88 on Wal-Mart's **Web site** for pickup in a Nashville, Ark., store. The average price for fluorescent bulbs has risen 37 percent this year, according to the National Electrical Manufacturers Association.

Wal-Mart, which has made a big push for compact fluorescent bulbs, acknowledged that it needed to raise prices on some brands lately. "Obviously we don't want to pass along price increases to our customers, but occasionally market conditions require it," Tara Raddohl, a spokeswoman, said. The Chinese actions on rare earths were a prime topic of conversation at a conference here on Thursday that was organized by Metal-Pages, an industry data firm based in London.

Soaring prices are rippling through a long list of industries.

“The high cost of rare earths is having a significant chilling effect on wind turbine and electric motor production in spite of offsetting government subsidies for green tech products,” said one of the conference attendees, Michael N. Silver, chairman and chief executive of American Elements, a chemical company based in Los Angeles. It supplies rare earths and other high-tech materials to businesses.

But with light bulbs, especially, the timing of the latest price increases is politically awkward for the lighting industry and for environmentalists who backed a shift to [energy-efficient lighting](#).

In January, legislation that President George W. Bush signed into law in 2007 will begin phasing out traditional incandescent bulbs in favor of spiral compact fluorescent bulbs and other technologies. The European Union has also mandated a switch from incandescent bulbs to energy-efficient lighting.

Representative Michele Bachmann of Minnesota is running for the Republican presidential nomination on a platform that includes strong opposition to the new lighting rules in the United States and has been a leader of efforts by House Republicans to repeal it.

China says it has largely shut down its rare earth industry for three months to address pollution problems. By invoking environmental concerns, China could potentially try to circumvent international trade rules that are supposed to prohibit export restrictions of vital materials.

In July, the European Union said in a statement on rare earth policy that the organization supported efforts to protect the environment, but that discrimination against foreign buyers of rare earths was not allowed under World Trade Organization rules.

China has been imposing tariffs and quotas on its rare earth exports for several years, curtailing global supplies and forcing prices to rise eightfold to fortyfold during that period for the various 17 rare earth elements.

Even before this latest move by China, the United States and the European Union were preparing to file a case at the W.T.O. this winter that would challenge Chinese export taxes and export quotas on rare earths.

Chinese officials here at the conference said the government was worried about polluted water, polluted air and radioactive residues from the rare earth industry, particularly among many small and private companies, some of which operate without the proper licenses.

While rare earths themselves are not radioactive, they are always found in ore containing radioactive thorium and require careful handling and processing to avoid contaminating the environment.

Most of the country's rare earth factories have been closed since early August, including those under government control, to allow for installation of pollution control equipment that must be in place by Oct. 1, executives and regulators said.

The government is determined to clean up the industry, said Xu Xu, chairman of the China Chamber of Commerce of Metals, Minerals and Chemicals Importers and Exporters, a government-controlled group that oversees the rare earth industry. "The entrepreneurs don't care about environmental problems, don't care about labor problems and don't care about their social responsibility," he said. "And now we have to educate them."

Beijing authorities are creating a single government-controlled monopoly, Bao Gang Rare Earth, to mine and process ore in northern China, the region that accounts for two-thirds of China's output. The government is ordering 31 mostly private rare earth processing companies to close this year in that region and is forcing four other companies into mergers with Bao Gang, said Li Zhong, the vice general manager of Bao Gang Rare Earth.

The government also plans to consolidate 80 percent of the production from southern China, which produces the rest of China's rare earths, into three companies within the next year or two, Mr. Li said. All three of these companies are former ministries of the Chinese government that were spun out as corporations, and the central government still owns most of the shares.

The taxes and quotas China had in place to restrict rare earth exports caused many companies to move their factories to China from the United States and Europe so that they could secure a reliable and inexpensive source of raw materials.

China promised when it joined the W.T.O. in 2001 that it would not restrict exports except for a handful of obscure materials. Rare earths were not among the exceptions.

But even if the W.T.O. orders China to dismantle its export tariffs and quotas, the industry consolidation now under way could enable China to retain tight control over exports and continue to put pressure on foreign companies to relocate to China.

The four state-owned companies might limit sales to foreign buyers, a tactic that would be hard to address through the W.T.O., Western trade officials said.

Hedge funds and other speculators have been buying and hoarding rare earths this year, with prices rising particularly quickly through early August, and dipping since then as some have sold their inventories to take profits, said Constantine Karayannopoulos, the chief executive of Neo Material Technologies, a Canadian company that is one of the largest processors in China of raw rare earths.

“The real hot money got into the industry building neodymium and europium inventories in Shanghai warehouses,” he said.

Stephanie Clifford contributed reporting from New York.

This article has been revised to reflect the following correction:

Correction: September 17, 2011

An article on Friday about the effect of China’s control over rare earth metals on energy-efficient products like light bulbs misstated the price of 11-watt G.E. compact fluorescent bulbs listed on Wal-Mart’s Web site. The price of \$15.88 is for a three-pack, not a single bulb.