

# **U.S. at risk of rare earths supply disruptions**

**Tom Doggett, Reuters, 12-15-10**

WASHINGTON – The United States risks major supply disruptions of rare earth metals used in clean energy products unless it diversifies its sources of the minerals, the Energy Department warns in a report due to be released later on Wednesday.

The United States and other countries are worried that China, which controls 97 percent of the world trade in rare earth metals, will use those supplies as a political weapon and cut back their export when it is in a dispute with another country or to grow China's clean energy technology sector.

"The availability of a number of these materials is at risk due to their location, vulnerability to supply disruptions and lack of suitable substitutes," U.S. Energy Secretary Steven Chu said in a report, due to be unveiled on Wednesday at a rare earth metals conference at the Center for Strategic and International Studies.

The release of the report coincides with trade talks in Washington between the United States and China. U.S. officials are expected to push Chinese officials to loosen export restraints on rare earth elements.

China, which said on Tuesday it planned to raise export taxes on some rare earth metals beginning next month, holds 37 percent of known rare metal reserves, the United States has 13 percent and the rest is in other countries.

The 17 rare earth metals, with exotic names like lanthanum and europium, form unusually strong lightweight materials and are used in a wide range of applications including high-tech and defense products, car engines and clean energy.

## **CHINESE STRANGLEHOLD**

China has vowed that it would not use its dominance of rare earth supplies as a bargaining tool with foreign economies but it has cut its exports of the materials on environmental grounds.

U.S. Secretary of State Hillary Clinton raised U.S. concerns over Beijing's export policy with Chinese Foreign Minister Yang Jiechi during a visit to Asia at the end of October.

The Energy Department said in its report that it looked at the use of rare earths in wind turbines, electric vehicles, solar cells and energy efficient lighting because these clean technologies are expected to be deployed substantially on a global basis over the next 15 years, increasing demand for rare earth metals.

It said that in order to manage the risk of rare earth supply disruptions, the United States must increase its domestic extraction and processing of the materials.

There is only one U.S. rare earths producer, Molycorp Inc. It is the largest non-Chinese rare earths firm and the only rare earth oxide producer in the Western Hemisphere.

The report said the United States must work closely with its international partners, including Europe and Japan, to boost their production of the materials.

"Diversified global supply chains are essential," the report said.

However, mining rare earth metals can be very expensive and the lead times for new mining operations are long, ranging from two to 10 years.

"Whether a deposit can be mined economically will depend on a number of factors, including rare earth prices, regulatory requirements and improvements in extraction and separation technologies," the report said.

Recycling and reusing the rare earth metals could also significantly lower world demand for the materials.

Traditional energy sectors are also at risk from rare earth supply problems, the report said.

Rare earth ores are used in the fluid cracking catalysts that convert heavy oils in the refining process into more valuable gasoline, distillates and lighter products. Rare earth elements are used in catalysts to produce higher yields of more valuable products such as gasoline.

A disruption in rare earth supplies could have a noticeable impact on refinery yields and require oil refinery owners to make investments so the fluid cracking process will work without the rare earth materials, the department said.

The department said it will develop an updated strategy by the end of next year for increasing supplies of critical rare earth metals.