

# China pays price for world's rare earths addiction

May 1 2011, by Allison Jackson

---



Rare earths are loaded on to a ship at a port in Lianyungang, eastern China. Farmers in northern China living near a 10-square-kilometre rare earth mining dump site say they have lost teeth and their hair has turned white while tests show the soil and water contain high levels of cancer-causing radioactive materials.

Peasant farmer Wang Tao used to grow corn, potatoes and wheat within a stone's throw of a dumping ground for rare earths waste until toxic chemicals leaked into the water supply and poisoned his land.

Farmers living near the 10-square-kilometre expanse in northern China say they have lost teeth and their hair has turned white while tests show the soil and water contain high levels of cancer-causing radioactive materials.

"We are victims. The tailings dam has contaminated us," Wang, 60, told AFP at his home near Baotou city in Inner Mongolia, home to the world's largest deposits of [rare earths](#), which are vital in making many high-tech products.

"In this place, if you eat the [contaminated food](#) or drink the [contaminated water](#) it will harm your body," Wang said, pointing towards lifeless fields now strewn with rubbish around Dalahai village, a few hundred metres from the dump.

China produces more than 95 percent of the world's rare earths -- 17 elements used in the manufacture of products ranging from iPods to flat-screen televisions and [electric cars](#).

Two-thirds of that is processed in mineral-rich Baotou on the edge of the Gobi desert.

Environmental groups have long criticised rare earths mining for spewing [toxic chemicals](#) and radioactive thorium and uranium into the air, water and soil, which can cause cancer and birth defects among residents and animals.

Beijing, keen to burnish its green credentials and tighten its grip over the highly sought-after metals, has started cleaning up the industry by closing illegal mines, setting tougher environmental standards and restricting exports.

But Wang and the other farmers in Dalahai blame state-owned giant

Baogang Group, China's largest producer of rare earths and a major iron ore miner and steel producer, for poisoning their fields and ruining their livelihoods.

Strong winds whip across the dump's millions of tonnes of waste, blowing toxic and [radioactive materials](#) towards surrounding villages.

"It is the pollution from the tailings dam," Wang Er, 52, told AFP, pointing a dirty finger at his spiky hair which started turning white 30 years ago.

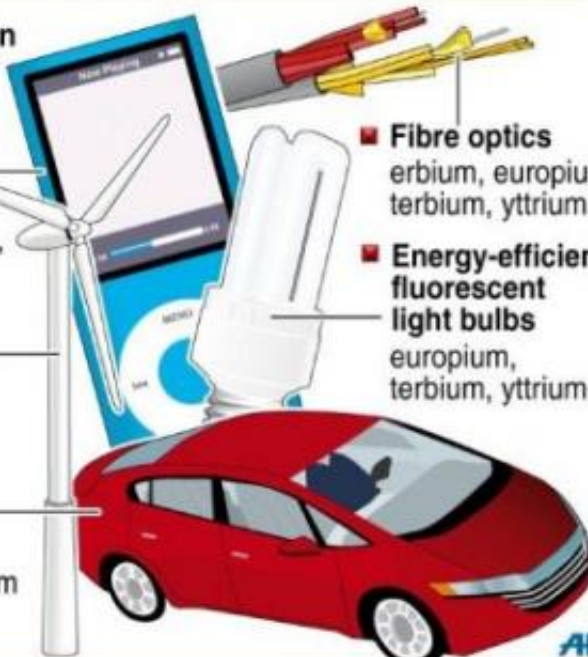
## Rare earth minerals

**China's tightening control over mines could trigger price hikes**

- ▶ Collection of 17 chemical elements
- ▶ Vital component in high-tech products
- ▶ China supplies at least 95 percent of world's rare earths

**Some products that contain rare earth elements:**

- **iPods**  
dysprosium, neodymium, praseodymium, samarium, terbium
- **Wind turbines**  
dysprosium, neodymium, praseodymium, terbium
- **Hybrid vehicles**  
dysprosium, lanthanum, neodymium, praseodymium



- **Fibre optics**  
erbium, europium, terbium, yttrium
- **Energy-efficient fluorescent light bulbs**  
europium, terbium, yttrium

Source: USGS AFP

Graphic illustrating the use of rare earth metals, 95 percent of which are supplied by China.

Baogang, which has rare earths and [iron ore](#) refineries stretching for about seven kilometres along a road in the area, did not respond to AFP requests for comment.

But a 2006 study by local environment authorities showed levels of thorium, a by-product of rare earths processing, in Dalahai's soil were 36 times higher than other areas of Baotou, state media have reported.

"People are suffering severely," the Chinese-language National Business Daily said in December, citing the official study. Sixty-six villagers died of cancer between 1993 and 2005 while crop yields fell "substantially".

"There is not one step of the rare earth mining process that is not disastrous to the environment," Greenpeace China's toxics campaign manager Jamie Choi said in a recent report.

Choi said the impact of the government crackdown depends on whether it is "implemented properly".

But the environmental damage already caused by rare earths mining in China could be irreversible, according to Wang Guozhen, a former vice president of the government-linked China Nonferrous Engineering and Research Institute.

"The money we earned from selling rare earths is not enough for repairing the environment ... definitely not enough," Wang told AFP.

As demand for rare earths soars, China is slashing export quotas. Analysts say Beijing wants to drive up global prices and preserve the metals for its own burgeoning high-tech industries.

The moves have prompted complaints from foreign high-tech producers while the United States and Australia have responded by developing or reopening mines shuttered when cheaper Chinese supplies became available.



A front loader shifts soil containing rare earth minerals to be loaded at a port in Lianyungang, eastern China.

Several kilometres from the massive dumping ground is the privately-owned Baotou City Hong Tianyu Rare Earths Factory -- one of dozens of operators processing rare earths, iron and coal in a dusty no-man's land.

Workers wearing blue uniforms and army camouflage runners inhale toxic fumes as huge spinning steel pipes process tonnes of rare earths bound for high-tech manufacturers in China, Japan, the United States and elsewhere.

A production manager surnamed Wang told AFP the factory produces "several thousand tonnes of rare earths a year" and the toxic waste is piped to another dumping ground in the area.

The desolate fields around Wang's village have been left fallow as farmers wait for government compensation. Some appear to have fled already, with empty houses and shops along dusty roads falling into disrepair.

Authorities have offered to pay farmers 60,000 yuan per mu (\$9,200 per 0.067 hectares) so they can move to a new village four kilometres away. But they won't have land to till and the farmers say the compensation is inadequate.

"People like us can only cultivate the land and raise animals. If we don't have a regular job, where will our income come from, how will we live?" asked Wang Tao, his brown face creased with worry.

(c) 2011 AFP

Citation: China pays price for world's rare earths addiction (2011, May 1) retrieved 13 April 2024 from <https://phys.org/news/2011-05-china-price-world-rare-earth.html>

<p>This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.</p>
--