

《研究表明，世界上有足够的稀土金属用于绿色能源》



A recent study says there are enough rare earth metals on Earth for new "low-carbon electricity generation" technologies.

最近的一项研究表明，地球上足够的稀土金属来开发新的“低碳发电”技术。

Rare earth metals come from minerals found in countries around the world.

稀土金属来自发现于世界各国的矿物。

The researchers said more mining is needed to make more of the valuable metals available to industry.

研究人员表示，为工业提供更多有价值的金属需要采集更多的矿。

Rare earth metals are in demand for products such as magnets, wind turbines, solar panels and computers.

稀土金属在磁铁、风力涡轮机、太阳能电池板和计算机等产品中都有需求

All are part of the "green energy" push to remove carbon gases from electricity generation.

所有这些都是在 “绿色能源” 推动的一部分，目的是消除发电中的碳气体。

The researchers said the amount of minerals available is enough to supply a switch to renewable energy.

研究人员表示，可用矿物质数量足以满足转向可再生能源的需要。

They wrote that "the carbon gasses related to electricity infrastructure may be substantial."

他们写道，“与电力基础设施相关的含碳气体可能数量巨大。”

But the study said it would be between one and nine percent of the world's budget for carbon gas production.

但该研究称，它只占到全球含碳气体产出预算的1%到9%。

The study came out recently in the science publication Joule.

这项研究最近被发表在科学期刊《焦耳》上。

Zeke Hausfather helped write the study.

齐克·霍斯法瑟帮助撰写了这项研究。

He is an expert who works at a technology company called Stripe and at Berkeley Earth, a non-profit climate research group.

他是一名专家，供职于一家叫做Stripe的科技公司和非营利气候研究组织“伯克利地球”。

He called the process "big and messy".

他称这一过程“大而杂乱”。

But he thinks reducing carbon gases, or "decarbonization", can be done.

但他认为减少含碳气体或“脱碳”是可以做到的。

He said he is not worried about the long-term supply of rare earth materials.

他说自己并不担心稀土材料的长期供应。

However, the scientists warn that in the early days of the switch to green energy, there will be shortages.

然而，科学家们警告称，转向绿色能源的初期将会出现能源短缺。

For example, there could be a shortage of the element called dysprosium.

例如，一种叫做镝的元素可能会短缺。

It is used to make strong magnets.

它被用来制造强磁体。

Industry will require three times more of the metal than is produced now.

工业对它的需要将是现在产量的3倍。

However, there is 12 times more dysprosium available than needed, the researchers said.

然而，研究人员说，现有的镝是所需量的12倍。

Another element is tellurium, which is used in large groups of solar panels, called solar farms.

另一种元素是碲，它被用于大型的太阳能电池板群，那被称为太阳能农场。

There is just enough of that material available if the world makes a fast push to solar power, the researchers said.

研究人员说，如果世界快速推进太阳能发电，那么这种材料也就刚刚够。

In addition, there are other materials that can be used instead of tellurium if needed.

此外，如果需要，还有其他材料可以代替碲。

Daniel Ibarra is an environment professor at Brown University.

丹尼尔·伊巴拉是布朗大学的环境教授。

He did not take part in the study but knows about lithium shortages.

他没有参加这项研究，但他知道锂存在短缺。

He told the Associated Press that the study was "robust" and "debunks" concerns about running out of rare earth materials.

他对美联社表示，这项研究“强有力地打破了”对稀土材料耗尽的担忧。

He said the main question is if production of the materials can keep up with demand.

他说，主要问题是这些材料的生产能否跟上需求。

The United States Geological Survey reports that

美国地质调查局报告称，

the countries with the largest supplies of rare earth metals are China, Vietnam, Russia and Myanmar, also known as Burma.

稀土金属供应量最大的国家是中国、越南、俄罗斯和缅甸(也称为Burma)。

The study also noted that mining causes pollution.

该研究还指出，采矿会造成污染。

But the scientists said that if the world switches to green energy, the mining will not be a problem.

但科学家们表示，如果世界转向绿色能源，采矿就不是问题了。

Rob Jackson is an energy expert and studies how humans affect the earth, but was not involved in the study.

罗布·杰克逊是一位能源专家，并研究人类如何影响地球，但他没有参与这项研究。

He is a professor at Stanford University.

他是斯坦福大学的一名教授。

He said even with evidence that there are enough rare earth materials, humans should still be concerned with creating less pollution.

他说，即使有证据表明稀土材料足够，人类仍然应该关注减少污染这件事。

"Along with mining more, we should be using less," he said.

他说：“在开采更多矿的同时，我们应该减少对其的使用。”

The study centered on the creation of electric power and did not look at the materials used in electric car batteries.

这项研究以创造电力为中心，并没有研究电动汽车电池所使用的材料。

Hausfather said that study is too complicated and will be examined by the team next.

霍斯法瑟称，这项研究太复杂了，接下来将由该团队进行调查研究。

重点词汇

there are 有；可数名词的复数形式；许多重要的事情要谈

low-carbon 低碳，含碳低的

metals 金属；用金属做；用金属包；用碎石筑；用碎石修(路)；
metal的第三人称单数和复数

come from 来自；出生于；出身于

minerals 矿物；矿物质；汽水；mineral的复数

around the world 全世界