

Austin  58°F



Sign in

 Search the web 



Money

My Watchlist

Markets

Expert Portfolios

Cry

 Personalize

Sponsored

- 
-  515
- 
-  63
- 
- 


Interesting Engineering

Follow

65.2K Followers

↗

Buried fortune: US finds \$8.4 billion in rare earths sitting in coal ash landfills

Story by Aamir Khollam • 11mo • 3 min read



 Feedback

└ Buried fortune: US finds \$8.4 billion in rare earths sitting in coal ash landfills

For years, the United States has depended on imports of rare earth elements, the critical materials found in everything from smartphones to renewable energy technologies.

But in a surprising twist, researchers from The University of Texas at Austin have discovered that a massive domestic supply has been sitting right under our noses all along.



Who Charges The Least For Auto...

OTTO Insur... · Sponsored



Trapped within the country's coal ash deposits lies a staggering \$8.4 billion worth of these essential elements, a finding that could significantly reduce dependence on imports and reshape America's approach to sourcing critical minerals.

From waste to wealth

Coal ash, the powdery byproduct left after burning coal for fuel, has long been considered an industrial waste product.

However, scientists have now identified coal ash as an abundant and accessible source of rare earth elements.

These elements are crucial in manufacturing batteries, solar panels, and high-performance magnets.

Feedback

"This really exemplifies the 'trash to treasure' mantra," said Bridget Scanlon, co-lead author of the study and a research professor at UT Austin's Bureau of Economic Geology.

"We're basically trying to close the cycle and use waste and recover resources in the waste, while at the same time reducing environmental impacts."



A defining moment — up t...

Susan Jewe... · Sponsored



Striking gold with global implications

The study estimates that U.S. coal ash contains 11 million tons of rare earth elements.

That's nearly eight times the country's known domestic reserves.

This is the first national assessment of coal ash as a resource, presenting a new way to strengthen America's supply of critical minerals.

Unlike traditional mining, coal ash extraction has a key advantage.

The burning process has already separated the minerals from their original ore.

This reduces the need for energy-intensive refining steps.

"There's huge volumes of this stuff all over the country," said Davin Bagdonas, a research scientist at the University of Wyoming. "And the upfront process of extracting the (mineral host) is already taken care of for us."

Regional variations

The study reveals that not all coal ash is the same.

Different regions contain varying concentrations of rare earth elements, affecting how easily they can be extracted.

Coal ash from the Appalachian Basin has the highest concentration, averaging 431 milligrams per kilogram.



Brain Neurologists Fi...

Magazine ... · Sponsored



However, only 30% is easily recoverable. Coal from the Powder River Basin has a lower concentration (264 mg/kg) but a much higher extractability rate of 70%. This makes it a more viable option for large-scale recovery.

"These variations matter because they determine which deposits are most economically viable," Scanlon explained.

"This kind of broad analysis has never been done. It provides a foundation for further research."

Turning potential into reality

While the discovery is promising, challenges remain in making it a practical solution.

Companies like Element USA are developing the technology and [workforce](#) needed to extract rare earth elements from coal ash and mining byproducts.

"The idea of getting rare earth elements out of tailings (mining byproducts) just makes sense," said Chris Young, chief strategy offi



Feedback

at Element [USA](#).

“The challenge is turning that common-sense idea into an economic solution.”

The U.S. has a major opportunity with growing investment in domestic rare earth recovery.

By tapping into this overlooked resource, the country could reduce reliance on foreign sources and turn waste into a strategic national asset.

The study is published in the [International Journal of Coal Science & Technology](#).

Sponsored Content



OTTO Insurance

Who Charges The Least For Auto Insurance In Texas? (Check Zip Code)

Sponsored



wheretowatchmovies.app

Movies to Watch Now - Good Movies - Best for Movies

Sponsored



More for You

Feedback

 The Wall Street Journal

UnitedHealth used aggressive tactics to boost Medicare payments, Senate report finds

 1k   316



 Newsweek

Lawmaker Trump's "Abusing

 3k 



 CNN · 3h

Eric Dane, 'Grey's Anatomy' and 'Euphoria' star, dead at 53

 211   26



 Newsweek

Donald Trump threatens to veto Obamacare subsidies bill

 3k   1k



 FOX News

Grieving changes son euth

 1k 

- 600
- 56

 **CaspianReport** [Follow](#) **6.2K Followers** [Share](#)

How a \$10 trillion industry could collapse with one sabotage

1w



Russia has been quietly mapping, jamming, and sabotaging the West's internet backbone: undersea fiber optic cables. These cables carry 95% of global internet traffic, worth over \$10 trillion in daily financial activity. From civilian-looking troller ships to high-tech spy vessels like the Yantar, Russia is already probing NATO waters and recording cable layouts. NAT...

Sponsored Content

 Feedback

More for You