# Uranium can be used for battery energy storage

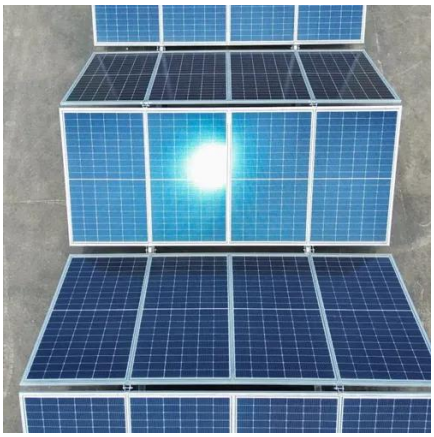

## Overview

Converting a global stockpile of nuclear byproduct into a novel form of energy storage, researchers at the Japan Atomic Energy Agency (JAEA) have developed the world's first rechargeable battery powered by depleted uranium – a prototype that reimagines radioactive waste as a. Converting a global stockpile of nuclear byproduct into a novel form of energy storage, researchers at the Japan Atomic Energy Agency (JAEA) have developed the world's first rechargeable battery powered by depleted uranium – a prototype that reimagines radioactive waste as a. Japan's uranium rechargeable battery breakthrough could transform energy storage, improving renewable power integration and unlocking new technological potential. Researchers at JAEA developed a rechargeable battery using uranium as an active material. In this research, we developed the first “uranium rechargeable battery” that utilizes the chemical properties of uranium for practical use and verified its performance in. To break it down for those new to battery technology: Most rechargeable batteries, like those in smartphones or electric cars, rely on materials such as lithium or lead to create a flow of electrons and produce power. The Japanese team, however, replaced these conventional materials with uranium. Conceptual image of a uranium battery system developed by the Japan Atomic Energy Agency, using depleted uranium and circulating electrolyte to generate rechargeable energy. Prototype uranium battery reimagines nuclear waste as energy storage.

## Uranium can be used for battery energy storage


### [Uranium Batteries Could Transform Renewable Energy Storage]

Uranium batteries, though still in their early stages, represent an innovative approach to energy storage by harnessing the unique chemical properties of uranium due to its potential as an ...



### ["Nuclear Waste Powers Batteries Now": Japan Transforms 17,637 ...]

In a remarkable scientific breakthrough, Japanese researchers have introduced a novel approach to energy storage by using depleted uranium, a byproduct of nuclear processes, as the key ...

### [The rechargeable battery using uranium as an active material]

We first demonstrate a nonaqueous rechargeable battery using uranium and iron as active materials. This uranium-iron battery achieves an open-circuit voltage of approximately 1.3 V, ...

### [First Assembly of a Uranium-Based Rechargeable Battery]

In this research, we developed the first "uranium rechargeable battery" that utilizes the chemical properties of uranium for practical use and verified its performance in charging and ...

## JAEA develops world's first storage battery from depleted uranium

To make efficient use of this depleted uranium, the research team worked on developing a redox flow battery that uses uranium as the active material. The capacity of redox flow batteries can be easily ...

## Depleted Uranium Battery: Turning Nuclear Waste into Power

Now, the JAEA researchers say depleted uranium also could be used in batteries. The JAEA announced the development in March and provided a rough outline of the battery technology.

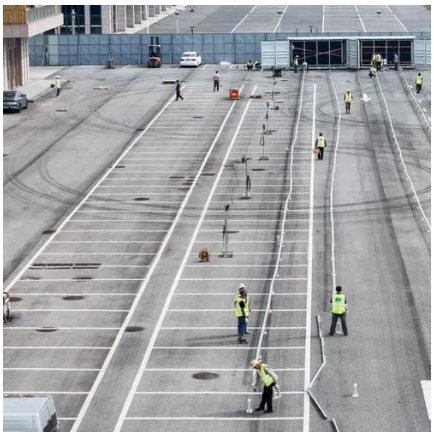
## Scientists develop powerful new battery from radioactive waste -- and ...

A groundbreaking new battery made from depleted uranium -- a byproduct of nuclear fuel production -- could help solve one of renewable energy's biggest challenges: storage.

**Japan taps old nuclear fuel for**

## batteries

Conceptual image of a uranium battery system developed by the Japan Atomic Energy Agency, using depleted uranium and circulating electrolyte to generate rechargeable energy. ...



[Japan Unveils World's First Nuclear Waste-Powered Rechargeable Battery]

The Japan Atomic Energy Agency recently announced the creation of a rechargeable battery that uses uranium--specifically depleted uranium (DU)--as its active material.

## World-first: Japan unveils uranium waste-based ...

Scientists create a rechargeable battery using depleted uranium, converting nuclear byproduct into a valuable energy storage resource.

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