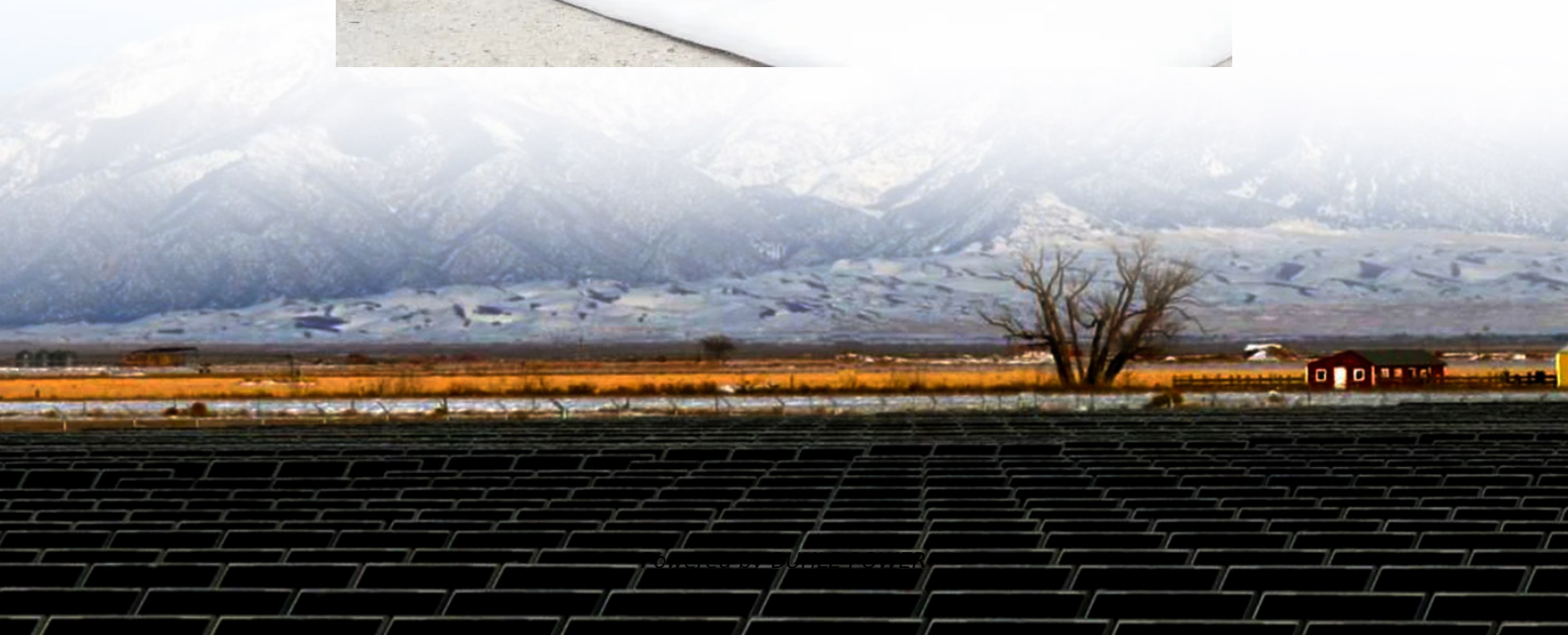


# The battery with the longest energy storage time





## Overview

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Can battery technology unlock long-duration energy storage?

The batteries work fabulously for discharging a few hours of electricity, but they're too expensive to dispatch energy for much longer. Now several companies say they have developed cheaper technologies, including flow batteries and metal-air batteries, that promise to unlock long-duration energy storage.

How long do lithium batteries last?

Today, most lithium-ion battery systems provide power for only a few hours at a time, but the technology continues to get cheaper and better, says John-Joseph Marie, an energy storage analyst at the Faraday Institution who recently authored a report on stationary batteries.

Can a quantum battery store more energy than a conventional battery?

Quantum batteries can theoretically charge faster and store more energy than conventional batteries—except they tend to lose all of their stored energy in nanoseconds. Now scientists have developed a new prototype quantum battery that can hold onto its energy for 1,000 times as long as previous devices.

How long does a carbon-14 battery last?

This carbon-14 battery, powered by radioactive decay, can generate electricity for up to 5,700 years. By utilizing nuclear waste, it offers an eco-friendly solution to energy generation, transforming hazardous byproducts into a valuable power source. But how does it work, and what does this mean for the future of energy?



## The battery with the longest energy storage time

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