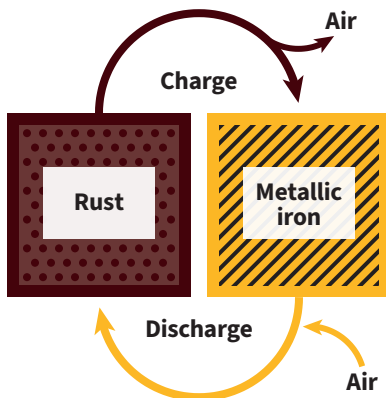


INFO

MULTIDAY IRON-AIR BATTERY DEMONSTRATION



Project overview

Xcel Energy, working with Form Energy, plans to build a new energy storage project at the Sherco Energy Hub near Becker. The project will reuse part of the existing site as the coal plant is retired.

The system will store electricity for several days at a time, helping keep power reliable during periods when wind or solar energy is limited. This project is a demonstration, meaning it will test and help companies develop new technology that could support Minnesota's energy future.

Why this project matters

Minnesota's energy system is changing as more electricity comes from renewable sources like wind and solar. While these sources are clean and affordable, they depend on weather conditions.

This project will test a new type of long duration energy storage that can provide electricity over multiple days. That added flexibility helps keep the electric system reliable during extended periods of low wind or extreme weather.

Xcel Energy has committed to providing carbon-free electricity by 2050. Projects like this help evaluate new tools needed to reach that goal while continuing to serve customers safely and reliably.

How the battery works

The project uses iron-air battery technology, which relies on a simple and well understood process similar to rusting and reversing rust.

When the battery is providing electricity, it uses oxygen from the air to convert iron into rust. When it is recharged, electricity converts the rust back into iron. This process can be repeated many times.

Each battery module is about the size of a side-by-side washer and dryer. Groups of modules are housed in secure, weather protected enclosures on the site.

Safety and environmental considerations

Safety is a top priority. Iron-air batteries use a stable chemistry and do not have the overheating risks associated with some other battery types.

The project will meet all applicable safety codes and standards and will receive required certifications before operation. Many battery components are recyclable, and the technology does not rely on toxic heavy metals.

Community and economic benefits

This demonstration project brings research and investment to Minnesota. Argonne National Laboratory will help evaluate both the technical performance of the system and its broader community impacts.

Form Energy also plans to build a U.S.-based manufacturing supply chain over time, with a goal of sourcing iron domestically. That approach could support American manufacturing and create long-term economic benefits.

By locating the project at an existing power plant site, the project makes use of current infrastructure and helps support a thoughtful transition as the facility evolves.