As Iowa continues the transition to clean energy resources, the ability to store renewable generation for use when the sun does not shine and the wind does not blow will be essential for achieving a carbon-free electrical grid. Storage makes a more resilient energy system, minimizing the impacts from events like the August 10, 2020 derecho. With expanding storage technology and the rapidly declining costs of storage, more utility, commercial and personal applications are being realized in Iowa.

ENERGY STORAGE IN IOWA IS GROWING

- IOWA HAS THE POTENTIAL TO BE AN ENERGY STORAGE LEADER
- ENERGY STORAGE CAN STRENGTHEN IOWA’S ECONOMY
- ENERGY STORAGE IN IOWA IS GROWING
- The August 10, 2020 derecho. With expanding storage technology and the rapidly declining costs of electrical grid. Storage makes a more resilient energy system, minimizing the impacts from events like.

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Iowa currently has approximately 6.9 MW of utility-scale battery storage in operation.

- With the support of the Iowa Economic Development Authority, Ideal Energy is providing 4-megawatt-hours of storage capacity, or enough electricity to power nearly 900 average Iowa homes for up to four hours.

Iowa Environmental Council research.

1. Iowa Environmental Council research.
2. MISO Interactive queue. [https://www.misoenergy.org/planning/generator-interconnection/GI_Queue/gi-interactive-queue/]
3. iowaenergystoragereport-execsummary.pdf (iowaeda.com)
4. Installed in 2018, this is one of the most technologically advanced solar installations in the nation.
5. Renewable hydrogen – Ideal Energy Solar
6. Alliant Energy Wellman utility-scale battery – the 650-kilowatt, 2.7-megawatt-hour battery avoided the need of the local energy grid, and can power 650 nearby homes for four hours.
7. Green Hydrogen, hydrogen produced through electrolysis using renewable electricity, is being explored as a potential energy storage technology providing long-term storage potential.
8. Solar panel capacity for additional customer-owned solar at a fraction of the costs to upgrade the grid in the community.
10. Agri-Industrial Plastics Company Fairfield – the 1.1 megawatt solar power plant is the first solar installation to combine active tracking technology and vanadium-flow battery energy storage in the U.S. Robust vanadium-flow battery technology is high-performing and does not degrade over time.
11. The 517 kW roof-mounted solar array that works in tandem with a 212 kW Tesla Powerwall lithium-ion battery energy storage system. During the day, the solar panels generate energy that charges the Powerwall. The battery system runs on an artificially intelligent control system to automatically discharge at times of high energy usage (or peak demand) to avoid or reduce costly demand charges.
12. Renewable Hydrogen – Ideal Energy Solar
13. Alliant Energy Wellman utility-scale battery – the 635-kilowatt, 2.7-megawatt-hour battery avoided the need of the local energy grid, and can power 650 nearby homes for four hours.
15. Urea, and other ammonia-based fertilizers.