



Ca a a d A ca a c c d a c c
 a a d a a d c c ab
 d a d a d a

W a I G d R a b

Grid reliability is essential to the nation's economy and public safety, even in unexpected conditions. Key components of grid reliability include:

O a a R a b

Ab R d R a T D a d

How easily can grid operators balance supply and demand in real time?

R c

W

R c Ad ac

E S a Ca ac

Does the grid have enough supply to meet demand everywhere under reasonably foreseeable circumstances?

S S ab

Ad a F E c c

Can all parts of the grid maintain enough voltage through system disturbances?

W D W N d G d R a b

Major weather events – both under normal circumstances and blackouts during extreme weather events such as drought, extended

Ca C a E A c G d R a b

heatwaves, wildfires, and extreme cold conditions. Research suggests that these weather events are expected to become more common and more intense due to climate change¹, and our current grid will struggle to withstand these new extremes.

power grid for most of the Great Plains, has at times obtained more than 90% of its electricity from renewable sources and on average generates more than a third of its electricity from wind sources.³

Across the nation, wind, solar and storage already provide over 15% of our electricity needs⁴.

Forecasting changes in the output of wind and solar have become highly predictable in a way that other resources are not; this provides grid operators with enough time to bring other units online during an emergency.

1 https://www.ipcc.ch/report/ar6/wg1/downloads/report/IPCC_AR6_WGI_Chapter11.pdf
 2 <https://www.sciencedaily.com/releases/2021/05/210511123634.htm>
 3 <https://www.spp.org/news-list/spp-sets-regional-records-for-renewable-energy-production/>
 4 <https://cleanpower.org/market-report-2022/>

Grid capabilities are enhanced by storing energy and instantly dispatching the exact amount of electricity needed when demand rises – a level of precision that existing electricity generators cannot match. Additionally, storage can be charged during periods of high renewable energy and discharged when the wind isn't blowing and the sun isn't shining, allowing for the seamless integration of clean power resources.

Energy storage also serves as back-up power for individual homes, businesses, communities, and the broader grid system to minimize and prevent power outages and service interruptions from extreme weather.

W a n t d i m G d R a b

T c d d m c a b c a b necessary a
a ab ab a d c d