

## PIENAAR ENERGY (PTY) LTD

# The long way to go for microgrids



## Overview

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There's a long way to go, but microgrids have grown 11% in capacity in the last four years, and according to the Department of Energy, there are over 460 operational microgrids in the U.S. 1 GW of reliable electricity to the communities they serve. A new report by Think Microgrid says most states are doing an insufficient job at deploying microgrids despite developing microgrid roadmaps. Image: Eaton Innovative state action last year across the microgrid policy landscape was. Focusing on the future of microgrids, the piece examines their potential to provide resilient, local power amid policy swings and technological change. At its core, a microgrid is a localized energy system that can operate independently from the main grid when needed. 2 A microgrid can operate in either grid-connected or in island mode, including entirely off-grid. The timeline to net zero is only getting shorter—so the hunt is on for new and innovative methods to improve sustainability. Although an ever-shortening sustainability timeline puts immense pressure on organizations, it has accelerated the pace of innovation—delivering ideas and opportunities that. ation of microgrids. Department of Energy has advanced a vision that by 2035, microgrids will be the core building block of a transformed grid where 30-50% of electricity generation comes from distributed resources.

## The long way to go for microgrids

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Standard 20ft containers



Standard 40ft containers

### Microgrids Are the Future. So What's Holding Them Back?

Today, many microgrids are handcrafted. A developer might work for years on one site, solving permitting puzzles, wrangling utility approvals, and integrating technologies that lack unifying ...

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### Microgrids: A review, outstanding issues and future trends

AC microgrids have been the predominant and widely adopted architecture among the other options in real-world applications. However, synchronizing with the host grid while maintaining ...



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### Despite innovative action in microgrid policies, states ...

A new report by Think Microgrid says most states are doing an insufficient job at deploying microgrids despite developing microgrid roadmaps.

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## Turn Down the Watts with Microgrids: The Decentralized

There's a long way to go, but microgrids have grown 11% in capacity in the last four years, and according to the Department of Energy, there are over 460 operational microgrids in the U.S. that ...



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## It's Not Just Data Centers: The Microgrid Future is ...

Focusing on the future of microgrids, the piece examines their potential to provide resilient, local power amid policy swings and technological change.

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## Microgrids spread across US as Big Tech, utilities shore up power

Microgrids face many of the same hurdles as large energy projects, including supply chain delays and lengthy permitting procedures, and technological barriers remain significant.



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## Microgrid Overview

The primary resilience benefit of microgrids is their ability to disconnect



from the main grid when there is an outage and operate autonomously. Thus, facilities connected to and powered by the microgrid ...

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## STATE SCORECARD 2023

By 2035, microgrids will be the core building block of transformed grid where 30-50% of electricity generation comes from distributed resources

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## Despite Innovative Action in Microgrid Policies, States Have a Long Way

Community microgrids can provide benefits to all residents, including resilience, clean air, workforce development, and economic development to vulnerable communities, so the report looked ...

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## Small Systems, Big Impact: Microgrids and the Next Era of Energy

In conclusion, as energy demands grow and the risks to the aging grid continue to mount, microgrids are increasingly seen not just as a backup plan, but as a smart, long-term investment in ...

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