



Microgrids as an Alternative to Wires

Elisa Wood, Editor-in-Chief, Microgrid Knowledge

Overview of the Issue

The push is on to build transmission

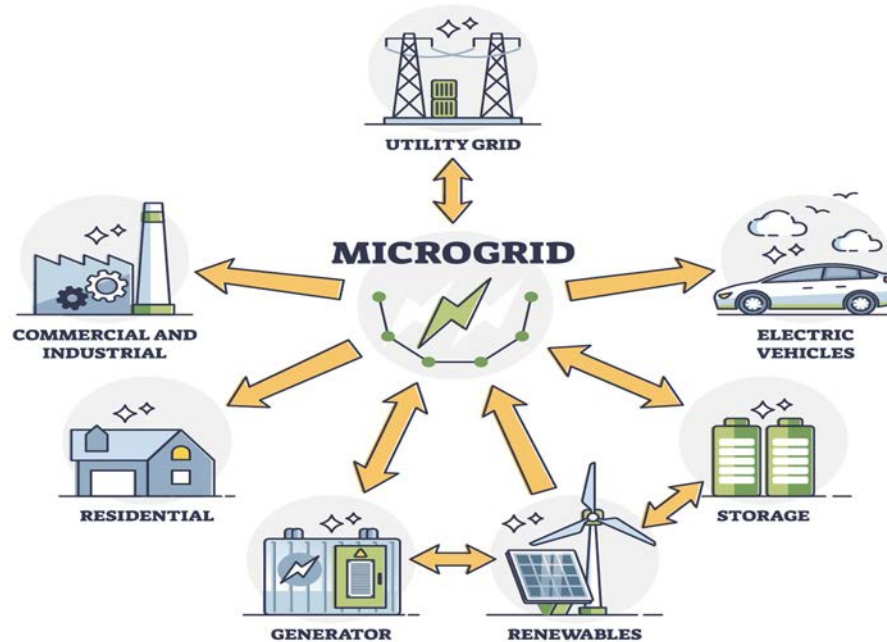
- Need to spend \$6.5 billion/year through 2050 to reach 80% renewables: NREL
- “Right now, over 1,000 gigawatts worth of potential clean energy projects are waiting for approval —about the current size of the entire U.S. grid — and the primary reason for the bottleneck is the lack of transmission,” [Bill Gates](#)

But is bigger better?

- Transmission lines are being delayed because of public opposition
- Interconnection delays are massive
- Microgrids are a non-wires alternative (NWA) that offer clean energy, keep dollars in the local community, prevent line loss (so increase efficiency), allow for local energy decision-making, do not mar local views or disrupt pristine landscapes

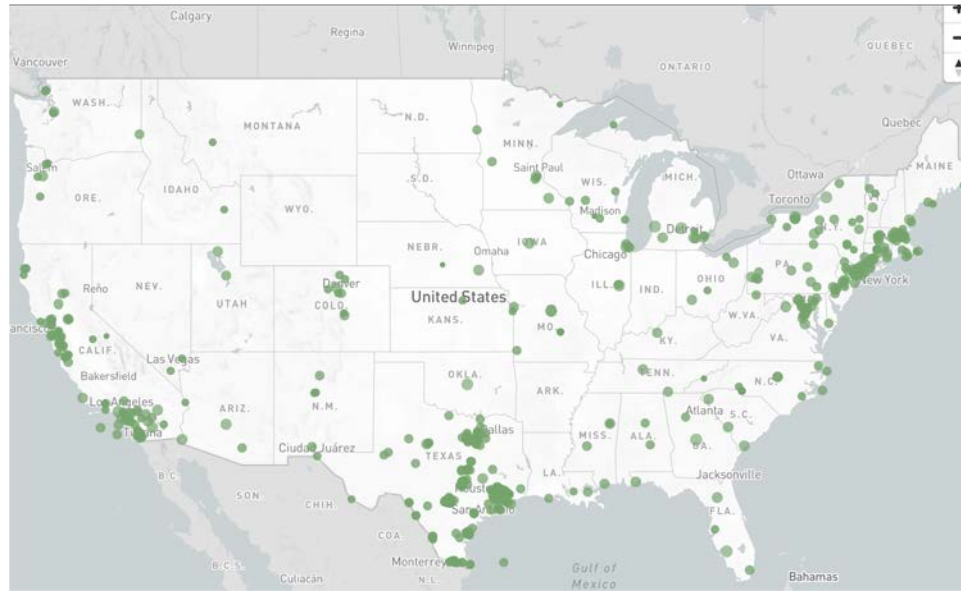
What is a microgrid?

A group of interconnected loads and distributed energy resources within clearly defined electrical boundaries that act as a single controllable entity with respect to the grid — Department of Energy



Credit: VectorMine/Shutterstock.com

Where can you find microgrids in the US?



Credit: UD Department of Energy

Guidehouse forecasts 14.5x growth in renewable microgrids in California over the next decade

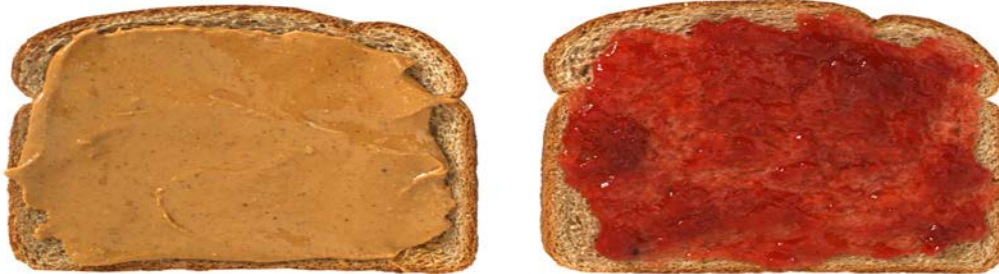
Benefits of microgrids

- Resilience/reliability
- Cost management
- Sustainability
- Grid stability

How US voters think about microgrids

Civil Society Institute polling 2020/2021

- 79% favor increasing use of microgrids in 2021, up from 67% in 2020
 - Favored across party lines: 86% of Democrats, 75% of Independents, 74% Republicans
 - 24% jump in Republican support year over year
-



How utilities think about microgrids

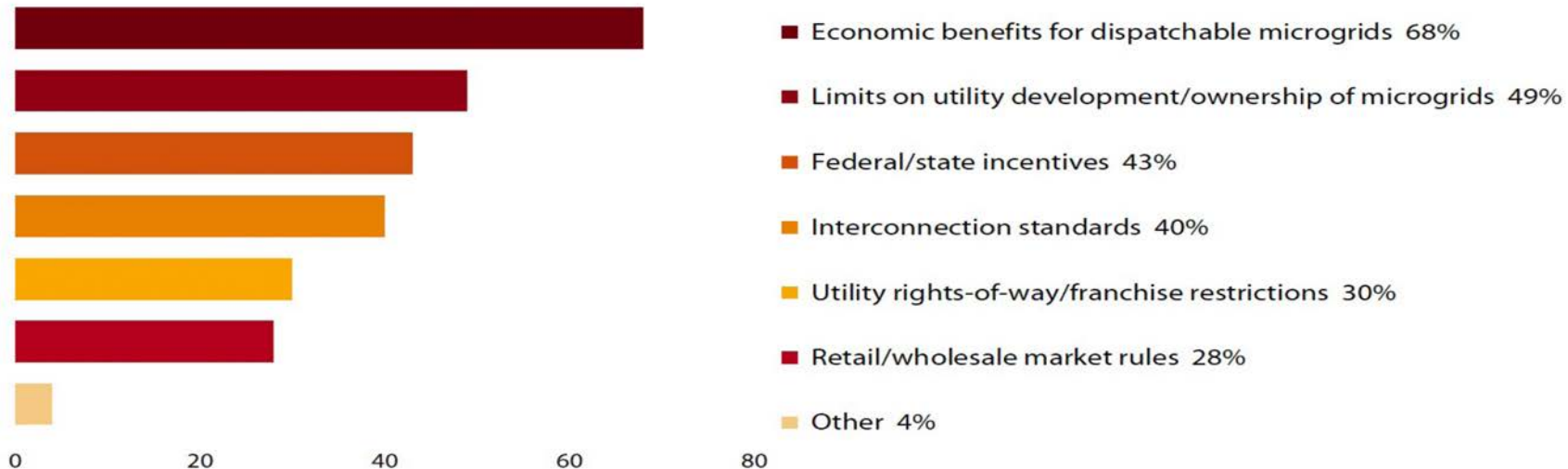
Microgrid Knowledge Utility Survey 2022

- 2% say utilities have no role to play with microgrids
- 82% of IOUs have deployed a microgrid or are working on one
- Biggest obstacles:
 - **Costs or lack of capital (66%)**
 - Regulatory barriers (49%)
 - Lack of support by key stakeholders (30%)

Policy concerns of utilities

Economic dispatch could grow market

Q: What government, grid or utility policies have the potential to most influence the microgrid market?



Source: Microgrid Knowledge Utility Executive Survey 2022 / * Respondents could have multiple responses

Policy concerns of non-utility stakeholders

- Utility/independent developer relationship
 - Interconnection delays
 - Over the fence rule
 - Clear tariffs and monetary pathways
- Energy equity (policymakers, social justice groups)
 - Incentives for disadvantaged communities
- Integration of DERs onto grid
 - Access to markets and price signals

Major policy changes

- National: Inflation Reduction Act
 - New 30% tax incentive for microgrid controllers
 - Extends or adds new tax credits for other components of microgrids, eg. solar, storage
 - Expected to cut microgrid costs 10-50%
- California: SB 1339 directs the CPUC, CEC and CAISO to undertake activities to supply commercialization of microgrids, 2018

What California has done so far

2019-2020

- Opened rulemaking Sept. 2019 (R.19-09-009)
- Required utilities to:
 - Accelerate interconnection processes before wildfire season
 - Adopt tariff changes
 - Modify net energy metering rules to remove energy storage sizing limits
 - Better collaborate and communicate with local and tribal governments

What California has done so far

2021

- Required that utilities create tariffs and rules for utility microgrids including:
 - Revising their rules to allow government microgrids to service critical customers on adjacent parcels
 - Creating a renewable microgrid tariff
 - Jointly developing a statewide \$200 million Microgrid Incentive Program
- Suspended capacity reservation changes for microgrids, a key component of standby charges (Track 3)
- CPUC approved:
 - PG&E plan for helping local governments and tribes set up community microgrids
 - SDG&E circuit-level energy storage microgrid projects

Other levers in California

- California Energy Commission grants (Note scale of programs)
 - Community Energy Resilience Investment Program \$170M/five years (IIJA)
 - Distributed Electricity Backup Assets Program (\$550M this year)
- Boosts to California state budget for microgrid funding (other related programs)



What's next in California?

- Multiproperty microgrids
- Microgrid Incentive Program
- Sunnova microutility proposal
- New 2-year legislative session 2023/24

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