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## EPRI launches data center flexibility initiative with utilities, Google, Meta, NVIDIA

The DCFlex project will establish up to 10 “flexibility hubs” to demonstrate innovative data center and power supplier strategies, the Electric Power Research Institute said.

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Robert Walton  
Senior Reporter

*A data processing and storage center. Data centers could consume up to 9% of U.S. electricity generation by 2030, according to the Electric Power Research Institute. Andrey Semenov via Getty Images*

The Electric Power Research Institute on Tuesday unveiled an initiative to “explore how data centers can support the electric grid, enable better asset utilization, and support the clean energy transition.”

On the tech side, founding members of the “DCFlex” project include Google, Meta, NVIDIA, Compass Datacenters and QTS Data Centers. Energy participants include Constellation Energy, Duke Energy, the Electric Reliability Council of Texas, the New York Power Authority, NRG Energy, Pacific Gas and Electric, PJM Interconnection, Portland General Electric, Southern Co. and Vistra.

“We continue to work alongside our peers and utility providers to advance new opportunities for digital infrastructure. Efforts like

EPRI's DCFlex initiative are critical to these cross-industry efforts," said Bryce Dalley, director of commercial energy supply at Meta.

After about two decades of stagnant electricity load growth, industrial onshoring, electrification and the adoption of artificial intelligence are driving greater demand. Data centers could consume up to 9% of U.S. electricity generation annually by 2030, up from 4% today, according to EPRI.

"Flexible data center design and operation is a key strategy for accelerating AI development and realizing its benefits while minimizing costs, lowering carbon emissions, and enhancing system reliability," EPRI President and CEO Arshad Mansoor said in a statement.

DCFlex will "coordinate real-world demonstrations of flexibility" between data centers and electricity markets, "creating reference architectures and providing shared learnings to enable broader adoption of flexible operations that benefit all electricity consumers," the nonprofit energy research group said.

The initiative will look to deploy five to 10 "flexibility hubs" that can demonstrate "innovative data center and power supplier strategies," beginning in the first half of next year, EPRI said. The project could run through 2027.

"The DCFlex initiative is another example of how industry leaders can leverage data centers as a flexible resource on the grid to help address peak loads," said Marc Spieler, head of global business development and strategy for the energy industry at NVIDIA.

"New electric demand from AI-driven data centers offers tremendous potential for all our customers in California," said PG&E Corp. CEO Patti Poppe. "DCFlex is exactly the kind of

collaboration needed to ensure we meet this demand in ways that also help us provide clean, affordable, and reliable energy for all.”



## Press Releases

### EPRI Launches Initiative to Enhance Data Center Flexibility and Grid Reliability

Oct 29, 2024

**PALO ALTO, Calif. (Oct. 29, 2024)** - EPRI today announced the launch of a new initiative—DCFlex—to explore how data centers can support the electric grid, enable better asset utilization, and support the clean energy transition. The initiative's founding members include Compass Datacenters, Constellation Energy, Duke Energy, the Electric Reliability Council of Texas (ERCOT), Google, Meta, New York Power Authority, NRG Energy, NVIDIA, Pacific Gas and Electric Company (PG&E), PJM Interconnection, Portland General Electric, QTS Data Centers, Southern Company, and Vistra Corp.

After years of flat load growth on the U.S. grid, electricity demand is rising across the economy as numerous factors – including industrial onshoring, electrification of transport, digitization, and the adoption of AI – converge. According to a recent EPRI white paper, electricity usage by hyperscalers more than doubled between 2017 and 2021. This increase is expected to continue, with data centers projected to consume 5% to 9% of U.S. electricity generation annually by 2030, up from 4% today.

This growing demand presents unique opportunities in the journey toward net zero and ensuring reliability across the electric grid. Technology companies have historically been a key driver in accelerating commercialization of clean energy and innovative collaborations throughout the energy ecosystem. Their efforts and ambitions toward net-zero and clean energy in collaboration with electricity providers sharing these goals can be a driving force in addressing the growing demand and building a more reliable, resilient, affordable, and sustainable electricity grid of the future.

Led by EPRI, DCFlex will coordinate real-world demonstrations of flexibility in a variety of existing and planned data centers and electricity markets, creating reference architectures and providing shared learnings to enable broader adoption of flexible operations that benefit all electricity consumers. Specifically, DCFlex will establish five to ten flexibility hubs, demonstrating innovative data center and power supplier strategies that enable operational and deployment flexibility, streamline grid integration, and transition backup power solutions to grid assets. Demonstration deployment will begin in the first half of 2025, and testing could run through 2027.

This initiative is an outgrowth of discussions with the U.S. Department of Energy (DOE) and many in the data center, technology, utility, and research communities that informed the development of recommendations to DOE from the Secretary's Energy Advisory Board (SEAB) Powering AI and Data Center Infrastructure Recommendations July 2024.pdf (energy.gov) earlier this year. The recommendations highlighted the need for closer collaboration among all key stakeholders in powering the data centers that support our growing economy and underpin advances in AI technology.

For the electric sector, AI advances are key to managing the grid more efficiently by effectively integrating distributed resources, demand response, variable renewables, and energy storage with utility-scale grid resources. This can accelerate the energy transition while keeping electricity reliable and affordable.

"Data centers play a critical role in today's interconnected global information-sharing environment and economy, but along with increased manufacturing and movement towards electrification, they are placing additional power needs on the electric grid," said **EPRI** President and CEO Arshad Mansoor. "Flexible data center design and operation is a key strategy for accelerating AI development and realizing its benefits while minimizing costs, lowering carbon emissions, and enhancing system reliability."

#### Among founding member quotes about DCFlex:

"AI can help solve the world's greatest problems, and to enable this, NVIDIA is committed to our leadership in providing the highest performance per watt for AI computing infrastructure," said Marc Spieler, head of global business development and strategy for the energy industry at **NVIDIA**. "The DCFlex initiative is another example of how industry leaders can leverage data centers as a flexible resource on the grid to help address peak loads."

"Meta is committed to efficient data center operations matched by 100 percent clean and renewable energy. But we know this work cannot be done alone — we continue to work alongside our peers and utility providers to advance new opportunities for digital infrastructure. Efforts like EPRI's DCFlex initiative are critical to these cross-industry efforts," said Bryce Dalley, director of Commercial Energy Supply at **Meta**.

"At Google, we see this moment as a generational opportunity for the public and private sector to work together to meet energy demand responsibly and unlock significant benefits for people, the economy and the planet," said Caroline Golin, global head of Energy Market Development and Innovation at **Google**. "Through the leadership, expertise, and convening power of EPRI, DCFlex will be an important collaboration vehicle to align our common goals, as we work together to build a stronger electrical grid for all."

"As a nation, we cannot afford to fall behind on AI. We need to invest in sustainable infrastructure to support big data applications, but not at the expense of other consumers of electricity," said **Compass Datacenters** CEO Chris Crosby. "Compass is working collaboratively with our utility partners on planning and grid expansion, and glad to invest in EPRI's research to bring forward long-term solutions."

"New electric demand from AI-driven data centers offers tremendous potential for all our customers in California," said **PG&E Corporation** CEO Patti Poppe. "DCFlex is exactly the kind of collaboration needed to ensure we meet this demand in ways that also help us provide clean, affordable, and reliable energy for all."



"Data centers are integral to our daily lives, economy, and national security. Our energy system is built to handle the extreme demands of our hottest summer days and coldest winter nights but is often underutilized. The real challenge isn't a lack of energy for data centers but managing the peak demand hours. The ability of data centers to flex during these critical periods is crucial," said **Constellation President** and CEO Joe Dominguez. "We commend EPRI for launching this initiative and bringing together key industry representatives to meet growing data center power demands, enhance grid reliability, and advance the clean energy transition."

"As we serve our customers and meet their rapidly changing needs around reliability, affordability, and sustainability, we believe load growth from data centers presents a crucial opportunity to bring together stakeholders across the power and technology sectors to help solve some of the most complex grid management issues," said Jim Burke, president and CEO of **Vistra**. "Vistra is pleased to invest in EPRI's DCFlex initiative and looks forward to working with other innovative companies to answer the call in ways that advance our national and regional interests and ensure the grid is reliable for all customers."

To learn more about DCFlex, visit: [DCFlex | EPRI Micro Sites](#)

#### Contact

Rachel Gantz  
Senior Manager of Corporate Media Relations  
202-293-7517  
[rgantz@epri.com](mailto:rgantz@epri.com)

Or

Bill Florence  
Communications  
(470) 825-0376  
[wiflorence@epri.com](mailto:wiflorence@epri.com)

#### About EPRI

Founded in 1972, EPRI is the world's preeminent independent, non-profit energy research and development organization, with offices around the world. EPRI's trusted experts collaborate with more than 450 companies in 45 countries, driving innovation to ensure the public has clean, safe, reliable, affordable, and equitable access to electricity across the globe. Together...shaping the future of energy.®

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EPRI 3420 Hillview Avenue, Palo Alto, California 94304 | 800-313-3774

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