Fast, Flexible Solutions for Data Centers

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Data center electricity demand is manageable.

- Data centers may account for less energy than you think:
  - **2%** of **global** electricity demand
  - **4%** of total **U.S.** electricity demand
- Data center load growth is expected to be similar to other sources of load growth
- However, they are set apart by their **tendency to concentrate** in specific regions
  - **25%** of **Virginia**'s total electricity demand

But there is still a significant range of uncertainty

- There are many **unknown variables** that will shape future data center energy demand, such as:
  - **Hardware** improvements
  - **Cooling** technology improvements
  - **Software** and product design
- US data center electricity consumption could increase to **anywhere from 200 to over 1,000 TWh** by 2030—that's a huge range

Building for an uncertain future comes with risks

- Over-forecasting and overbuilding is an existing issue with material **ratepayer impacts**
- The uncertainty around data center load growth only exacerbates this problem
  - Not all proposed data centers may get built
  - But utilities are starting to build new natural gas plants
- **If data center demand fails to materialize, ratepayers may be left to shoulder the cost of the new plant**
- So how do we prevent this?

Fast, flexible solutions can help minimize risk

- Fast, flexible solutions that can be **deployed modularly**, **right-sized to confirmed loads**, can help us manage load growth responsibly.

Energy Efficiency

Demand Flexibility

Virtual Power Plants

Alternative Transmission Technologies

Renewable Energy

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Fast, Flexible Solutions for Data Centers
How "Power Couples" Can Help the United States Win the Global AI Race
How Data Centers Can Set the Stage for Larger Loads to Come