Data Center Series Forum #1 Summary: Energy and Data Centers

Purpose:
Data centers are a major driver of regional economic growth. At the same time, they present new challenges for electric utilities, the electric grid, and local governments related to the demand for power, infrastructure planning, reliability, and affordability. The forum brought together utilities, regional grid operators, local governments, industry, power engineers, and policy organizations to inform the discussion, ground it in facts, and identify practical paths forward.

Key Takeaways:
- **Data centers need near-constant energy, and demand is growing at a fast pace,** bringing both challenges and opportunities for power supply and grid enhancements.
- Data centers bring with them very large electric loads. **Current utility infrastructure will require substantial ongoing investment to be able to meet the growing demands from this sector.**
- Due to the nature of their large loads, **data centers can potentially impact the reliability of the overall electrical grid within the region and surrounding it.** Communication and coordination can help manage these concerns.
- Given the scale and pace of energy demand and necessary infrastructure investments to support data centers and other increasing electricity loads, **there is a potential for impacts on electric rates for residential and commercial customers. New rate classes and tariffs are under development to minimize these impacts.**
- Due to the long lead time needed for new data centers to connect to the grid, **there will be a need for data centers to explore bringing their own power**, such as on-site natural gas turbines configured in microgrids. New generation and transmission technologies, such as small modular reactors and high-voltage direct current transmission, will be needed.
- **Regional coordination is critical.** Decisions made by energy utilities; the Pennsylvania, New Jersey, and Maryland Interconnection (PJM); Public Service Commissions; and state and local governments require ongoing coordination. Additionally, coordination with other stakeholders and critical infrastructure sectors, such as emergency management, water utilities, WMATA, hospitals, and public safety, is important.

Implications for Decision Makers:
- Local governments should be engaged with state legislatures, Public Service Commissions, and electric utilities to help coordinate and manage reliability and rate impacts.
- Sharing best practices can guide decisions related to on-site power generation and clean backup generation. Siting decisions are as critical for residents as data center developers.
- Transparency is critical: Accurate and consistent data improves planning and public trust.
- Regional coordination is essential. Energy, water, and land use decisions are interconnected. Decisions made by one jurisdiction impact others, regionally.

Bottom Line:
Energy demand for data centers is anticipated to continue to grow considerably for the next 5-7 years and beyond, necessitating sustained coordinated regional and local efforts focused on managing reliability, maintaining affordable residential and consumer electric rates, and handling local environmental impacts (location, emissions, noise) associated with on-site power generation and backup power, as well as utility scale infrastructure development such as substations and transmission. Transparency and accurate information are key.