



Call for Concept Papers

On behalf of the District of Columbia Public Service Commission (PSC), the **Power Path DC Pilot Projects Governance Board** (“Governance Board”) is sponsoring a call for concept papers proposing energy system modernization pilot projects in support of the Power Path DC Vision Statement and Guiding Principles (See Attached *Commission Order No. 19984, Appendix B, in Formal Case No. 1130*).

Vision Statement

The District of Columbia’s modern energy delivery system must be sustainable, well-planned, encourage distributed energy resources, and preserve the financial health of the energy distribution utilities in a manner that results in an energy delivery system that is safe and reliable, secure, affordable, interactive, and non-discriminatory (Commission Order No. 20364, Appendix C, in Formal Case No. 1130).

The Governance Board welcomes papers on any potential pilot project related to the furthering of the District’s clean energy and modernization goals and encourages innovative suggestions from all interested stakeholders. Some examples of potential pilot projects are:

- **DER Aggregation (i.e., microgrids, virtual power plants)**
- **Implementation of advanced communication and control technologies (i.e., grid interactive buildings, advanced inverters, microgrid controllers, etc.)**
- **Proof of Concept for Provision of Ancillary Services at the distribution system level**
- **Renewable District Heating Systems**

Pilot projects of interest should also support the goals identified by stakeholders throughout the Power Path DC (formerly MEDSIS) working group process and listed below:

- **Reduce Greenhouse Gas Emissions**
- **Increase Renewable Generation**
- **Expand DER Hosting Capacity**
- **Increase Enrollment of Low- and Moderate-Income Customers**
- **Aggregate Energy Demand Reduction / Load Shift**
- **Demonstrate Market Viability**
- **Overcome Barriers to Adoption**

Authors of concept papers may be invited to present their work at a Governance Board Meeting. Concepts deemed to be feasible and in furtherance of the Power Path DC Vision Statement may be used to inform Requests for Proposals (RFPs) for fully funded pilot projects or studies. In addition, the papers selected to inform RFPs will be published in the Commission eDocket system and will be available on the Commission's website, www.dcpsc.org. Persons or entities interested in pursuing formal proposals for funding and/or concept ideas are encouraged to submit response papers.

Call for Concept Papers Submission Details:

Timely submission of the papers is critical to the successful implementation of the pilot projects. The procedures and deadlines enumerated below will apply.

1. *Deadline for Submissions*

By **October 28, 2020**, authors should submit the completed concept paper with a 200-word abstract. Concept papers, along with authors' contact information, should be submitted via e-mail to the Pilot Project Governance Board at PPGovernanceBoard@psc.dc.gov. Please enter "**Pilot Project Governance Board - Concept Papers Submission**" in the subject line.

2. *Submission Guidelines*

Submissions are encouraged to be no longer than 5 pages and should include the following, at a minimum:

- Timeframe
- District energy / modernization goals
- Approximate cost
- Implementing Parties
- Targeted participants (i.e., all District residents, customer class, location)
- Regulatory obstacles to implementation
- Anticipated learnings from pilot project implementation

3. By submitting concept papers, authors agree that if selected, their paper may be published on the Commission website and/or e-docket system. Authors are encouraged to include spreadsheet models and/or PowerPoint presentations incorporating the details of the paper's recommendations or calculations (these additional materials will be excluded from the overall page count).

While authors should submit papers with sufficient detail to serve as a recommendation for a formal pilot project, submission of a concept paper does not guarantee that the paper will be published or that a project will be funded on this topic.

The Governance Board looks forward to receiving proposals in response to the call and is happy to respond to inquiries from interested persons.

Questions may be addressed to the Governance Board via e-mail at Alexandra.Fisher@dc.gov. Your participation in this effort to produce new and innovative pilot projects will contribute to the knowledge base and to the success of the Power Path DC Pilot Project initiative.

APPENDIX B: REVISED MEDSIS VISION STATEMENT**Revised MEDSIS Vision Statement and Guiding Principles****The MEDSIS Vision Statement**

The District of Columbia's modern energy delivery system must be sustainable, well-planned, encourage distributed energy resources, and preserve the financial health of the energy distribution utilities in a manner that results in an energy delivery system that is safe and reliable, secure, affordable, interactive, and non-discriminatory.

GUIDING PRINCIPLES

SUSTAINABLE: A sustainable energy delivery system will meet the energy needs of the present without compromising the ability of future generations to meet their own energy needs by focusing on the *triple bottom line*: environmental protection, economic growth, and social equality.

- **Environmental Protection:** Recognize the negative impact that energy usage and demand have on the environment and the human component of climate change. Protect the District's natural resources and assist the District Government in reaching its *Clean Energy DC*¹⁹⁰ goals by fostering the use of more efficient energy and renewable energy sources, DER technologies, and controllable demand alternatives to reduce greenhouse gas (GHG) emissions and overall energy consumption.
- **Economic Growth:** Foster economic growth in the District's energy markets by supporting innovation and making the District a desirable place for industry to invest by: (1) removing regulatory barriers that prevent the deployment of DER technologies in the District; (2) engaging industry and community stakeholders in the regulatory reform process; (3) promoting the deployment of pilot programs that will yield lasting economic benefits to District ratepayers; and (4) encouraging innovative business models and the use of scalable financial solutions to reach grid modernization goals.
- **Social Equality:** Recognize the positive impact that energy usage has on the daily lives of District residents. Ensure that, to the extent economically and technically feasible, all District ratepayers have equal access to energy efficiency programs, other DER programs, and modernization technologies approved and implemented by the Commission, as well as access to the Commission's regulatory process. Strengthen community involvement in reaching environmental protection and economic growth goals related to modernizing the District's energy delivery systems by: (1) encouraging and approving programs that fully

¹⁹⁰ The District Government, through the Department of Energy and Environment (DOEE), has established a "new climate and energy plan, with 55 actions in three major areas: Buildings, Energy Supply System, and Transportation." The Commission's work through MEDSIS aims to help the District meet its goal to reduce District-wide energy use by 50% (relative to 2012 levels) by 2032. To meet these energy usage reduction targets, the District is focused on reducing GHG emissions by cutting energy use, increasing renewable energy penetration, and reducing the District's reliance on fossil fuels. <https://doee.dc.gov/cleanenergydc>

consider, engage, and benefit all District ratepayers, especially the most vulnerable populations; (2) encouraging continued utility and stakeholder investment in educational programs and community outreach initiatives that explain how ratepayers can reduce their energy consumption and use energy more efficiently, including the role of various energy sources, distributed generation (DG), and DERs; and (3) working with utilities and industry stakeholders to develop ways to reduce the soft costs related to the deployment of photovoltaic (PV) systems and DERs in the District.

WELL-PLANNED: With no large-scale generation in the District, the Commission must ensure that the distribution and transmission systems are strong and robust enough to withstand low probability, high impact events like storms, floods, and physical and cyber threats. To meet these needs, the District's modern energy delivery system must be developed in a strategic manner that is data-driven, incorporates advanced technologies, and is collaborative and open – allowing for consumer and stakeholder input. Therefore, utilities must:

- Develop detailed, data-driven Distribution and Integrated Resource Plans that, among other things: make infrastructure planning cost-effective; enable the optimal combination of distributed energy resources (DERs) with traditional capital investment by exploring non-wires alternatives; comply with legislatively mandated deployment of DER in the District; permit rational participation of consumers and distribution service providers; and plan for, track, and monitor DER penetration rates on the grid.

SAFE & RELIABLE: The Commission will ensure that utilities meet and improve safety and reliability performance and that the increasing volume of DERs interconnecting to the District's grid does not negatively impact the safety or reliability of the energy delivery system by:

- Requiring the continued investment in prudent infrastructure improvements to the energy system, like Pepco's reliability investments and Washington Gas' advance pipeline replacement program, so that the energy delivery system can meet the power needs of the District's current and future consumers.
- Reviewing and, where appropriate, updating the Commission's Electricity Quality of Service Standards (EQSS) and Natural Gas Quality of Service Standards (NGQSS) to ensure that the utilities are continually meeting and improving their safety and reliability performance.
- Updating and continually reviewing interconnection rules to facilitate the interconnection of DERs as well as all generation and storage options in a manner that does not compromise overall system safety and reliability.
- Where technically and economically feasible, encouraging the deployment of technologies that will not compromise system safety, will increase system reliability, and can accommodate two-way power flow like smart inverters, distributed automation, and sensors to better handle power fluctuations and outages.

- Enhancing data collection and real-time data sharing between utilities, third party suppliers, and stakeholders, like PJM, to increase system visibility, communication, and DER dispatchability, in a manner that increases the safety, reliability, and resiliency of the energy delivery system, and facilitates new product and service options for customers.
- Classifying DER and microgrid providers generating energy and serving more than one customer as subject to the Commission's authority thus enabling the Commission to protect District ratepayers, enforce the Consumer Bill of Rights (CBOR), and ensure the continued safe and reliable provision of energy service.

SECURE: The modern energy delivery system must be secure from both physical attacks to critical infrastructure components as well as from cybersecurity attacks that target energy information systems and private consumer information. Therefore, utilities and energy service providers must:

- Develop, utilize, and maintain robust physical and cybersecurity protections and risk management strategies that incorporate industry best practices like those established by the National Institute of Standards and Technology's (NIST) Framework for Improving Critical Infrastructure Cybersecurity.
- Ensure that the energy delivery system is resilient, uses modern grid security protocols, and is designed to resist, discourage, and rapidly recover from physical and cybersecurity attacks and system disruptions.
- Safeguard private and or confidential business data and consumer information from intentional or unintentional release or disclosure to untrusted environments.

AFFORDABLE: The Commission has a duty to ensure that rates for distribution service are just and reasonable. The Commission balances the desire of customers to keep rates down with the need to ensure that utilities remain financially healthy, able to attract investors, and pay for needed infrastructure maintenance and development. Balancing these interests, in the context of system modernization, becomes especially challenging when considering costly upgrades to the distribution system as well as potential ratepayer subsidization of costly renewable and DER technologies.

- The Commission recognizes that rapid technological change in the electric and natural gas industries increases the danger of "stranded assets" – capital investments that turn out to be unneeded. For this reason, before making investments in large capital projects, utilities must thoroughly examine the feasibility of non-wires alternatives as solutions to meet the stated investment objective at the lowest overall life-cycle cost. Utilities must also undertake holistic planning approaches that fully examine technological options that can be deployed at a pace and scale that can meet policy objectives and customer expectations for continued system reliability and affordability.
- In the long-term, the Commission expects that, under fair interconnection procedures, DER's will be able to stand on their own in the competitive marketplace without subsidies

from electric and natural gas distribution ratepayers. Therefore, benefits and costs of any proposals to use electric and natural gas distribution rates to compensate new DERs must be weighed carefully and considered in connection with the benefits and efficiencies such DER may bring to the distribution system.

- The Commission is committed to ensuring that ratepayers obtain maximum benefit from their over \$90 million investment in Advanced Metering Infrastructure (AMI) by requiring the utility, to the extent economically and technically feasible, to maximize the use of AMI data in Distribution and Integrated Resource Planning, load forecasting, distribution system operations, and rate design as well as require activation of the Home Area Network¹⁹¹ capabilities of the smart meters.

INTERACTIVE: As an increasing number of smaller scale and more localized resources come online the relationship between the energy distribution company, the consumer, and service providers will become increasingly complex and dynamic. New services will become available, energy and data will increasingly flow in multiple directions, and different types and scales of resources will enter the distribution system. A modern energy delivery system must become more interactive and flexible to accommodate these types of resources while maintaining system reliability and security. This interactivity is critical both in terms of managing the distribution system and in providing locational transparency and technical feasibility which will allow ratepayers, customer-generators, and DER providers to make informed energy choices. Therefore, the Commission:

- Recognizes the importance of the customer's ability to access and share energy data. Access to data empowers customers and third parties to utilize and develop new products and services. This includes activating the Home Area Network capability on customers' smart meters to realize additional benefits of existing AMI infrastructure and streamlining AMI data sharing through tools such as *Green Button Connect My Data* which can securely transfer AMI data to authorized third parties.
- Emphasizes the importance of improving and expanding consumer and stakeholder access to publicly available data related to distribution system constraints and technical capacity. Providing public access to Geographic Information Systems (GIS) such as hosting capacity maps, restricted circuits, and installed and pending solar projects provides critical distribution system information to customer-generators, community renewable energy facility owners, and DER providers.
- Encourages the interaction and communication between DERs, the distribution system, and the macro grid and that technologies that provide value to the distribution system, such as smart inverters, should be prioritized over technologies that merely benefit individual customers.

¹⁹¹ A Home Area Network uses a low-power radio transmitter than can communicate with digital devices within the home to make use of energy consumption data from the smart meter.

NON-DISCRIMINATORY: Nondiscrimination in the operation of the District's energy infrastructure is integral to the Commission's mandate to supervise energy utilities in the District of Columbia. Furthermore, since the restructuring of the energy markets, the need for the Commission to ensure that energy utilities operate in a nondiscriminatory manner has proliferated. Nondiscrimination covers both the technical operation of and the rates and fees charged for utilizing and accessing the energy utility infrastructure. The Commission will ensure that the District's modern energy system is non-discriminatory, open to competition, and provides for customer choice in accordance with District law by:

- Affording DER providers with a low-cost and streamlined interconnection process to facilitate customer generation. Encouraging continuous improvement and development of initiatives, like Pepco's *Green Power Connection*, that facilitate DER interconnection and build off past experience to reduce or eliminate barriers so that DERs can compete on a level playing field with wholesale energy.
- Unlocking customer and system data held by the incumbent utility in a controlled manner so that customers, DER providers, and third-party suppliers can provide targeted offerings to meet system needs and better serve the needs of customers.
- Pursuing policies that are technology neutral in both system operations and rate structure so that rates remain just and reasonable.
- Achieving the maximum benefits of competition and encouraging stakeholders to bring forward proposals for the competitive provision of services now included in the regulated monopoly distribution services.