



Creating the Clean Energy City of the Future



the **ENERGY** lab

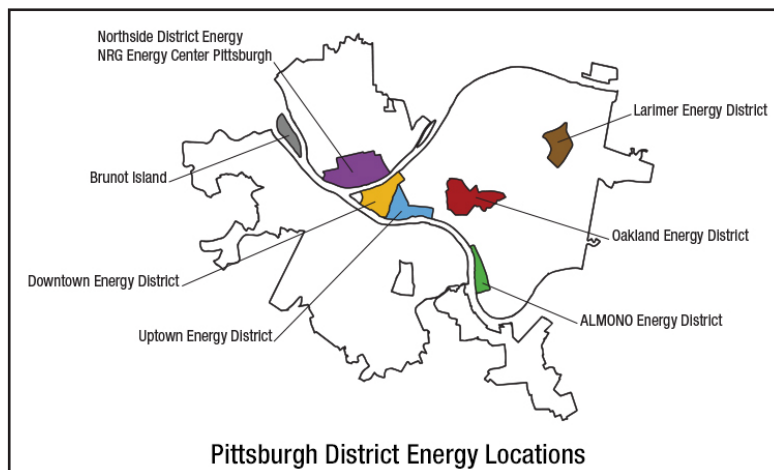
The Department of Energy’s National Energy Technology Laboratory (NETL) signed a Memorandum of Understanding with the City of Pittsburgh on July 17, 2015 to collaborate in the creation of a 21st century energy infrastructure that will exemplify the “Clean Energy City of the Future.” The joint effort will foster environmental, economic, and job-creation improvements in the city. Work under this agreement will serve to position Pittsburgh as a national and global leader in the application of strategic energy models, advanced energy, and technology development, demonstration, and deployment.



The scope of activities under this agreement will support Pittsburgh’s efforts to modernize its energy grid, with particular focus on combined heat and power systems and other district scale energy approaches—such as microgrids and expanding clean and renewable energy development and deployment. Demonstrations of modern infrastructure and technologies, such as direct current power delivery systems, will also be conducted.

The collaborative effort is intended to build a model of cooperation for communities seeking to define a modern energy vision and update aging infrastructure and legacy systems. The projects implemented under this agreement will demonstrate how the support of stakeholders and the community can enhance the innovation and application of advanced energy technologies.

NETL will play a key role in this agreement by providing project leadership and technical expertise for the development of cost effective energy modernization opportunities. In addition, NETL will identify resources to meet project goals from



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PARTNERS:

- City of Pittsburgh
- U.S. Department of Energy National Energy Technology Laboratory
- University of Pittsburgh
- Duquesne Light
- Peoples Gas
- NRG Energy
- Hillman Foundation
- Heinz Endowments
- Richard King Mellon Foundation

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U.S. DEPARTMENT OF **ENERGY**

across the Federal government, private, and non-profit sectors. The Jobs Strategy Council within the Department of Energy's (DOE) Office of the Secretary and the Office of Energy Policy and Systems Analysis (EPSA) will coordinate participation of other DOE program offices. The City of Pittsburgh will leverage the University of Pittsburgh's Center for Energy to serve as its lead in implementing the objectives of the Memorandum of Understanding.

Collaboration Goals

NETL, the City of Pittsburgh, and the University of Pittsburgh's Energy Center will partner to achieve the following objectives:

- Formulate a strategic plan to assist in the identification and adoption of district energy strategies and to provide guidance for public and private stakeholders on development of district-scale clean energy and grid design.
- Identify financial opportunities for the design and construction of district energy systems and renewable energy deployment.
- Design a policy plan that supports the development of municipal, utility, and regulatory policy needs for district energy applications and infrastructure modernization.
- Conduct an economic analysis of district-energy solutions with microgrid integration and building performance policies.
- Accelerate the growth of and access to energy jobs.
- Create a technical team to identify and prioritize high-value energy opportunities.
- Develop an R&D roadmap for rapid demonstration and deployment of new technologies.



NETL Director Dr. Grace Bochenek and City of Pittsburgh Mayor Bill Peduto sign a Memorandum of Understanding on July 17, 2015 at the Energy Innovation Center.

Expected Outcomes and Benefits

A variety of significant end-results are anticipated from this collaborative effort including:

1. Modernized delivery of utility services through new business models and markets;
2. Growth of technology R&D opportunities and product manufacturing;
3. Reduction of environmental impacts;
4. Improvement of energy operational efficiencies;
5. Enhancement of energy resilience and security through integrated district-based microgrid solutions; and
6. Greater availability of workforce development and training opportunities.



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