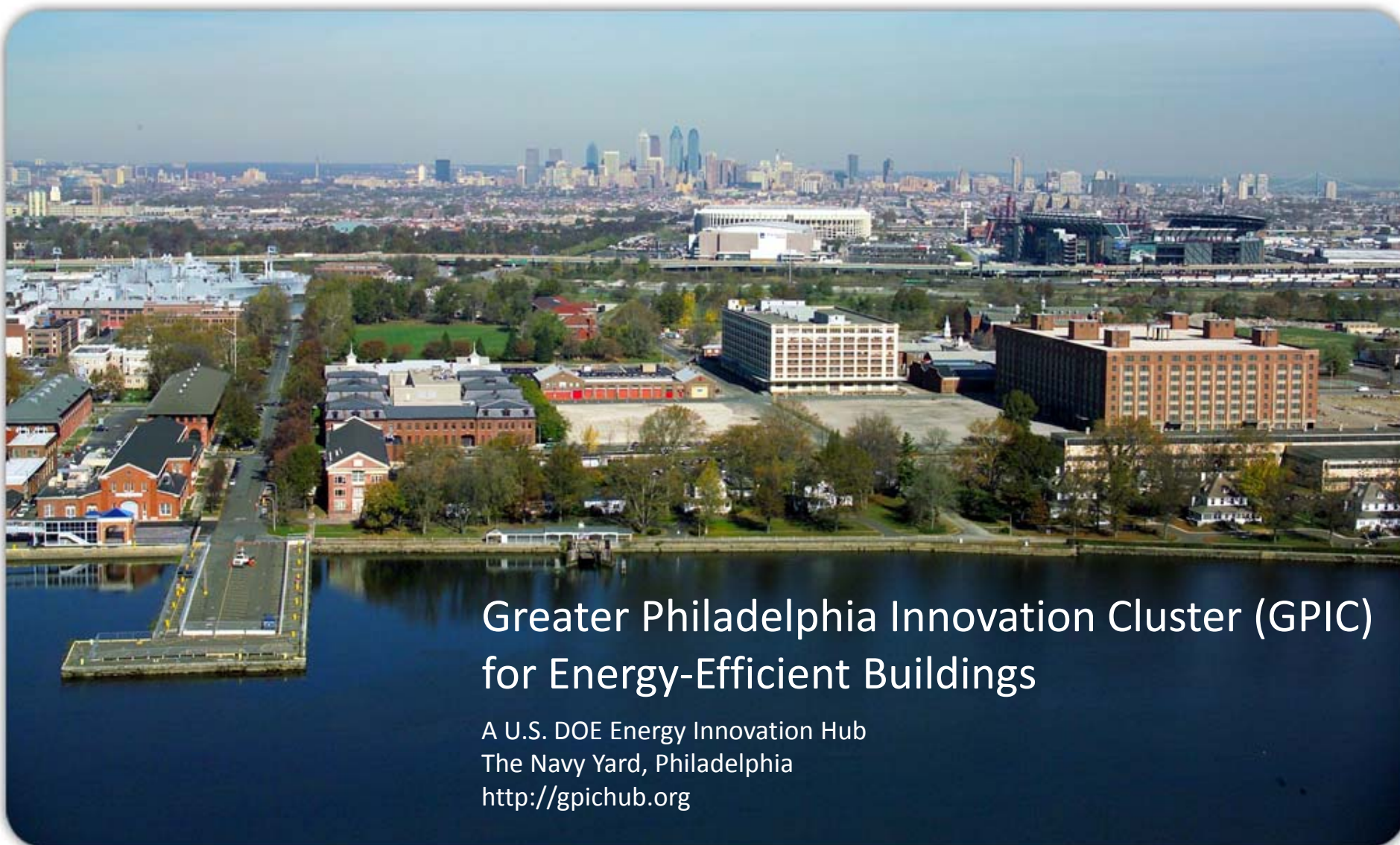




Greater Philadelphia Innovation Cluster
for Energy-Efficient Buildings
A U.S. DOE Energy Innovation Hub



Greater Philadelphia Innovation Cluster (GPIC) for Energy-Efficient Buildings

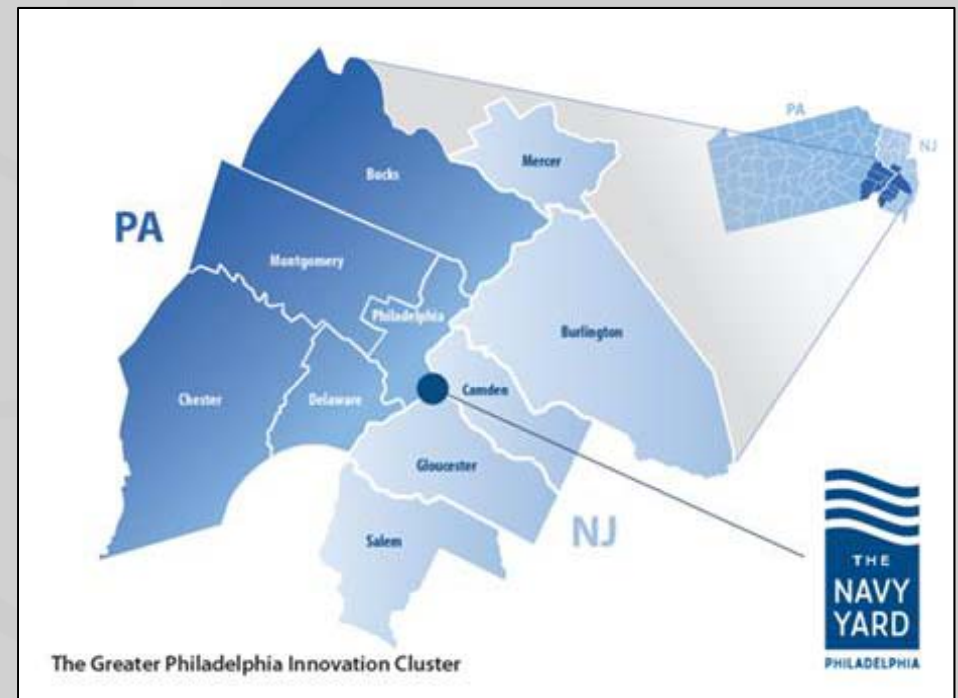
A U.S. DOE Energy Innovation Hub
The Navy Yard, Philadelphia
<http://gpichub.org>

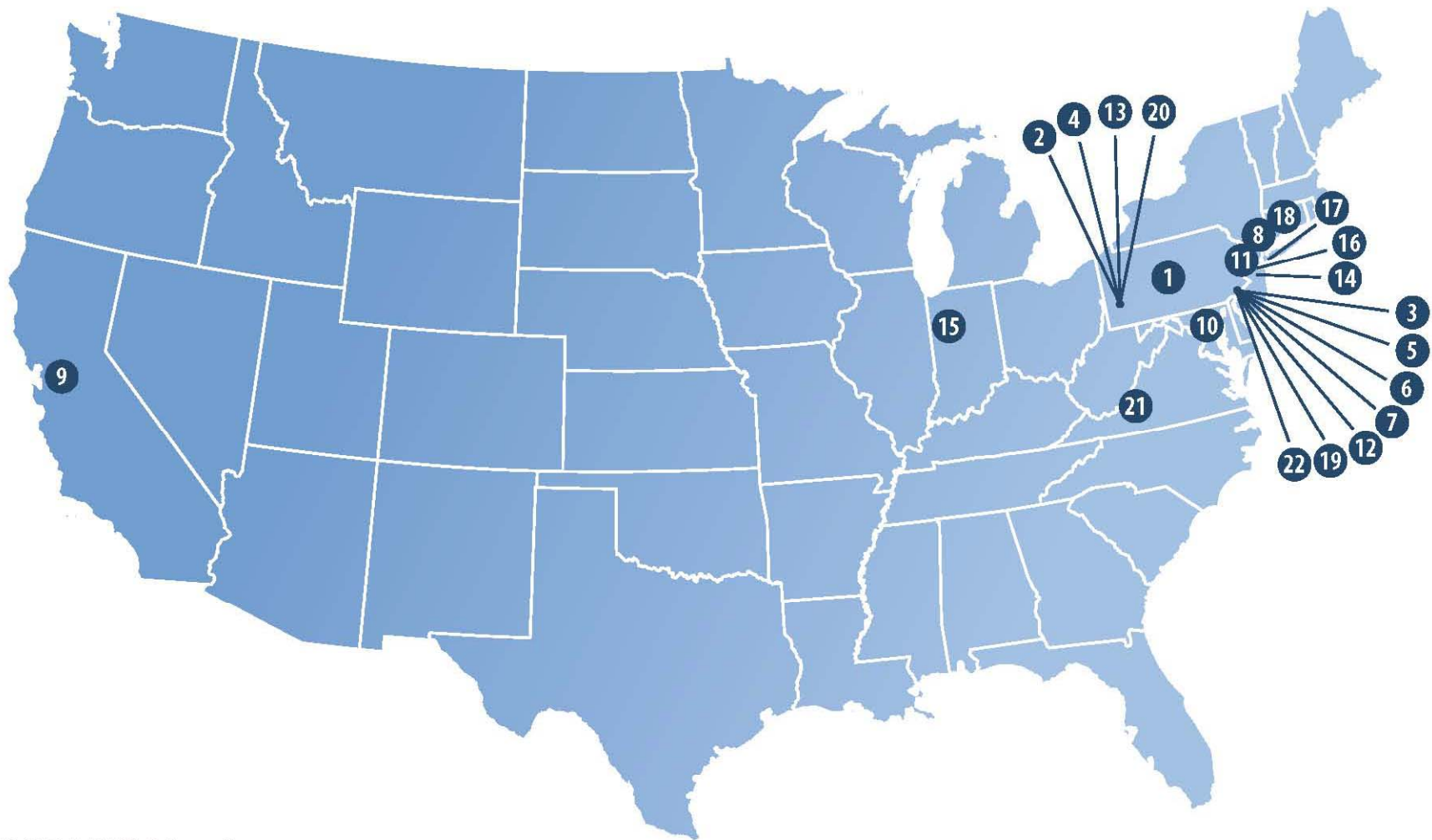
**Strategic Market Focus:
Full-spectrum retrofit of average-size commercial,
institutional, and multi-family residential buildings**



Goals and Mission

- **Transform building retrofit environment from serially fragmented method to integrated systems approach.**
- **Provide methods that can be implemented in the marketplace over the next 10 years to improve energy efficiency by 50 percent .**
- **Stimulate private investment and quality job creation in the Greater Philadelphia region and beyond.**





DOE HUB Members

- | | | | |
|---|---|-------------------------------------|---|
| 1. Penn State (lead) | 7. Drexel University | 13. PPG Industries | 19. University of Pennsylvania |
| 2. Bayer MaterialScience | 8. IBM Corporation | 14. Princeton University | 20. University of Pittsburgh |
| 3. Ben Franklin Technology Partners of SE PA | 9. Lawrence Livermore National Laboratory | 15. Purdue University | 21. Virginia Tech |
| 4. Carnegie Mellon University | 10. Morgan State University | 16. Rutgers University | 22. Wharton Small Business Development Center |
| 5. Collegiate Consortium | 11. New Jersey Institute of Technology | 17. Turner Construction | |
| 6. Delaware Valley Industrial Resource Center | 12. Philadelphia Industrial Development Corporation | 18. United Technologies Corporation | |

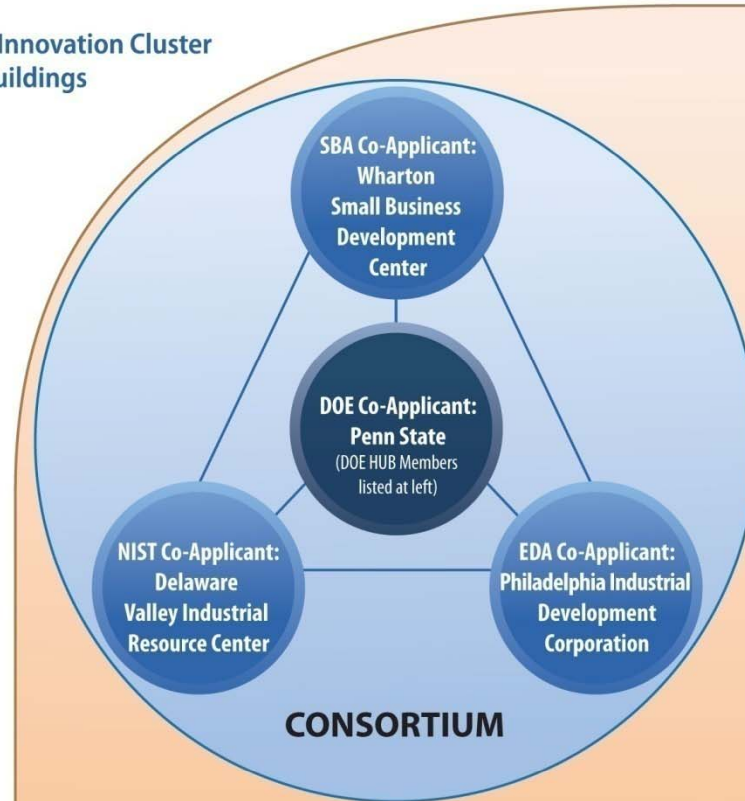
Task Groups and Leaders



- 1. Design Tools- IBM**
- 2. Integrated Technologies - United Technologies Research Center**
- 3. Policy, Markets, and Behavior- University of Pennsylvania**
- 4. Education and Workforce Development- Princeton Plasma Physics Lab**
- 5. Deployment and Commercialization- Ben Franklin Technology Partners**

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- Philadelphia Industrial Development Corporation
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- Purdue University
- Rutgers University
- Turner Construction
- United Technologies Corporation
- University of Pennsylvania
- University of Pittsburgh
- Virginia Tech
- Wharton Small Business Development Center



GPIC Stakeholder Groups

- Local STEM Community
- Apprenticeship Programs
- Secondary Schools
- Career and Technical Institutes
- One-Stop Career Centers
- Workforce Investment Boards
- Community Organizations
- Local and State Agencies
- Economic Development Agencies
- Philanthropic Foundations
- Venture Capitalists
- Banks and Financial Institutions
- Publicly and Privately Held Businesses
- Industry Associations
- Labor Organizations

GPIC Partners

Industry Partners

- Air Products and Chemicals
- ALSTOM Power
- Ametek
- Armstrong World Industries
- Boeing Company
- C.B. Richard Ellis
- CertainTeed Corporation
- Construction Specialties
- Deloitte Services LP
- Dow Chemical Company
- DuPont Building Innovations
- Flad Architects
- HOK
- Horton Lees Brogden Lighting Design
- Johns Manville
- Lafarge
- Lam Partners
- Larson Design Group
- Linc Lighting and Electrical
- Lockheed Martin
- PECO
- Pfizer Global Engineering
- PJM Interconnection
- Pittsburgh Corning
- Rose Companies
- Saint-Gobain
- Sauer, Inc
- Schneider Electric
- Siemens
- Thornton-Tomasetti Group
- URS Corporation
- Viridity Energy
- Weber Murphy Fox, Inc.

Industry Associations

- AIA Philadelphia
- Alliance to Save Energy
- Center for Environmental Innovation in Roofing
- CEO Council of Growth
- Chamber of Commerce Southern New Jersey
- Cleantech Alliance Mid Atlantic
- Delaware Valley Green Building Council
- Greater Philadelphia Chamber of Commerce
- National Electrical Manufacturers Association
- New Jersey Technology Council
- Sustainable Business Network of Greater Philadelphia
- World Business Council for Sustainable Development
- World Trade Center of Greater Philadelphia

Education and Workforce Partners

- Bucks County Workforce Investment Board
- Camden County Workforce Investment Board
- Chester County Workforce Investment Board
- Delaware County Workforce Investment Board
- Franklin Institute
- Garrison Institute
- Greater Philadelphia Regional Compact for STEM Education
- Liberty Science Center
- Montgomery County Workforce Investment Board
- Philadelphia County Workforce Investment Board

Banking and Finance Partners

- Emerald Stage2 Ventures
- Minority Angel Investor Network
- Mid-Atlantic Angel Group

Community and Economic Development Partners

- Economy League of Greater Philadelphia
- Citizens for Pennsylvania's Future
- Select Greater Philadelphia
- University City Science Center

Government Partners

- Commonwealth of Pennsylvania
- Delaware Valley Regional Planning Commission
- City of Philadelphia
- Naval Surface Warfare Center Carderock Division
- New Jersey Economic Development Authority

Labor organizations

- National Roofing Contractors Association
- Penn-Del-Jersey Chapter of NECA

Philanthropic Foundations

- William Penn Foundations

International Partners

- Lund University, Sweden
- Tsinghua University, China

The Navy Yard



GPIC/HUB ENERGY INNOVATION HEADQUARTERS LOCATION
PLANNED FUTURE PARK

PROJECT SITE: BUILDING 661

Supporting Facilities: A
Building 100 Innovation Center:
Ben Franklin Technology Partners of Southeastern Pennsylvania
Delaware Valley Industrial Resource Center (DVIRC)
Penn State University

Supporting Facilities: B
U.S. Naval Sea Systems Command (NAVSEA) buildings

- **\$30 million of new Commonwealth capital funding for GPIC facilities**
- **270 existing buildings and new buildings that can be utilized as test beds**
- **Independently owned utilities including electric distribution grid**
- **Five DOE research and education centers on site:**
 - DOE Mid-Atlantic Clean Energy Applications Center
 - DOE Northern Mid-Atlantic Solar Training Center
 - DOE GridStar Smart Grid Training Center
 - DOE Build America Residential Retrofit Center
 - GPIC for Energy Efficient Buildings
- **Zone 4A -5 climate that has four distinct seasons**

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info@gpichub.org



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