



GovEnergy
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The Premier Energy Training Workshop
and Trade Show for Federal Agencies

A River of Energy Solutions

Green Proving Ground

GovEnergy - Cincinnati, OH
Federal Technology Evaluation Programs
August 8, 2011

Kevin Powell
GSA Public Buildings Service

GSA

GSA Public Buildings Service



Morse U.S. Courthouse
Eugene, OR



NPS
Omaha NB



EPA Science and Technology
Kansas City, KS



U.S. Census Bureau
Suitland, MD

- 8,603 owned and leased assets
- 354 million RSF across the U.S
- \$4.27 billion investment underway to green inventory
- House 1 million federal employees
- Landlord for over 400 different federal agencies, bureaus and commissions

Congress and White House: Ambitious Targets

- EISA 2007: 30% metered energy reduction by 2015 (portfolio); achieve Net Zero by 2030 (new const & major remodel)



- EO 13514: all agencies to set aggressive GHG reduction.
GSA: 28% reduction in GHG; 30% renewable energy by 2020



GSA Sustainability Vision

Zero Environmental Footprint

“GSA will eliminate its impact on the natural environment and use its government-wide influence to reduce the environmental impact of the Federal government.”



*GSA FY 2010-2015 Strategic
Sustainability Performance Plan*

GSA's 'Moon Shot'



Velocity!



1981
Osborn 1
(first portable computer)
Cost: \$1800



1983
Motorola DynaTac
(first mobile cell phone)
Cost: \$3000

Administration Vision: 2011 State of the Union



“In America, innovation doesn’t just change our lives. It’s how we make a living.”

“Instead of subsidizing yesterday’s energy, let’s invest in tomorrow’s.”

Sustainability: A Platform for Innovation

- Multiple initiatives across PBS
 - Mobility and the New Workspace
 - Performance-based Standards
 - Smart Buildings Program
 - Post Occupancy Evaluation
 - Advanced Metering
 - Green Proving Ground Program



GSA Green Proving Ground Program

- Use GSA's real estate portfolio as a "proving ground"
- Test and evaluate innovative technologies and practices
- Drive innovation in environmental performance in GSA Federal buildings
- Help lead market transformation through adoption of "proven" technologies



GPG Program

Submit, Select
GPG Ideas



Outreach &
Communication



Strategic Partnerships



Enhanced M&V



FY11 Project Selection

- National data call for funded projects that are implementing innovative technologies/practices
 - 140 projects submitted by GSA regions
- Selection of funded projects with greatest potential to meet GSA's sustainability goals
 - GSA selection criteria
 - PNNL review
 - FEMP New Technology Matrix





FY 11 Technologies

INNOVATIVE

- Variable Speed Chiller Plant
- Chilled Beams
- Plug Load Reduction
- On-Site Renewable Energy Guidance
- PV with Integrated Solar Thermal
- Smart Windows
- Variable Refrigerant Flow
- Wireless Mesh Sensor Network

UNDERUTILIZED

- Commercial Ground Source Heat Pump
- Condensing Boilers
- High R-Value Windows
- Integrated Daylighting Systems
- Workstation Specific Lighting
- Magnetic Bearing Compressor
- Non-chemical Water Treatment
- Thin Film Photovoltaic

Enhanced M&V

- Evaluate effectiveness technologies and practices in a building operations environment
 - Metering
 - Occupant acceptance
 - Building operations
 - Economic return
 - Broader application potential



GPG – FY 11 Program

December, 2011

- Work Station Specific Low Ambient /Task Lighting
- On-Site Renewable Energy Guidance
- Thin Film Photovoltaic
- Wireless Mesh Sensor Network

June 2012

- Integrated Daylighting
- Plug Load Reduction
- PV with Integrated Solar Thermal
- Smart Windows
- Variable Speed Chiller Plant
- Non-chemical Water Treatment

December 2012

- Commercial Ground Source Heat Pump
- Magnetic Bearing Compressor
- Variable Refrigerant Flow

December 2013

- Chilled Beams
- Condensing Boilers Systems
- High R-Value Windows

Outreach and Communication

- GPG information system
- Track projects across regions and communicate information on results



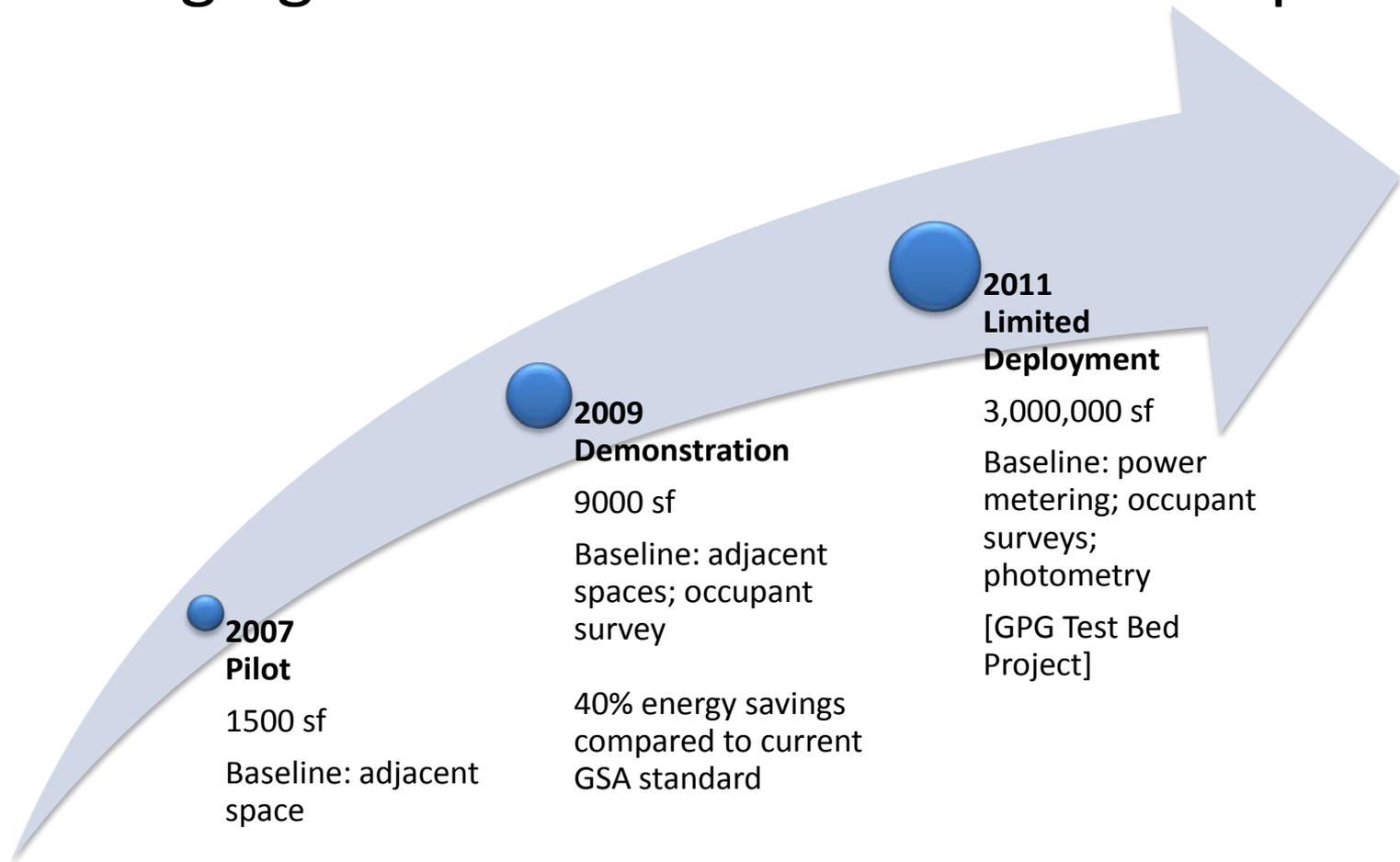
Strategic Partnerships

- Federal agencies
- Vendor community



Case Study: Lighting Technologies

Emerging Tech Becomes Performance Spec



2012: Specify. Establish performance specification for Facilities Standards for the Public Buildings Service (P100).



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