



# FY24 RFI for Emerging Technologies for Net-Zero Carbon Buildings

## U.S. General Services Administration

Center for Emerging Building Technologies (CEBT)  
Green Proving Ground Program (GPG)

## U.S. Department of Energy

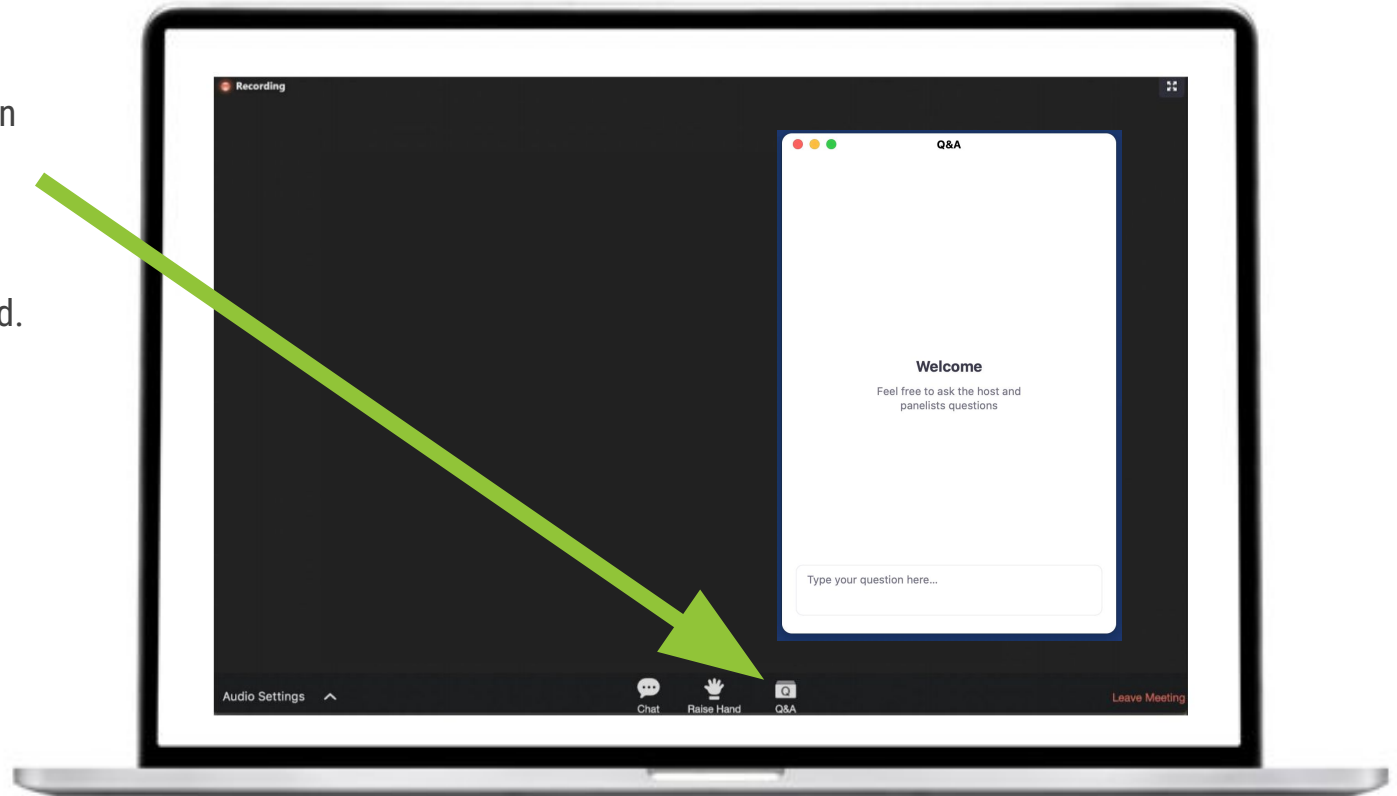
Office of Energy Efficiency and Renewable Energy (EERE)  
Building Technologies Office (BTO)  
Solar Energy Technologies Office (SETO)  
Federal Energy Management Program (FEMP)



# »» How to Ask Questions

Click the Q&A button to ask questions.

The webinar will be recorded and shared.



# »» Frequently Asked Questions

Answers to frequently asked questions are available at [gsa.gov](https://gsa.gov) and will be updated after today's webinar.



## Frequently Asked Questions

GSA/DOE RFI for Emerging Technologies for Net-Zero Carbon Buildings

- » [General Information](#)
- » [Benefits of Participation](#)
- » [Technology Eligibility](#)
- » [Program Eligibility](#)
- » [Program Participation](#)
- » [Financial Expectations](#)
- » [Measurement and Verification](#)
- » [Testbed Selection](#)
- » [RFI Application Help](#)

# » Webinar Recording and Slides available on gsa.gov

This webinar is being recorded.

The recording and slides will be shared by email and posted on the RFI page at gsa.gov.

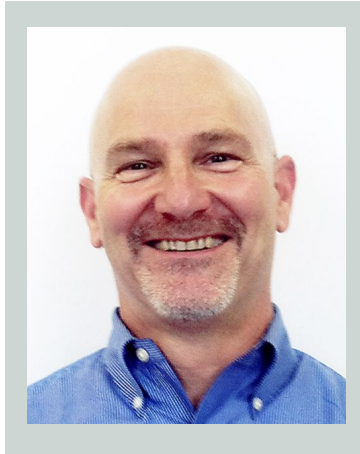
The screenshot shows the GSA website interface. At the top, there is a navigation bar with the GSA logo and the text 'U.S. General Services Administration'. To the right of the logo is a 'Per Diem Lookup' button and a search bar containing 'Search GSA.gov'. Below the navigation bar is a secondary menu with links for 'Buy through us', 'Sell to government', 'Real estate', 'Policy and regulations', 'Small business', 'Travel', 'Technology', and 'About us'. The main content area has a breadcrumb trail: 'Home > Climate Action and Sustainability > Center for Emerging Building Technologies > Pilot Your Emerging Tech at GSA: FY24 RFI'. On the left side, there is a sidebar menu for the 'Center for Emerging Building Technologies' with links for 'Overview', 'About Green Proving Ground', 'Completed Assessments', 'Ongoing Assessments', 'Pilot Your Emerging Tech at GSA: FY24 RFI' (highlighted), 'Benefits to Participating', 'About Pilot to Portfolio', 'GPG Webinars', 'About Applied Innovation Learning Lab', and 'GSA Technology Deployment Maps'. The main content area features a heading 'Pilot Your Emerging Tech at GSA: FY24 RFI' followed by a blue information banner that reads 'GSA, DOE RFI Open Until Friday, December 8, 2023 at 11:59 PM ET.' Below this is a paragraph describing the RFI: 'This year's Green Proving Ground RFI seeks technologies that enable energy efficiency and decarbonization in commercial buildings and contribute to a more efficient electric infrastructure. Technologies selected to participate in GPG will be piloted in one or more federal buildings and/or private sector facilities for evaluation by DOE national labs.' This is followed by a section titled 'FY24 Technology Focus Areas' with a sub-heading 'This year's RFI will focus on emerging and sustainable technologies that support:' and a bulleted list: 'Deep Energy Retrofits', 'All-Electric Buildings and Vehicle Fleets', 'Net-Zero Operations', 'Healthy and Resilient Buildings', and 'Building Commissioning and Control'. Below this is a section titled 'Participation Requirements' with a bulleted list: 'Technologies should be early- or underutilized-commercial and ready for evaluation in occupied, operational buildings.' and 'For GSA-selected technologies, core equipment must be gifted to the federal government as outlined in 40 U.S.C. 3175 or provided via an alternative financing mechanism. Installation is funded by GSA.' On the right side of the page, there is a 'RFI Quick Links' section with a list of links: 'Register for an Informational Webinar on November 9, 2023', 'GSA Green Proving Ground Solicitation #FY24RFI101623', 'RFI Web Application', 'For Reference: RFI Application in PDF [PDF - 98 KB]', 'RFI Frequently Asked Questions [PDF - 164 KB]', and 'GSA RFI Press Release'. At the bottom right, there is a 'Get GPG program updates' section with an email subscription form that includes an envelope icon, the text 'Subscribe to the GPG mailing list', an input field for 'Email address', a red 'x' icon, and a blue 'Go' button.

# »» Agenda

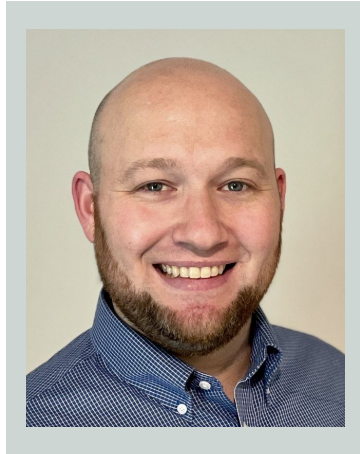
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- Program Overview
- What Are We Looking For?
- RFI Mechanics and What it Means to Participate
- Q&A

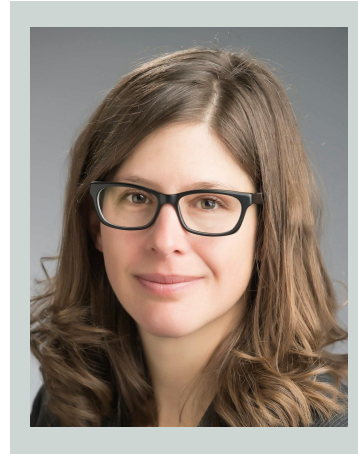
# »» Today's Presenters



Kevin Powell  
GSA



Tim Cycyota  
DOE



Rois Langner  
NREL



Donna Creason  
GSA

# Green Proving Ground Program (GPG)

# » Net-Zero Carbon Buildings

Open October 16th through December 8th

This year's RFI is focused on emerging and sustainable technologies that support:

- Deep energy retrofits
- All-electric buildings and vehicle fleets
- Net-zero operations
- Healthy and resilient buildings
- Building commissioning and control



**GSA & DOE  
Seek Emerging  
Building  
Technologies**

The U.S. General Services Administration (GSA), in collaboration with the U.S. Department of Energy (DOE), has issued a Request for Information (RFI) for emerging technologies that help buildings achieve net-zero operations.

**Annual RFI closes on  
FRIDAY, DECEMBER 8, 2023**

**Benefits to Participating**  
Technologies selected for participation in GSA's Green Proving Ground (GPG) will be piloted in one or more federal buildings and/or private sector facilities for evaluation by DOE national labs. Evaluations inform public- and private-sector investment decisions, accelerating commercialization as well as adoption.

**2024 GPG RFI Technology Focus Areas**


- » Deep energy retrofits
- » All-electric buildings and vehicle fleets
- » Net-zero operations
- » Healthy and resilient buildings
- » Building commissioning and control



Scan for RFI information and application

[gsa.gov/gpgri](https://gsa.gov/gpgri) [gpg@gsa.gov](mailto:gpg@gsa.gov)



- 
- » Single largest U.S. portfolio of commercial office space
  - » Large urban buildings (90% > 100,000 ft<sup>2</sup>) with central plants
  - » 80% in mild climates (ASHRAE 3, 4, 5)
  - » Majority are Energy Star 80 or better

**1,500+**  
owned properties

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**8,100+**  
managed properties

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**377 M**  
rentable sq. ft.

## Funds to Maximize GSA Building Performance & Minimize GHG Emissions



**Assistance for Federal Buildings §60502 (HPGB)**

**\$250M**

available until Sept. 30, 2031

to convert GSA facilities to high-performance green buildings (as defined in Section 401 of EISA)



**Use of Low-Carbon Materials §60503 (LEC)**

**\$2.15B**

available until Sept. 30, 2026

to acquire and install materials and products for construction or alteration of GSA buildings that have substantially lower levels of embodied greenhouse gas emissions, as determined by EPA



**GSA Emerging Tech §60504 (E&ST)**

**\$975M**

available until Sept. 30, 2026

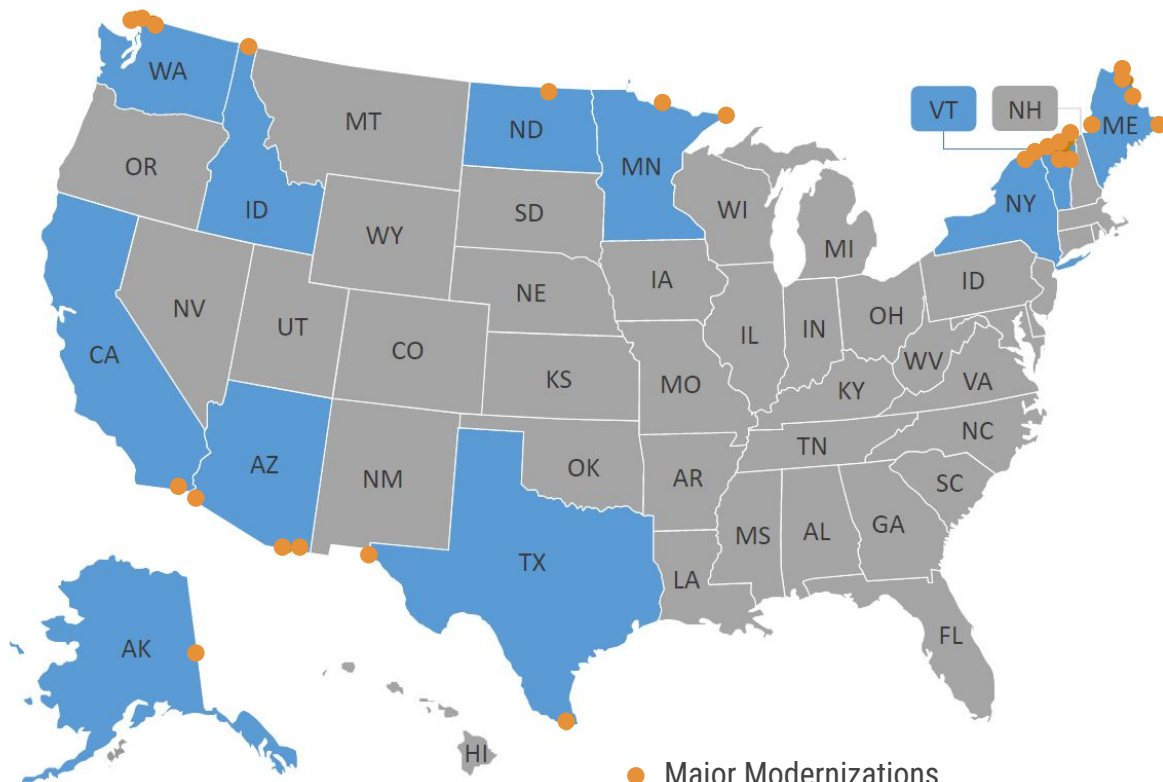
for emerging and sustainable technologies, and related sustainability and environmental programs

# » Bi-Partisan Infrastructure Law, 2021

**\$3.75B**

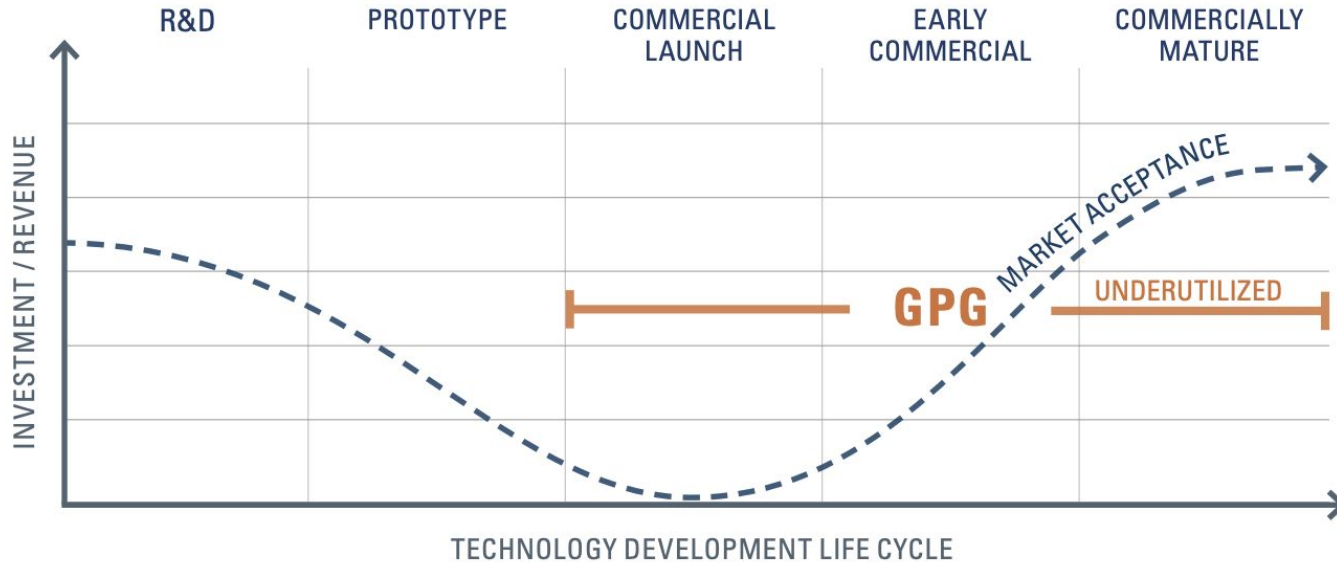
To modernize  
and improve

**> 60 LPOEs**

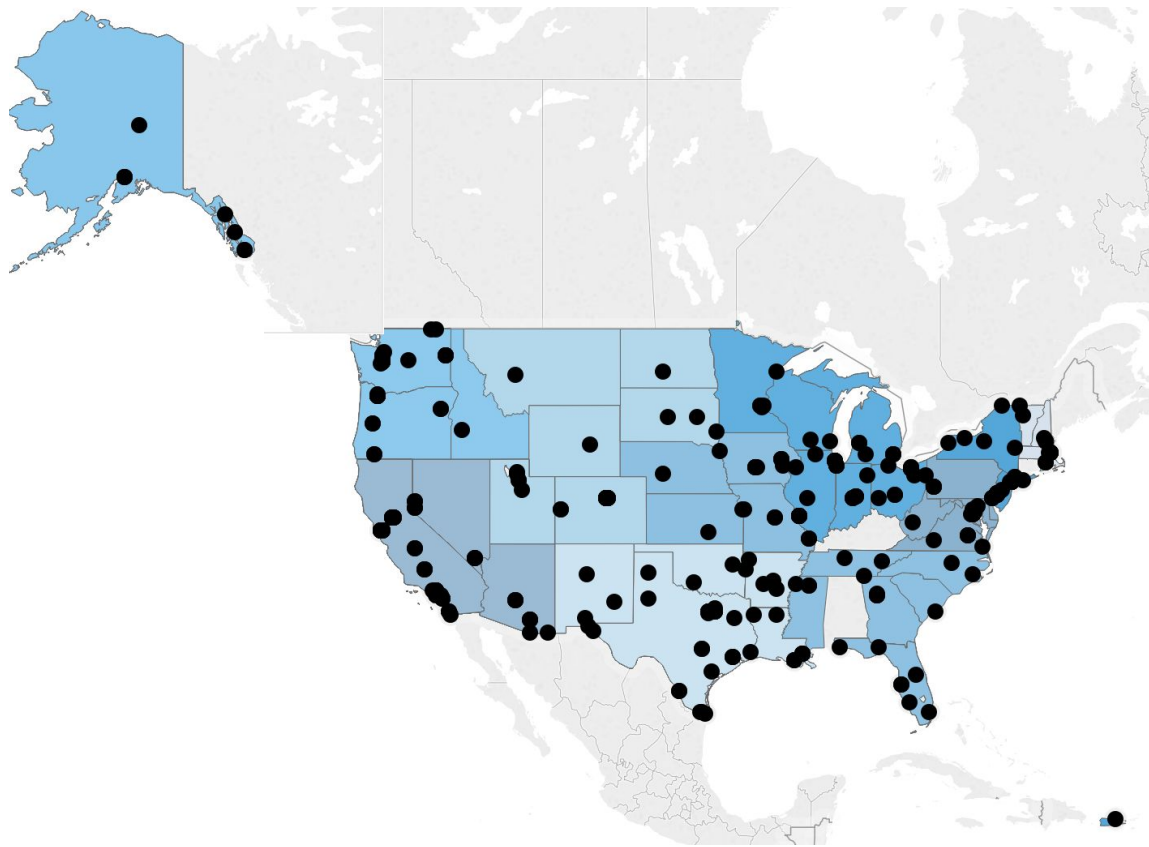


# » Field Validations Help Bridge the Gap

4 out of 5 innovative building technologies are never fully commercialized.  
Why? Skepticism from facility managers who live by the “tried and true.”



# » GPG 2010–2023



**1,031**  
technology applications

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**124**  
technologies selected

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**53** reports published

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**23** GPG technologies  
deployed in 700+ facilities

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**\$30M** annual savings

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**117** tons annual  
GHG reduction

# » Benefits to Participating in a Testbed Evaluation



Engage in a full-scale pilot with 3rd-party M&V by DOE National labs



Increase market acceptance by validating real-world performance



Inform public- and private-sector investment decisions



U.S. DEPARTMENT OF  
**ENERGY**



# » Building Technologies Office (BTO)

Better Buildings Partners Are

**FORTUNE  
100**

**36 of the  
Fortune 100  
Companies**



**13% of All  
Commercial  
Building Space**



**10 of the  
Top 25 U.S.  
Employers**

## BTO Technology Field Validation

Connect national laboratories with technology providers and recruited host sites to provide technical assistance and 3rd party measurement and verification.

**BTO Contact:** [hayes.jones@ee.doe.gov](mailto:hayes.jones@ee.doe.gov)



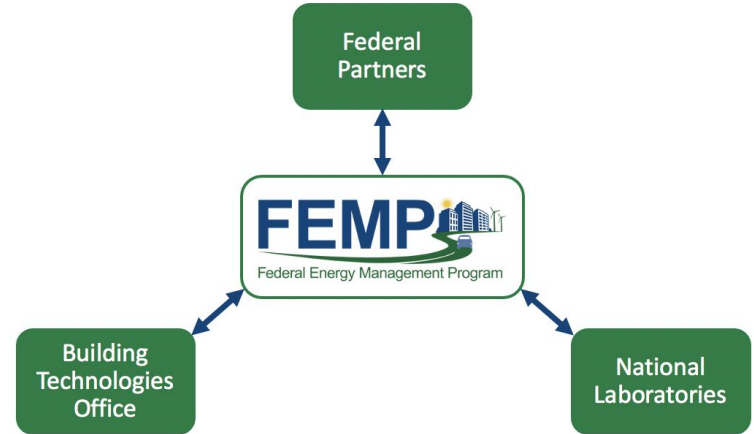
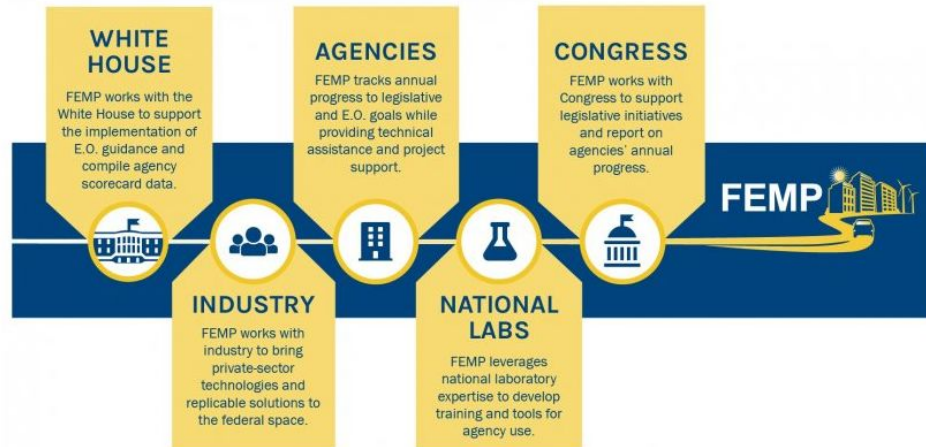
**100  
State & Local  
Governments**



# » Federal Energy Management Program (FEMP)

## FEMP Mission

FEMP works with its stakeholders to enable federal agencies to meet energy-related goals, identify affordable solutions, facilitate public-private partnerships, and provide energy leadership to the country by identifying and leveraging government best practices.

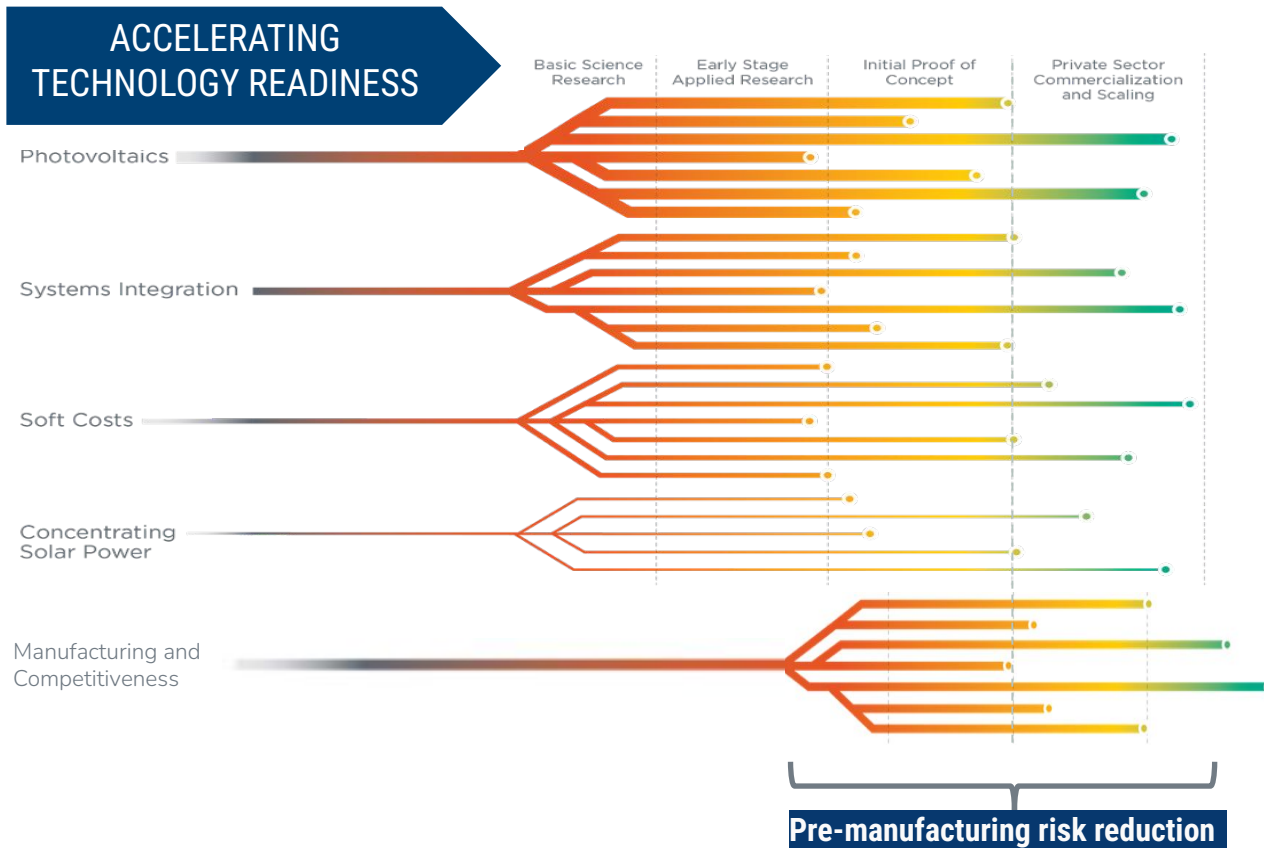


## FEMP Technology Validation Role

FEMP facilitates collaboration with DOE, federal partners, and National Laboratories to connect potential validation sites with solution providers.

**FEMP Contact:** [rick.mears@ee.doe.gov](mailto:rick.mears@ee.doe.gov)

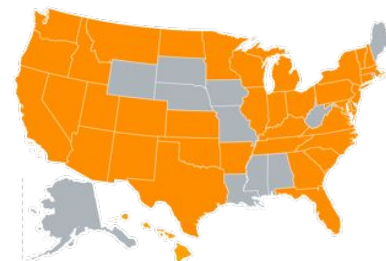
# » Solar Energy Technologies Office (SETO)



## SETO Manages

>**375** Active Projects in  
47 States and DC

**30%** Business/Non-Profit  
**40%** National Labs  
**30%** Universities



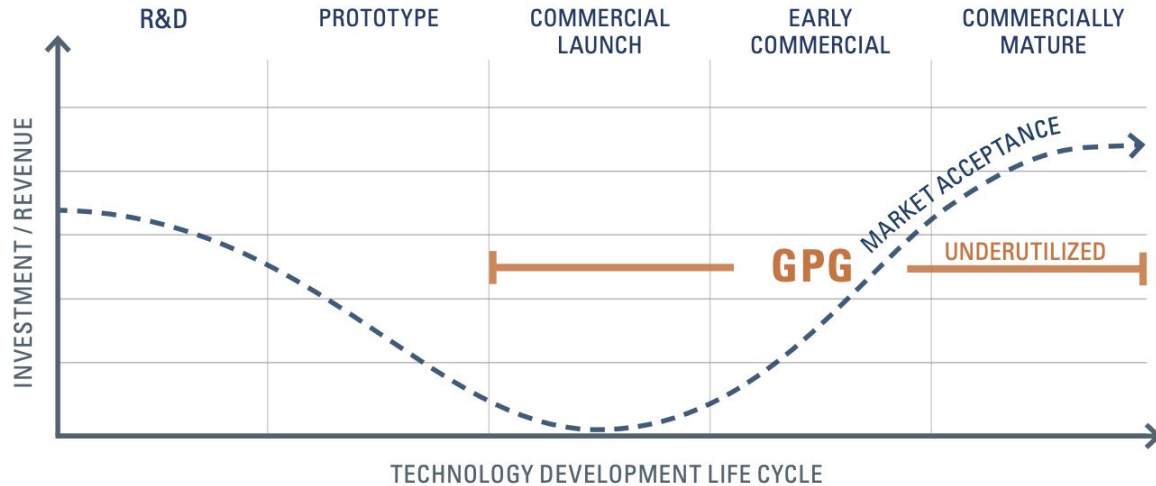
**SETO M&C Contact:**  
[timothy.cycyota@ee.doe.gov](mailto:timothy.cycyota@ee.doe.gov)

What are we  
looking for?



# » RFI: What Are We Looking For?

## Technology Maturity—Early or Underutilized Commercial



Technologies should be ready for evaluation in occupied, operational buildings.

Prototypes or commercial technologies broadly in use and readily available are not appropriate candidates.

# »» Technology Eligibility

For acceptance into the program, technologies must possess *all relevant health and safety certifications*, which may include but are not limited to:

- Underwriter Laboratories (UL)
- Electrical Testing Laboratories (ETL)
- Federal Risk and Authorization Management Program (FedRAMP)
- Environmental Product Declaration (EPD)
- Health Product Declaration (HPD)

Some technology categories may require additional registrations to be considered eligible:

- PV modules, PV inverters, and consumer electronics: [Electronic Product Environmental Assessment Tool \(EPEAT\)](#)



# »» Deep Energy Retrofits

Improve energy efficiency and reduce the carbon footprint of an existing building

- Capture/manage waste heat
- Refrigerant leak prevention or no or low global warming potential refrigerants
- Envelope retrofits
- Passive building technologies
- Lighting and lighting control systems



# » All-Electric Buildings and Vehicle Fleets

Eliminate the use of fossil fuels in building and vehicle fleet operations

- Larger-scale heat pumps
- Packaged heat pumps
- Smart panels & circuits
- Electric vehicle supply equipment



# »» Net-Zero Operations

Operate without fossil-fuel equipment combining on-site renewables and offsite carbon-free electricity

- On-site carbon-free energy generation
- On-site energy storage
- On-site carbon capture
- Integrated on-site energy, storage and building management systems
- GHG reporting software





# » Healthy and Resilient Buildings

Enhance occupant comfort and building health

- Environmental quality monitoring and control
- Novel methods to reduce the risk of disease transmission
- Low-embodied carbon materials
- Passive survivability
- Microgrids
- Water conservation and harvesting technologies



# » Building Commissioning and Control

Focus on retro/continuous-commissioning

- Retro- and continuous-commissioning
- Grid-interactive efficient buildings
- Identify ECMS
- Low-cost technologies that enable hardware synchronization with older control systems
- Automated IoT inventory collection



# »» Novel Financing Approaches



If possible, novel financing approaches and/or business models to accelerate uptake of low-carbon technologies are encouraged, and may be integrated into responses to this RFI to streamline and accelerate deployment of the technology or solution.


# RFI Mechanics & What it Means to Participate



# » Vendors Must Demonstrate Measurable Success Criteria

- Reduce GHG emissions
- Reduce primary energy (including electricity and fuel)
- Enable on-site energy generation (where applicable)
- Achieve reasonable simple payback periods
- Demonstrate novel financing approaches (where applicable)





Factors  
considered  
in selecting  
a technology

1. Innovation
2. Performance
3. Costs/Savings
4. Deployment Potential
5. Technical Risk

# » Program Participation: Your Contribution

## Technology

- GSA – Core equipment for evaluation must be (1) gifted to the U.S. government or (2) provided via alternative financing mechanism (i.e. UESC). Equipment installation will be funded by GSA.
- DOE – Project details and costs will be negotiated between vendor and host site partner.

## Time and Travel

- Provide input to labs on test bed design, project plan, and evaluation report.
- Provide guidance on installation, commissioning, and tenant engagement.
- Travel to 1–3 on-site meetings.

*Neither GSA nor DOE will provide direct funding to participate in the evaluation*

# » Path to Procurement and BAA and TAA Compliance

To sell to the federal market you need a path for BAA or TAA compliance

- [Executive Order 14005 Ensuring the Future Is Made in All of America by All of America's Workers](#)
- [Buy American Act](#) (BAA)
- [Trade Agreements Act](#) (TAA)

*Foreign companies are eligible to participate in the RFI, but will need BAA/TAA compliance for federal deployment.*





# » Roles and Responsibilities

## Federal Program

- Overall project management
- Coordinate and fund M&V
- Lead report review and publication
- *GPG only: Fund tech installation*

## Host Site

- Oversee all contracting
- Manage technology installation
- Facilitate tenant engagement
- Provide user feedback

## National Lab

- Design project plan
- Site evaluation
- Collect and analyze data
- Author technical report

## Tech Vendor

- Provide technology
- Support design, installation and commissioning
- Provide necessary certifications including UL status
- *For federal: IT-security clearance*

# » RFI: Potential Host Sites

## DOE

All commercial buildings in the U.S., including privately owned buildings, federal buildings outside of GSA's jurisdiction, and institutional buildings. Vendors are encouraged to bring your own site.

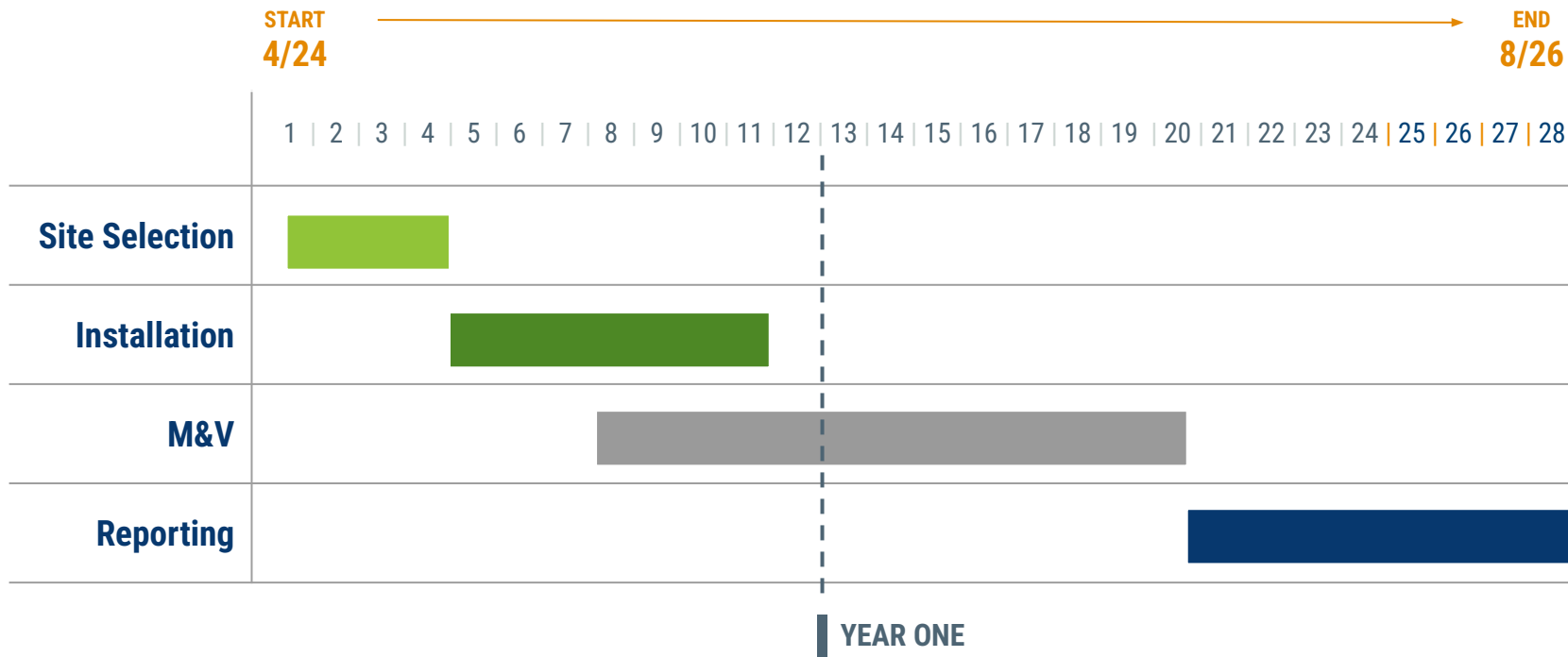
## GSA

- Large urban buildings with central plant
  - 90% buildings > 100,000 ft<sup>2</sup>, 80% portfolio energy spend: buildings > 200,000 ft<sup>2</sup>
- Majority in mild climate zone
  - > 80% in ASHRAE climate zones 3, 4, 5
- Energy efficient: Majority Energy Star 80 or better

# » RFI: Timeline

<b>RFI Opened</b>	October 16, 2023
<b>RFI Informational Webinar</b>	November 9, 2023 @ 1:00 pm ET
<b>RFI Application Deadline</b>	December 8, 2023 @ 11:59 pm ET
<b>Semi-Finalist Notification</b>	February 2024
<b>Semi-Finalist Presentation</b>	March 2024
<b>Finalist Selected and Notified</b>	April 2024

# » Assessment Timeline



# » RFI: How to Apply Applications Due by Friday, December 8, 11:59 PM EST



The screenshot shows the SAM.GOV website interface. At the top, there is a navigation bar with links for Home, Search, Data Bank, Data Services, and Help. The main content area features a large GSA logo on the left and a detailed view of a contract opportunity on the right. The opportunity title is "FY24 Request for Emerging Technologies: GSA Green Proving Ground". Below the title, there is a status indicator "ACTIVE" and a "Follow" button. The notice ID is "FY24RFI101623". A sidebar on the left lists various sections: Contract Opportunity, General Information, Classification, Description, Attachments/Links, Contact Information, History, and Award Notices. The main content area also includes a "Related Notice" section and a "Department/Ind. Agency" section with the following details: GENERAL SERVICES ADMINISTRATION, Sub-tier PUBLIC BUILDINGS SERVICE, Office PBS R1 NATIONAL CONTRACTS TEAM.

[sam.gov # FY24RFI101623](https://sam.gov/#FY24RFI101623)



This Request for Information (RFI) seeks innovative early- or underutilized-commercial technologies. **Only technologies ready for evaluation in occupied, operational buildings will be considered.**

Responses to this RFI will be evaluated and considered for inclusion in the U.S. General Services Administration (GSA) [Green Proving Ground](#) (GPG) program (for federally owned facilities), voluntary partnership programs facilitated by the U.S. Department of Energy (DOE) [Office of Energy Efficiency & Renewable Energy](#) (EERE) (for privately owned facilities), or both.

The application consists of the following five sections:

1. Applicant Information (13 questions)
2. Technology Overview (16 questions)
3. Technology Performance (10 questions)
4. Technology Commercialization (10 questions)
5. Attachments (1 question)

**Application Deadline:**

Responses will be accepted until **Friday, December 8, 2023, 11:59 pm EST.**

[Web-based RFI application](#)



Q&A







[gpg@gsa.gov](mailto:gpg@gsa.gov) | [gsa.gov/gpgrfi](https://gsa.gov/gpgrfi)

Applications Due by Friday, December 8, 2023 11:59 PM EST



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**ENERGY**