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

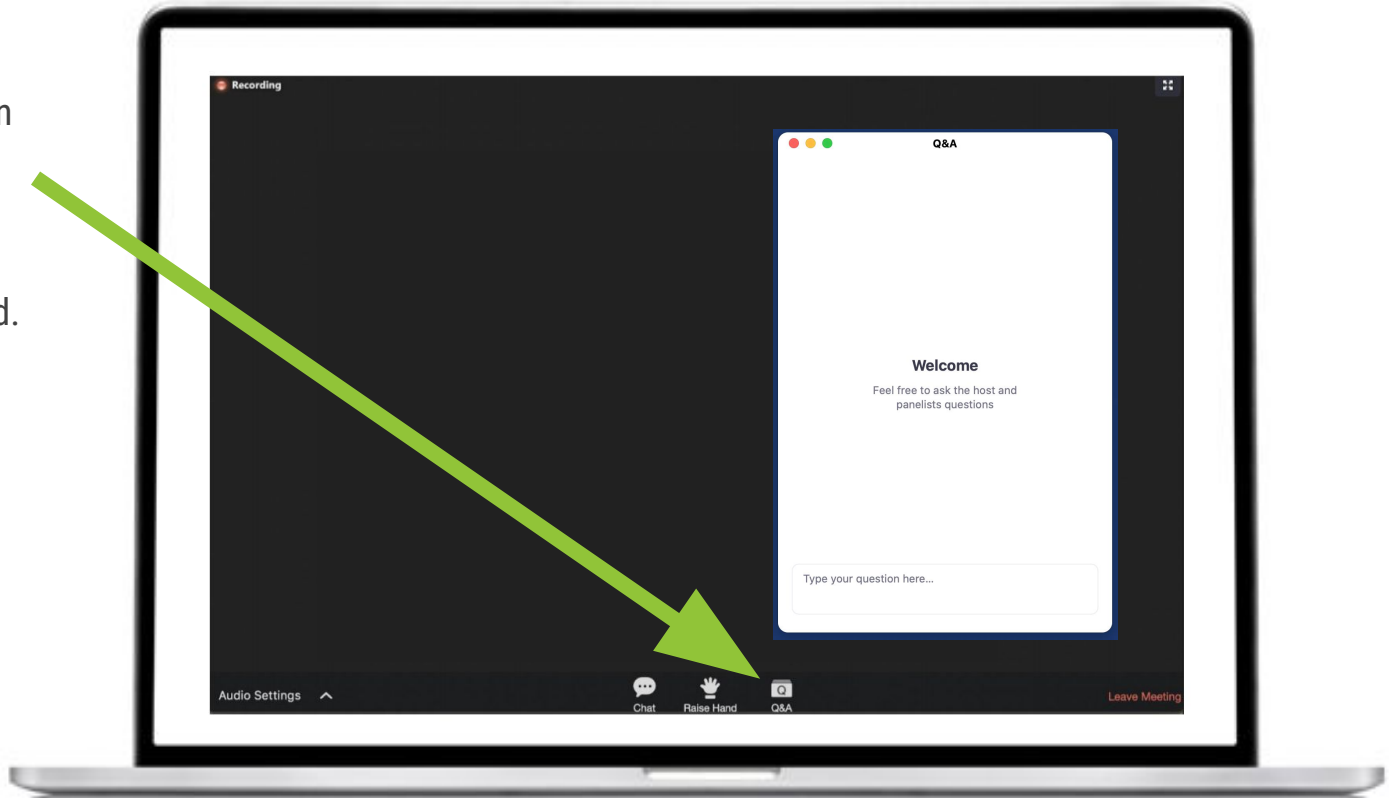
Office of Energy Efficiency and Renewable Energy (EERE)
- Building Technologies Office (BTO)
- Solar Energy Technologies Office (SETO)

Federal Energy Management Program (FEMP)

How to Ask Questions

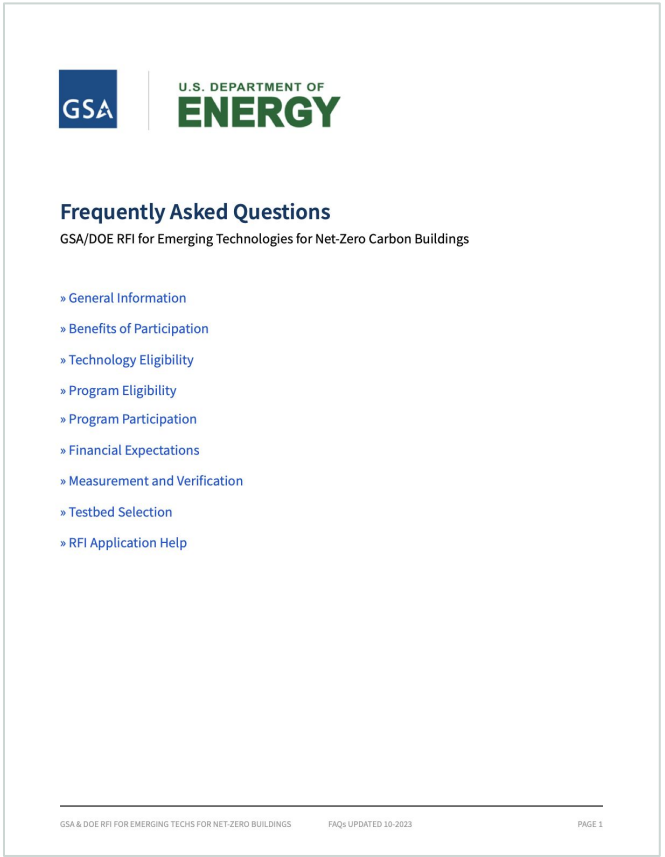
Click the Q&A button to ask questions.

The webinar will be recorded and shared.



Frequently Asked Questions

Answers to frequently asked questions are available at gsa.gov and will be updated after today's webinar.



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Frequently Asked Questions

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

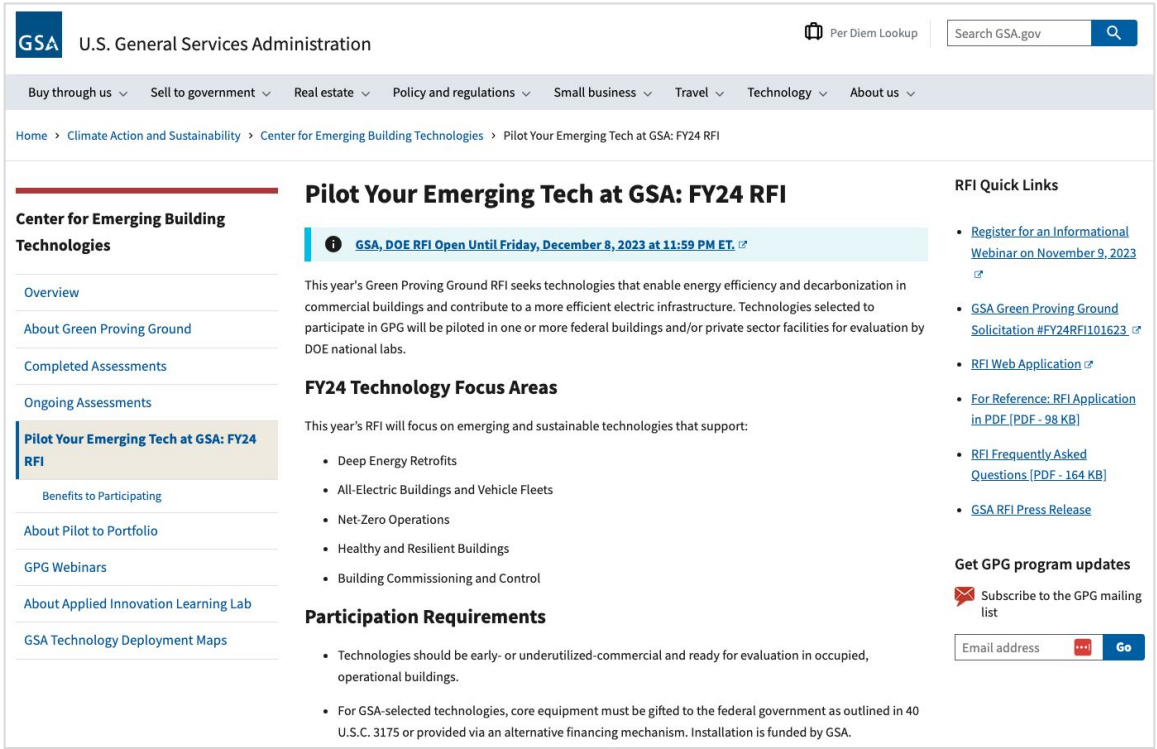
» General Information
» Benefits of Participation
» Technology Eligibility
» Program Eligibility
» Program Participation
» Financial Expectations
» Measurement and Verification
» Testbed Selection
» RFI Application Help

GSA & DOE RFI FOR EMERGING TECHS FOR NET-ZERO BUILDINGS FAQs UPDATED 10-2023 PAGE 1

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.



Agenda

- 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

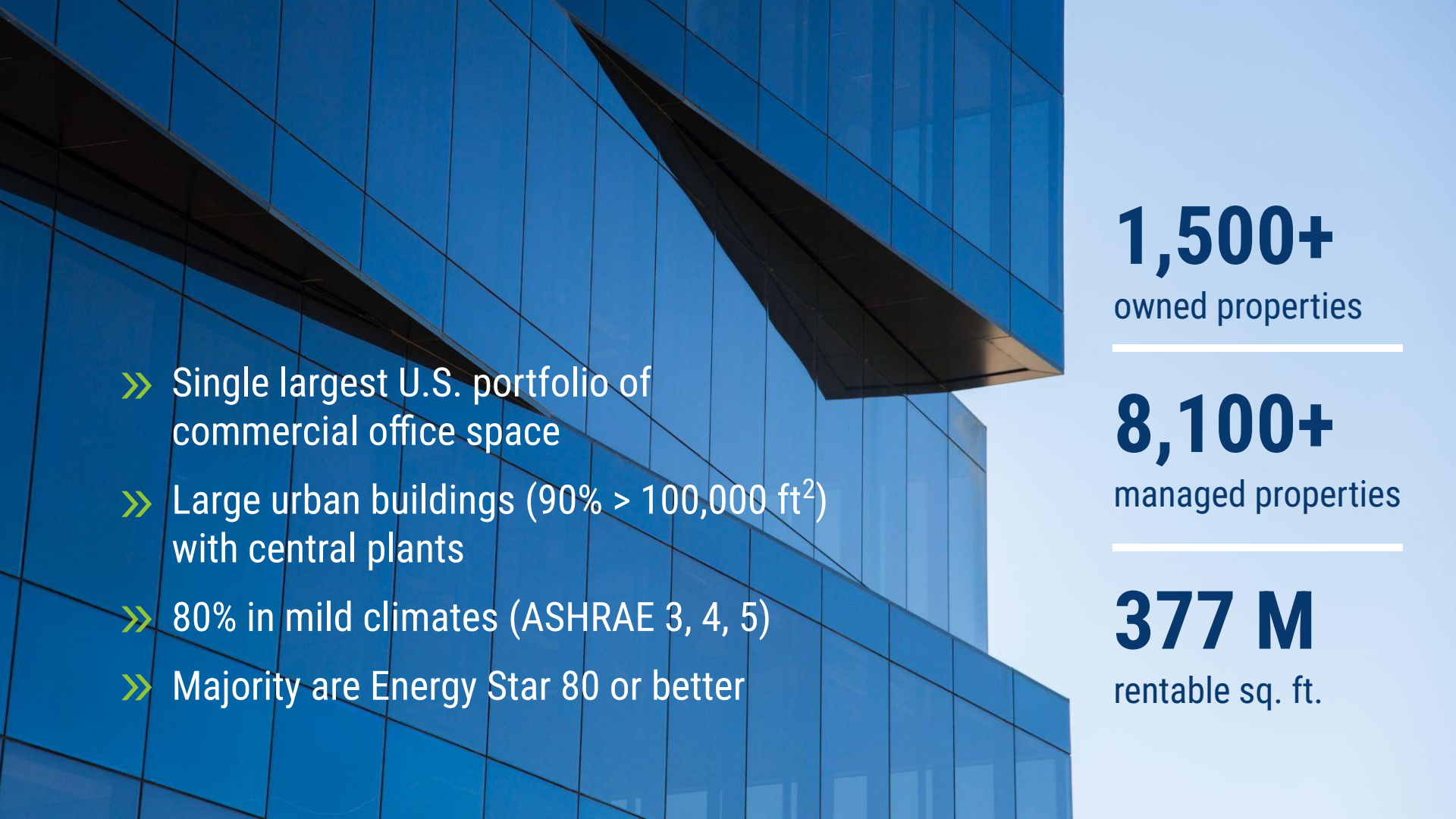
Green Proving Ground Program (GPG)

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

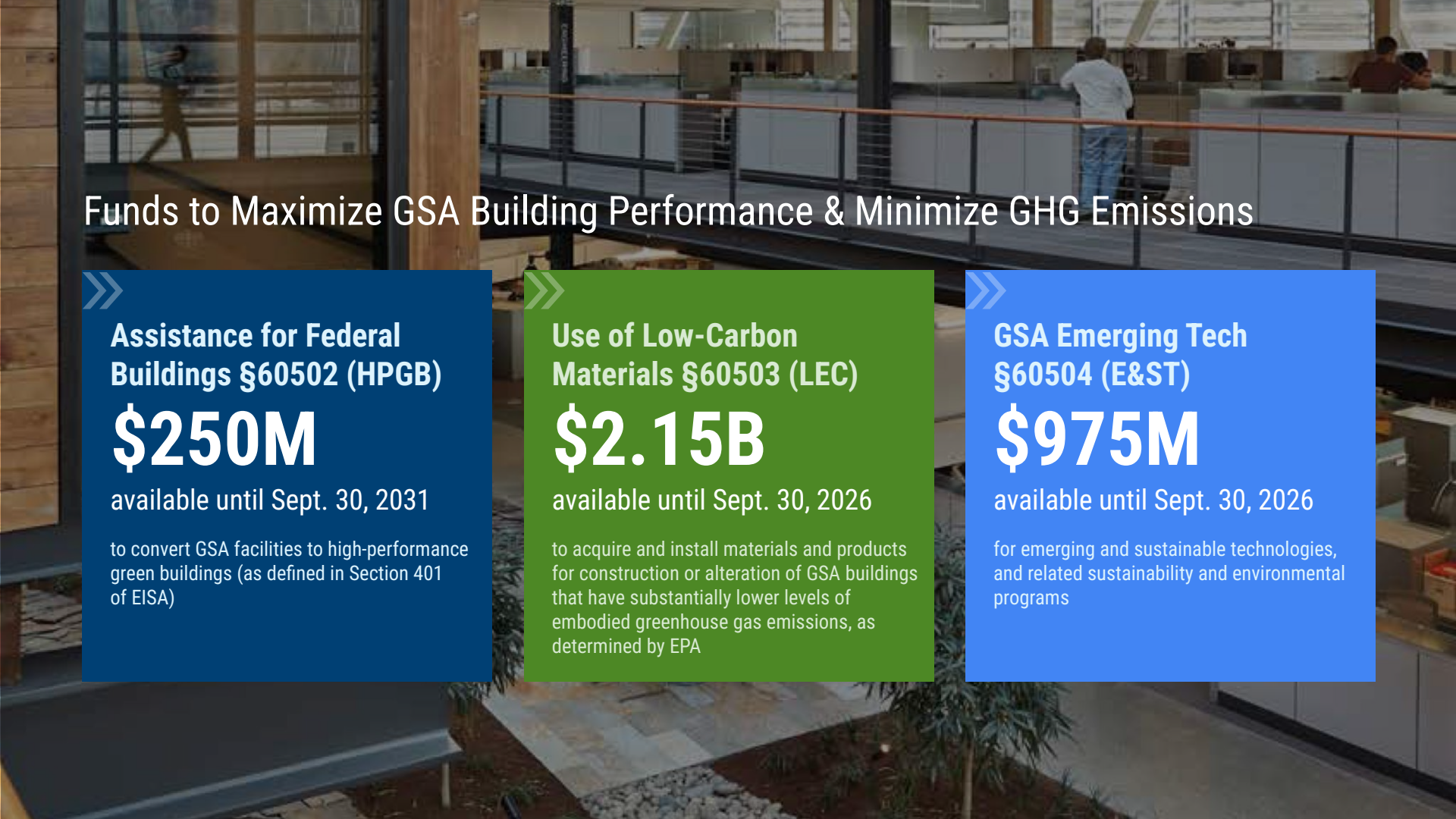


- Single largest U.S. portfolio of commercial office space
- Large urban buildings (90% > 100,000 ft^2) with central plants
- 80% in mild climates (ASHRAE 3, 4, 5)
- Majority are Energy Star 80 or better

1,500+
owned properties

8,100+
managed properties

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)

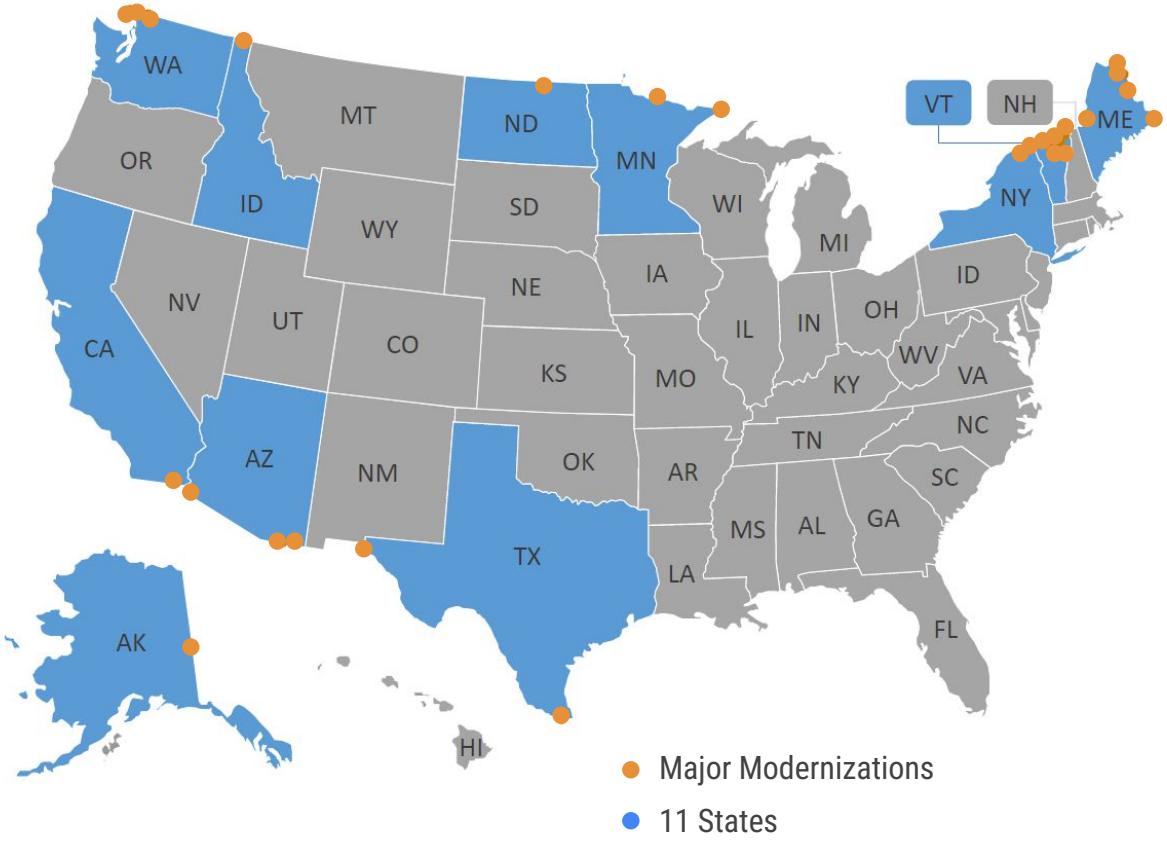
$975M

available until Sept. 30, 2026

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

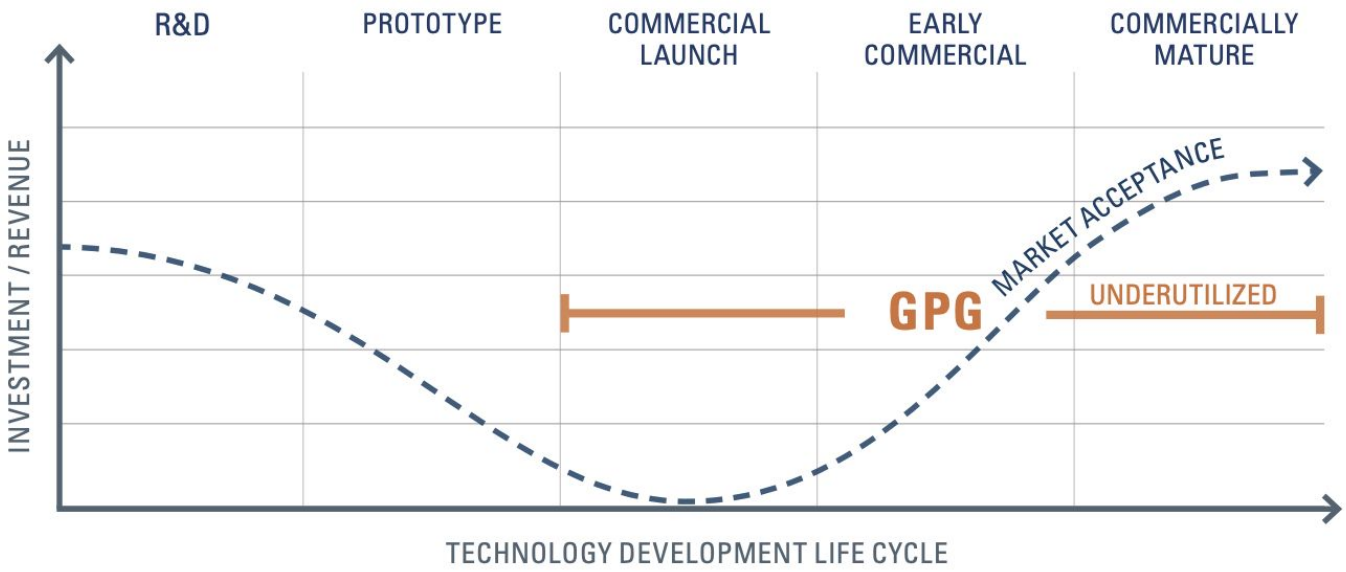
Bi-Partisan Infrastructure Law, 2021

$3.75B
To modernize and improve
> 60 LPOEs

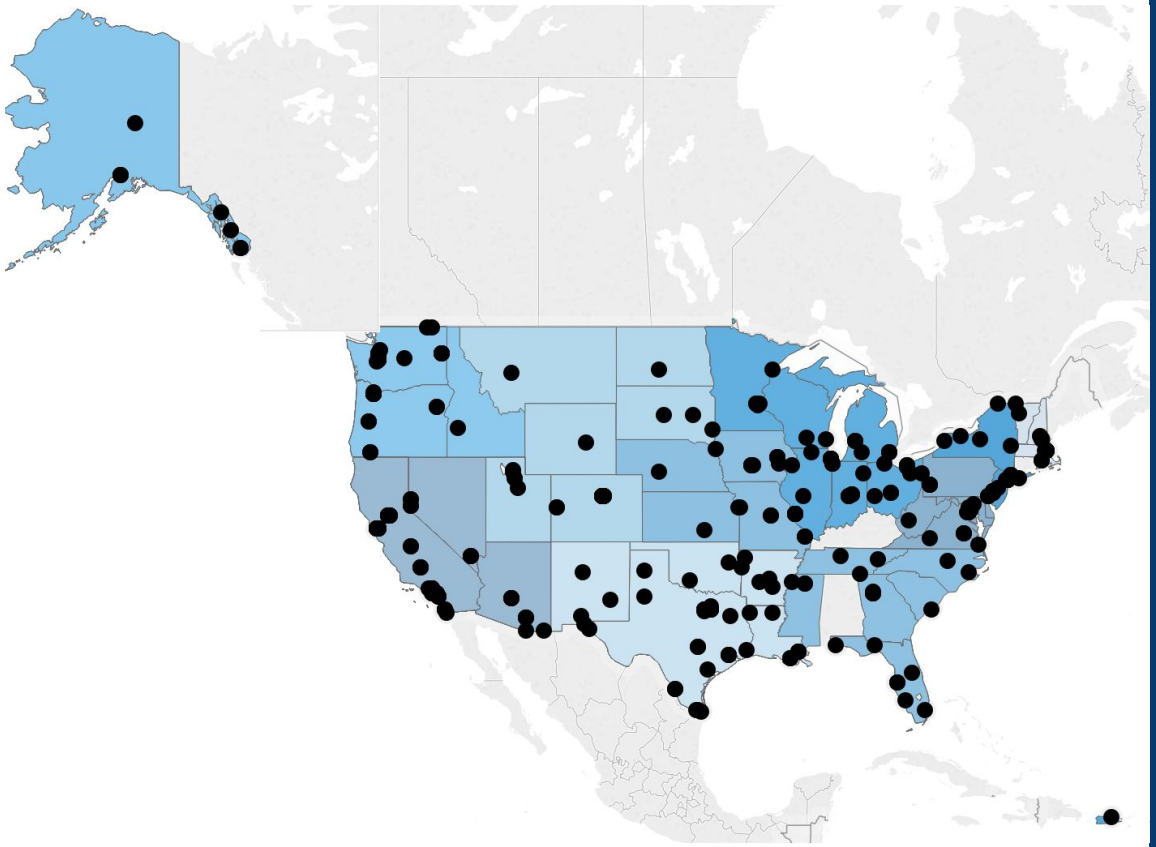


Field Validations Help Bridge the Gap

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

124
technologies selected

53 reports published

23 GPG technologies deployed in 700+ facilities

$30M annual savings

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

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

13% of All Commercial Building Space

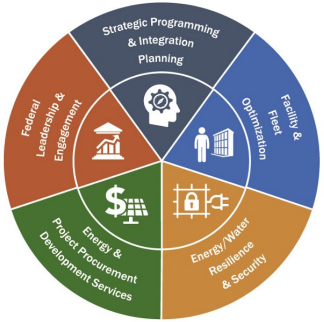
10 of the Top 25 U.S. Employers

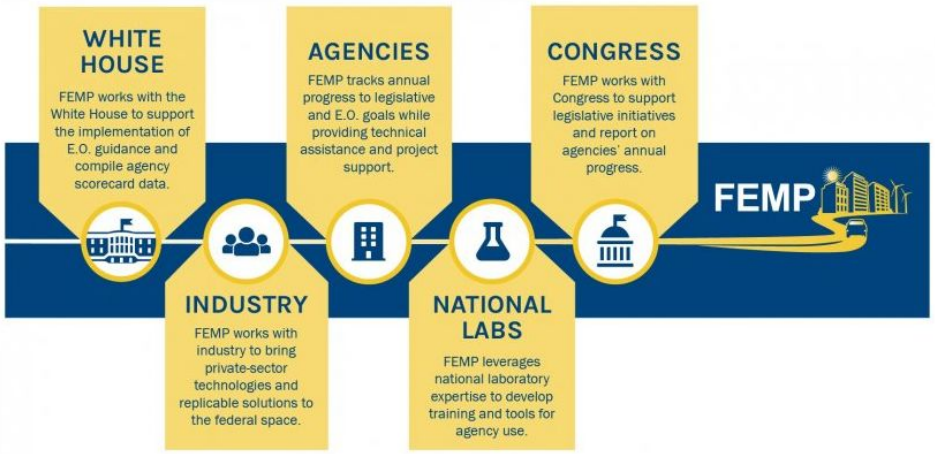
100 State & Local Governments

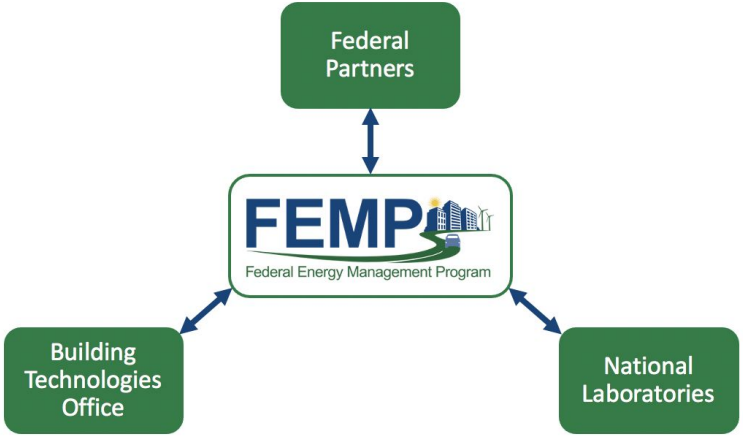
Federal Energy Management Program (FEMP)

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.





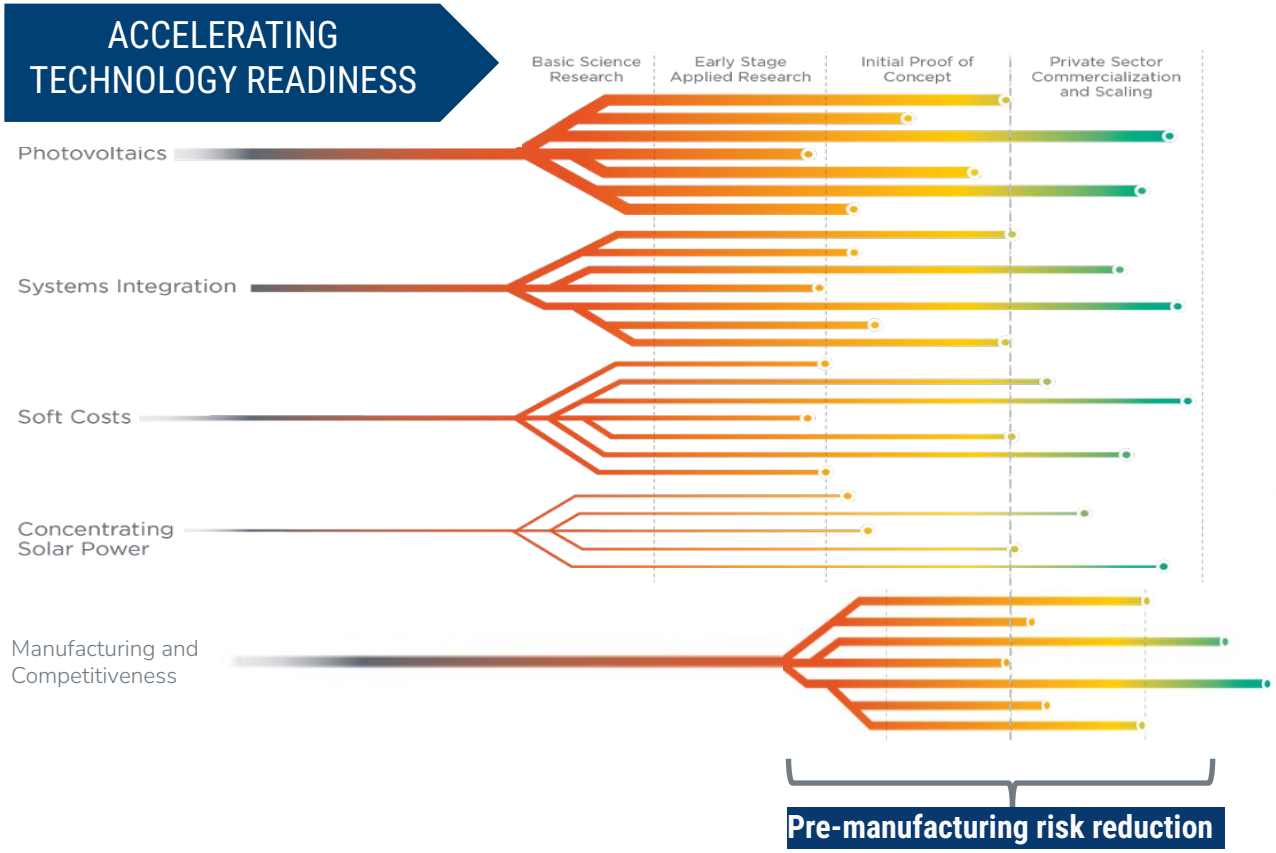


FEMP Technology Validation Role

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

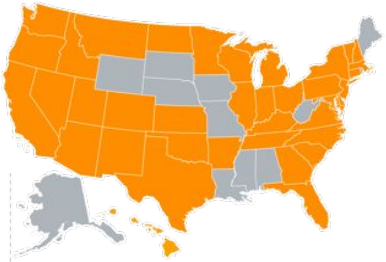
Solar Energy Technologies Office (SETO)



SETO Manages

>375 Active Projects in 47 States and DC

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

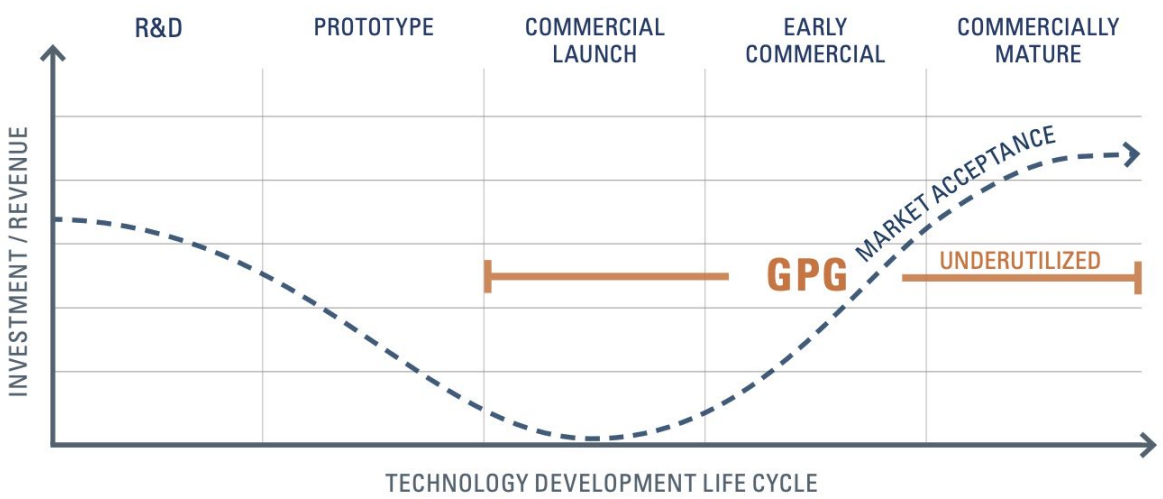


SETO M&C Contact:
timothy.cycyota@ee.doe.gov

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.

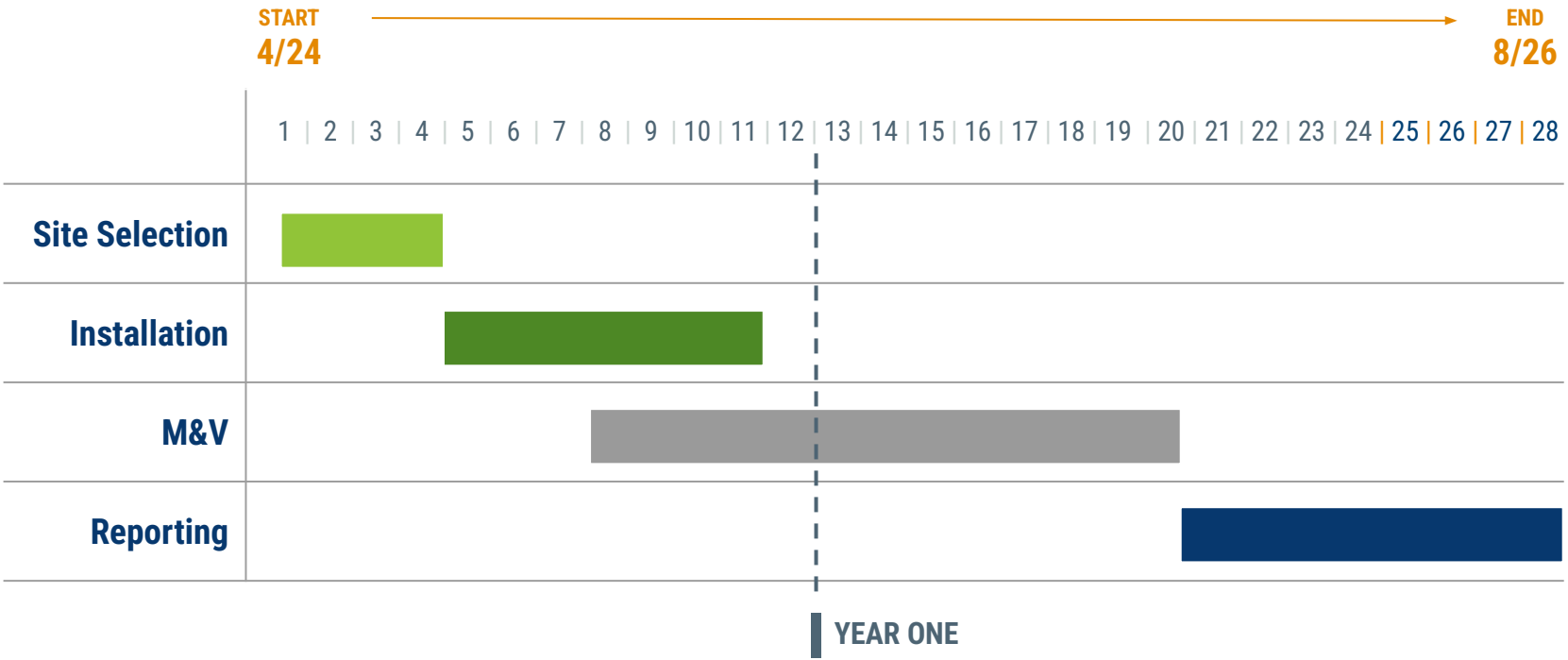
GSA

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

RFI: Timeline

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

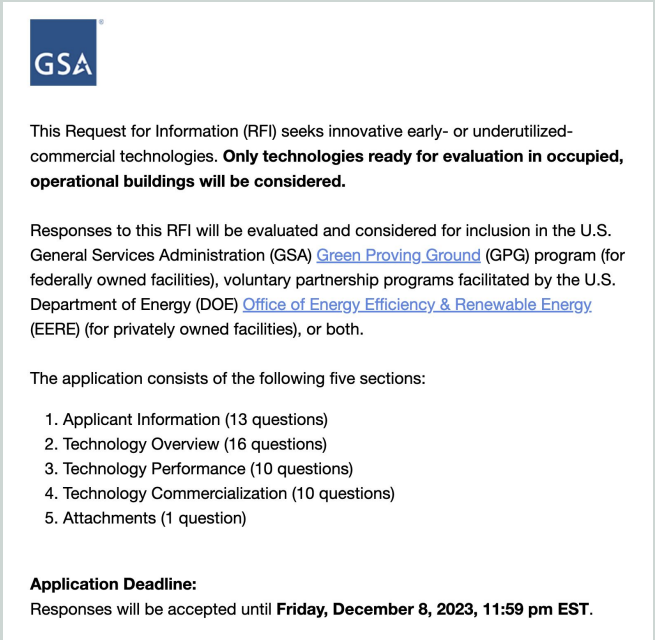
Assessment Timeline



RFI: How to Apply

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

[sam.gov # FY24RFI101623]



[Web-based RFI application]


Q&A

gpg@gsa.gov | gsa.gov/gpgrfi

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

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