Anticipated Schedule:

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>FOA Issue Date</td>
<td>10/19/2016</td>
</tr>
<tr>
<td>FOA Informational Webinar</td>
<td>11/02/2016</td>
</tr>
<tr>
<td>Submission Deadline for Concept Papers</td>
<td>11/21/2016 5:00pm ET</td>
</tr>
<tr>
<td>Submission Deadline for Full Applications</td>
<td>02/21/2017 5:00pm ET</td>
</tr>
<tr>
<td>Expected Submission Deadline for Replies to Reviewer Comments</td>
<td>03/29/2017 5:00pm ET</td>
</tr>
<tr>
<td>Expected Date for EERE Selection Notifications</td>
<td>May 2017</td>
</tr>
<tr>
<td>Expected Timeframe for Award Negotiations</td>
<td>June 2017</td>
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Before We Begin

• Please carefully read the Funding Opportunity Announcement DE-FOA-0001518 ("FOA") and adhere to the stated submission requirements.

• This presentation summarizes the contents of FOA. If there are any inconsistencies between the FOA and this presentation or statements from DOE personnel, the FOA is the controlling document.

• For questions please contact CommercialBuildings@ee.doe.gov.
Included in these Slides

1) Program Overview
2) FOA Objectives and Topics
3) Teaming List
4) Award Information
5) Schedule
6) Statement of Substantial Involvement
7) Cost Sharing
8) Merit Review and Selection Process
9) Registration Requirements
10) Tips for Submissions
Commercial Buildings Represent Significant Opportunity

- $410 billion/year
- 75% of the nation’s electricity
- Contributes 40% of greenhouse gas emissions

Building efficiency products represent $60 billion in U.S. revenue; up 43% over the last 4 years.
### But Energy Savings is Complicated!

<table>
<thead>
<tr>
<th>SECTOR</th>
<th>CONSTRUCTION TYPE</th>
<th>BUILDING USE</th>
<th>CLIMATE</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>New Construction</td>
<td>Single-Family</td>
<td>Marine</td>
</tr>
<tr>
<td></td>
<td>Retrofit</td>
<td>Multi-Family</td>
<td>Cold/Very Cold</td>
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<tr>
<td></td>
<td></td>
<td>Manufactured Housing</td>
<td>Hot Humid</td>
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<tr>
<td></td>
<td>Masonry</td>
<td>Food Service</td>
<td>Hot Dry/Mixed Dry</td>
</tr>
<tr>
<td></td>
<td>Wood frame</td>
<td>Hospitality</td>
<td>Mixed Humid</td>
</tr>
<tr>
<td></td>
<td>Metal frame</td>
<td>Real Estate</td>
<td></td>
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<td></td>
<td></td>
<td>Education</td>
<td></td>
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<td></td>
<td></td>
<td>Healthcare</td>
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<td></td>
<td></td>
<td>Grocery</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Public</td>
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</tr>
</tbody>
</table>

#### Sample Envelope Types

- New Construction
- Retrofit
- Masonry
- Wood frame
- Metal frame

#### Sample Technology Areas (Gas and Electric)

- Fan
- Boiler
- Washer
- Refrigerator
- Window
- Solar panel
- Light bulb
- Computer
- Thermostat

#### Statistics

- 113.6 million housing units
- 224 billion sq. ft.
- 21 quads
- 5.6 million commercial buildings
- 87 billion sq. ft.
- 18 quads

5.6 million commercial buildings use 87 billion sq. ft. of space.

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But Energy Savings is Complicated!
**Goal:** identify and prioritize cost-effective, underutilized, energy-efficient technologies

**Strategic Emphasis:** accelerate underutilized technologies into the market through pre-identified and pre-defined pathways
Calculating Adoption across U.S. Buildings

- Define energy efficient measures
- Apply measures to baseline energy and CO₂ markets under multiple adoption scenarios
- Output national energy/CO₂ reductions and their cost-effectiveness

Baseline energy/CO₂ market

- Technical potential savings
- Maximum adoption potential
- Adjusted adoption potential

Market Entry/Exit, Performance, Lifetime, Cost

https://github.com/trythink/scout
The High Impact Technology Priority List

Deployment prioritization enables partners to focus on market-ready, high potential technologies in a shifting landscape with multiple, complicated choices.

Initial Screen
(energy performance, stakeholder interest, manufacturing capacity)

Secondary Screen
(stakeholder input, criticality of federal involvement, cost effectiveness)

High Potential Technologies

LED Lighting + Controls
Smart Buildings Systems
Window Attachments / Shading
Cold Climate HPs
Alt Refrigeration

http://energy.gov/eere/buildings/high-impact-technology-catalyst
FOA Background and Objectives

1. Foster new partnerships that bridge current gaps between research scientists/building experts, manufacturers, utilities and building owners.

2. Identify and verify multi-system energy efficiency packages (groups of technologies that improve efficiency across two building systems: envelope, lighting/electrical, plug, process, heating, ventilation, cooling, refrigeration, energy management and information, sensors and controls).

3. Help utilities develop and release or expand more aggressive and ambitious Energy Efficiency (EE) program offerings.

4. Generate and disseminate data, case studies, and information that lowers perceived risk regarding the efficacy and economic benefits of innovative and under-utilized commercial building technology packages.
Topic Areas/Technical Areas of Interest

- Technology packages that improve efficiency across **two building systems** with preference for those packages that build off of HIT List, outcomes of previous demonstration projects, simulation analyses and/or existing BTO R&D investments in envelope retrofits and multi-system, interoperable controls.

- Documentation to establish package energy savings of **50% across a building market segment** or **750 TBtu/yr in national energy savings potential at 100% penetration**.

- Strategic teams include a **technology provider, utility, and deployment lead**. BTO will prefer applications including partners representing large portfolios of buildings.

- Demonstrate the capability and commitment to rapidly initiate and complete the demonstrations in **less than three years with a clear, strategic path to broad adoption** (including regulatory approval where appropriate).
Technology Demonstrations

Need Verification of Performance to Lower Perception of Risk = Real Building Demonstrations.

Match Demonstrations, Buildings and National Laboratories:
- Evaluate Sites (as applicable)
- 3rd party measurement and verification.

Demonstration generates performance data and market information.

Cultivate the path to market through dissemination of information and resources to enable adoption by partners.
Non-Responsive Applications

– Applications that do not include technology packages that improve efficiency across two building systems.

– Applications for technology packages that do not document energy savings of 50% across a building market segment or 750 TBtu/year in national energy savings potential at 100% penetration.

– Applications for technologies that are not market ready. For example, a technology(ies) that cannot be specified and purchased within one year of the award agreement is not market ready.

– Technologies with market barriers that cannot be addressed through resource development, training and outreach. For example, the technology cannot meet local code requirements.
Non-Responsive Applications

The following types of applications will be deemed nonresponsive and will not be reviewed or considered for an award:

• Applications that fall outside the technical parameters specified in Section I.B of the FOA, including but not limited to:
  – Applications for proposed technologies that are not based on sound scientific principles (e.g., violates the law of thermodynamics).
Teaming Partners

• To facilitate the formation of innovative project teams for this FOA, a Teaming Partner List is available on the EERE Exchange website:
  – https://eere-exchange.energy.gov/Default.aspx#FoaId746d7b5b-0f97-4848-b7d9-ba4f66905af9

• Any organization that would like to be included on this list should submit the following information to
  – Organization Name
  – Generic Organizational Contact Email (to receive queries related to this Teaming RFI)
  – Organization Type
  – Area of Technical, Market or Building Science Expertise
  – Brief Description of Capabilities
  – A statement of consent acknowledging that you permit DOE to share the above-provided information with other entities as part of this teaming list for the purpose of facilitating teaming arrangements for the anticipated Scaling Up Packages FOA.

• By facilitating this Teaming Partner List, EERE does not endorse or otherwise evaluate the qualifications of the entities that self-identify themselves for placement on the Teaming Partner List
## Award Information

<table>
<thead>
<tr>
<th>Total Amount to be Awarded (DOE only)</th>
<th>$6.5 million*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Average Award Amount (Federal share only)</td>
<td>EERE anticipates making awards that range from $250K to $700K</td>
</tr>
<tr>
<td>Types of Funding Agreements</td>
<td>Cooperative Agreements, Grants, Technology Investment Agreements, Work Authorizations, and Interagency Agreements</td>
</tr>
<tr>
<td>Period of Performance</td>
<td>Up to 36 months</td>
</tr>
<tr>
<td>Cost Share Requirement</td>
<td>50% of Total Project Costs</td>
</tr>
</tbody>
</table>

*Subject to the availability of appropriated funds
### FOA Timeline

**EERE Concept Paper Review**
- Concept Paper Due: 11/21/2016 5:00pm ET
- Receive Encourage/Discourage Notification: 12/19/2016

**EERE Evaluation and Selection**
- Full Application Due: 02/21/2017 5:00pm ET
- Receive Reviewer Comments Due: 03/24/2017
- Reply to Reviewer Comments Due: 03/29/2017 5:00pm ET
- Receive notification of Selection/Non-Selection: May 2017

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EERE anticipates making awards by June 2017
Statement of Substantial Involvement

EERE has substantial involvement in work performed under Awards made following this FOA. EERE does not limit its involvement to the administrative requirements of the Award. Instead, EERE has substantial involvement in the direction and redirection of the technical aspects of the project as a whole. Substantial involvement includes, but is not limited to, the following:

- EERE shares responsibility with the Recipient for the management, control, direction, and performance of the Project.

- EERE may intervene in the conduct or performance of work under this Award for programmatic reasons. Intervention includes the interruption or modification of the conduct or performance of project activities.

- EERE may redirect or discontinue funding the Project based on the outcome of EERE’s evaluation of the Project at that the Go/No Go decision point.

- EERE participates in major project decision-making processes.
Cost Share

Applicants must contribute a minimum of 50% of the total project costs.

- Cost Share must be allowable and must be verifiable upon submission of the Full Application.
- Refer to the following applicable Federal cost principles:

<table>
<thead>
<tr>
<th>Entity</th>
<th>Cost Principles</th>
</tr>
</thead>
<tbody>
<tr>
<td>For-profit entities</td>
<td>FAR Part 31</td>
</tr>
<tr>
<td>All other non-federal entities</td>
<td>2 CFR Part 200 Subpart E - Cost Principles</td>
</tr>
</tbody>
</table>
Allowable Cost Share

• Cash Contributions
  o May be provided by the Prime Recipient, Subrecipients, or a Third Party

• In-Kind Contributions
  o Can include, but are not limited to: personnel costs, indirect costs, facilities and administrative costs, rental value of buildings or equipment, and the value of a service, other resource, or third party in-kind contribution
Unallowable Cost Share

• The Prime Recipient may not use the following sources to meet its cost share obligations including, but not limited to:
  o Revenues or royalties from the prospective operation of an activity beyond the project period
  o Proceeds from the prospective sale of an asset of an activity
  o Federal funding or property
  o Expenditures reimbursed under a separate Federal Technology Office
  o Independent research and development (IR&D) funds
  o The same cash or in-kind contributions for more than one project or program
Cost Share Payment

- Recipients must provide documentation of the cost share contribution, incrementally over the life of the award.

- The cumulative cost share percentage provided on each invoice must reflect, at a minimum, the cost sharing percentage negotiated.

- In limited circumstances, and where it is in the government’s interest, the EERE Contracting Officer may approve a request by the Prime Recipient to meet its cost share requirements on a less frequent basis, such as monthly or quarterly. See Section III.B.7 of the FOA.
Review and Selection Process

- The Merit Review process consists of multiple phases that each include an initial eligibility review and a thorough technical review.

- Rigorous technical reviews are conducted by reviewers that are experts in the subject matter of the FOA.

- Ultimately, the Selection Official considers the recommendations of the reviewers, along with other considerations such as program policy factors, to make the selection decisions.

Please carefully read and respond to review criteria for both concept papers and full applications.
Replies to Reviewer Comments

• EERE provides applicants with reviewer comments
• Applicants are not required to submit a Reply - it is optional
• To be considered by EERE, a Reply must be submitted by 3/29/2017, 5:00pm ET and submitted through EERE Exchange
• Content and form requirements:

<table>
<thead>
<tr>
<th>Section</th>
<th>Page Limit</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Text</td>
<td>2 pages max</td>
<td>Applicants may respond to one or more reviewer comments or supplement their Full Application.</td>
</tr>
<tr>
<td>Optional</td>
<td>1 page max</td>
<td>Applicants may use this page however they wish; text, graphs, charts, or other data to respond to reviewer comments or supplement their Full Application are acceptable.</td>
</tr>
</tbody>
</table>
Registration Requirements

• To apply to this FOA, Applicants must register with and submit application materials through EERE Exchange: https://eere-Exchange.energy.gov

• Obtain a “control number” at least 24 hours before the first submission deadline

• Although not required to submit an Application, the following registrations must be complete to receive an award under this FOA:

<table>
<thead>
<tr>
<th>Registration Requirement</th>
<th>Website</th>
</tr>
</thead>
<tbody>
<tr>
<td>DUNS Number</td>
<td><a href="http://fedgov.dnb.com/webform">http://fedgov.dnb.com/webform</a></td>
</tr>
<tr>
<td>SAM</td>
<td><a href="https://www.sam.gov">https://www.sam.gov</a></td>
</tr>
<tr>
<td>FedConnect</td>
<td><a href="https://www.fedconnect.net">https://www.fedconnect.net</a></td>
</tr>
</tbody>
</table>
Key Submission Points

• Check entries in EERE Exchange
  o Submissions could be deemed ineligible due to an incorrect entry
• EERE strongly encourages Applicants to submit 1-2 days prior to the deadline to allow for full upload of application documents and to avoid any potential technical glitches with EERE Exchange
• Make sure you hit the submit button
  o Any changes made after you hit submit will un-submit your application and you will need to hit the submit button again
• For your records, print out the EERE Exchange Confirmation page at each step, which contains the application’s Control Number
Questions

• Questions about this FOA? Email CommercialBuildings@ee.doe.gov
  o All Q&As related to this FOA will be posted on EERE Exchange
    o You must select this specific FOA Number in order to view the Q&As
    o EERE will attempt to respond to a question within 3 business days, unless a similar Q&A has already been posted on the website

• Problems logging into EERE Exchange or uploading and submitting application documents with EERE Exchange? Email EERE-ExchangeSupport@hq.doe.gov.
  o Include FOA name and number in subject line