

Who is issuing this Challenge?



Vision

Commercial buildings are constructed, operated, renovated and transacted with energy performance in mind and net zero ready commercial buildings are common and cost-effective.



Mission

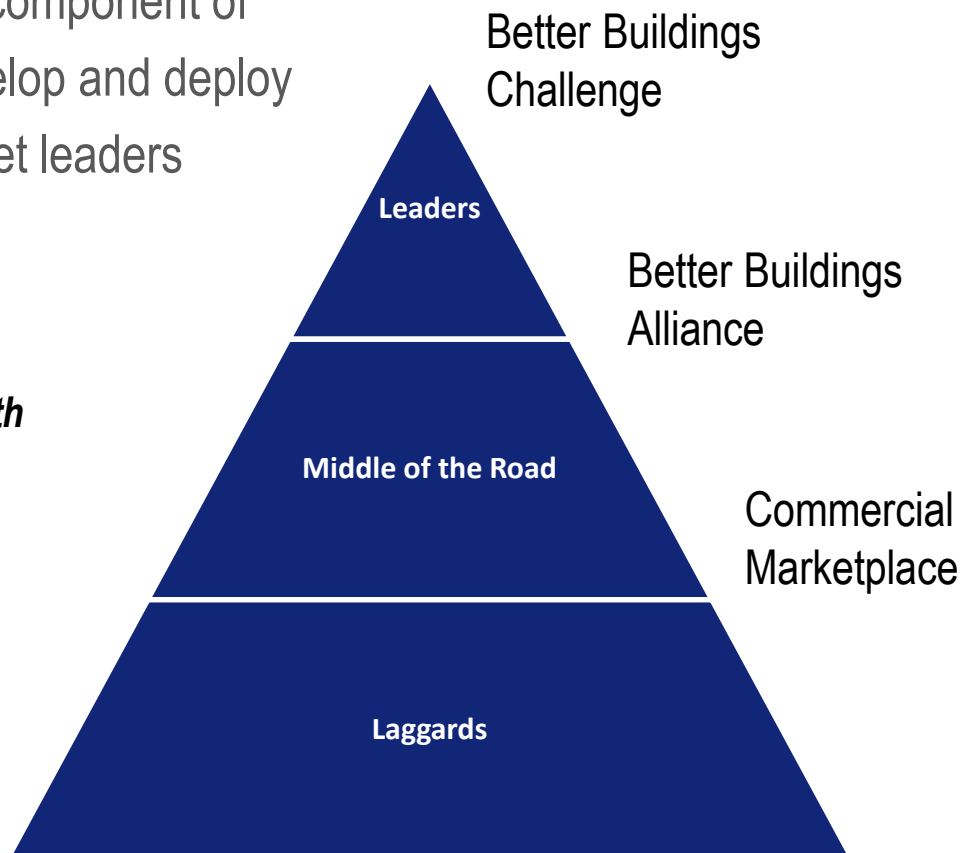
Accelerate voluntary uptake of significant energy performance improvements in existing and new commercial buildings.

Who We do this for: the Better Buildings Alliance

The Better Buildings Alliance is a critical component of the DOE Better Buildings strategy to develop and deploy innovative, replicable solutions with market leaders and a core piece of BTO's commercial "market stimulation" efforts.

"Developing Innovative, Replicable Solutions with Market Leaders:

- *Better Buildings Challenge*
- ***Better Buildings Alliance***
- *Better Buildings, Better Plants*
- *Better Buildings Case Competition*
- *Better Buildings Neighborhood program"*

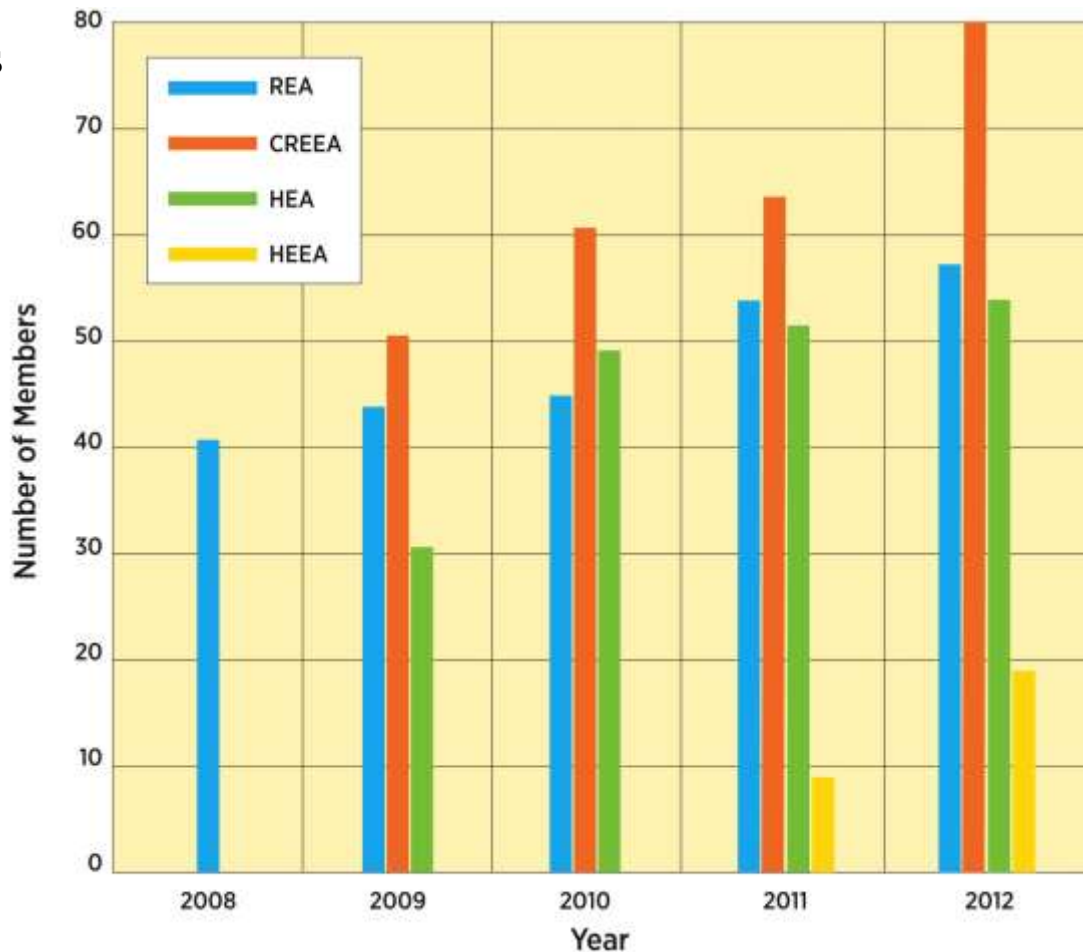


Enough Demand for You?

Better Buildings Alliance Growth 2008-2012

Over **200** member organizations

9 billion square feet
owned or managed by Alliance members



What is a DOE Challenge?

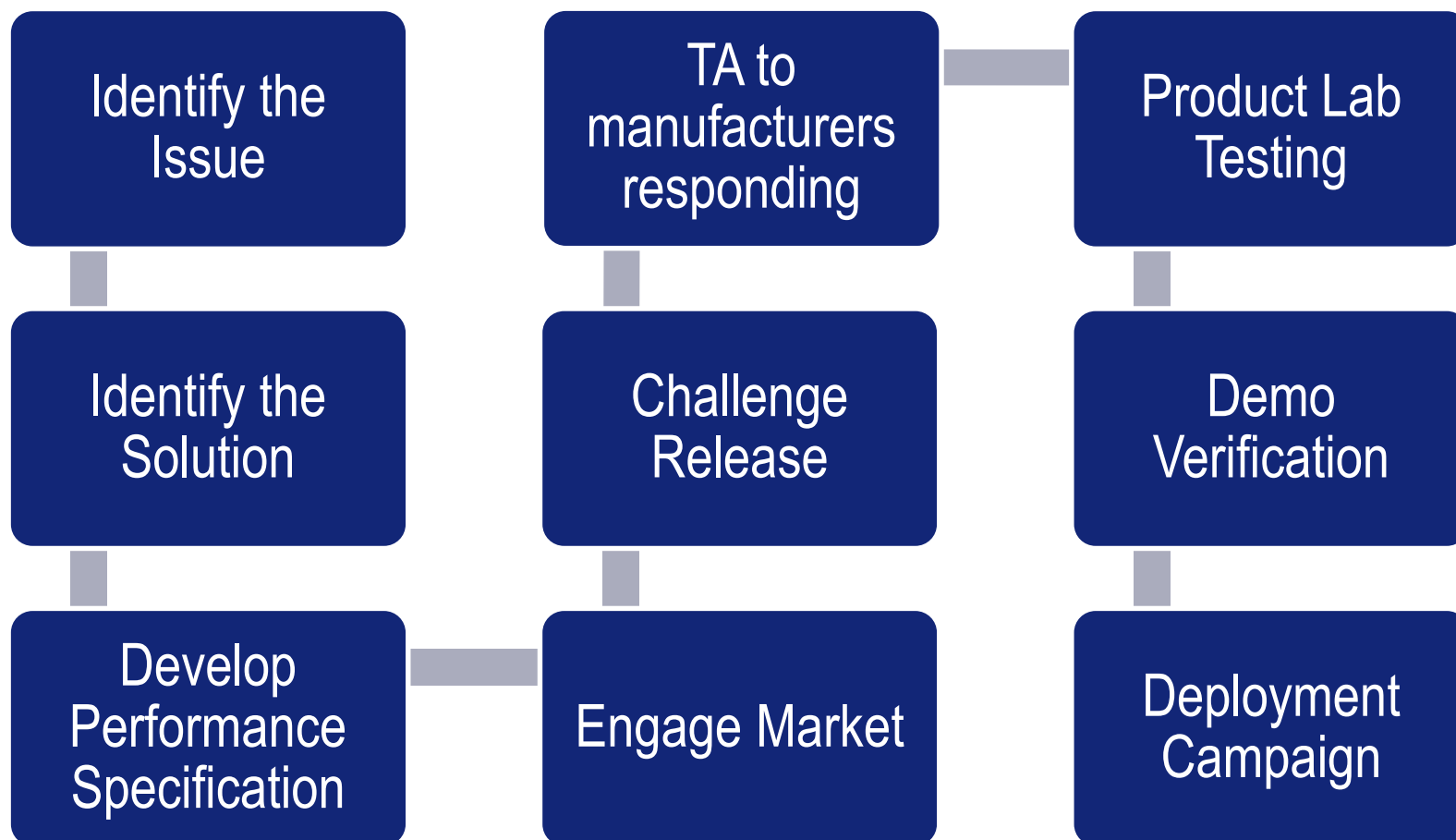


Why DOE does Challenges

DOE's Building Technologies Office has a proven record of successful Challenges. BTO undertakes Challenges for a variety of reasons:

- ▶ Address identified EE needs
- ▶ Catalyze technology creation
- ▶ Market failures
- ▶ Form partnerships with private sector and manufacturers

What Occurs During a DOE Challenge?



The Wireless Metering Challenge



Wireless Metering Challenge Quick Overview

- ▶ DOE wishes to leverage the success of its Roof Top Unit Challenge (RTU Challenge) by releasing another challenge aimed at reducing the price of panel level sub-metering devices.
- ▶ DOE has worked with federal government agencies, private building owners and non-profit organizations to vet the specification.
- ▶ DOE has released the specification to the market at large and is interested in discerning two things:
 - Which manufacturers may be interested in meeting the challenge?
 - Which building owners may be interested in implementing technologies that meet the challenge?

Reason for this Challenge

Problem Statement:

- ▶ To most effectively improve a building's energy efficiency, energy use must first be measured.
- ▶ However, sub-metered energy use data are not available for many buildings, often due to the high cost of metering and gathering data.
- ▶ The commercial building market, including the federal sector, is in need of reliable, cost-effective metering systems – especially at the panel level.
- ▶ DOE can catalyze the creation of such a meter by working with building owners to marshal demand while concurrently helping manufacturers develop technologies.

Technical and Market Potential

Technical Potential

- ▶ Using metering systems to enable energy efficiency actions is estimated to deliver minimum electricity energy savings of at least 2%.
- ▶ For all commercial buildings this corresponds to annual primary electricity energy and cost savings of 71 trillion BTU/yr and \$1.7 billion/year.

Market Potential

- ▶ Federal government actively looking to increase metering and disclosure as required under various guidance and Congressional mandates.
- ▶ Disclosure laws becoming more common – notably NYC.
- ▶ Better Building Alliance members and others in the market have expressed strong interest in panel level sub-metering to address a variety of concerns.

Desired Outcomes

Impact of Challenge Project:

- ▶ Panel level sub-meters that cost a fraction of the previous price.
- ▶ Significantly increase the amount of panel level sub-metering occurring in the commercial space.
- ▶ Support government and private sector commercial building energy efficiency improvement efforts.
- ▶ Analyzing energy use data from sub-meters becomes industry standard when identifying improvements in building operations and efficiency strategies.
- ▶ Sub-meters support a range of activities and savings mechanisms from occupant awareness to ongoing metering-based commissioning.

DOE Role

- ▶ DOE develops an aspirational performance specification and issues it as a challenge to manufacturers to spur the development of low cost electric metering systems.
- ▶ DOE works with building owners and manufacturers to understand the spec and to ensure it is a stretch, but feasible.
- ▶ DOE asks building owners to sign a “Letter of Interest” in purchasing spec compliant technologies and asks manufacturers to sign a “Letter of Intent” to signify willingness to attempt the development of the technology.
- ▶ DOE provides third party verification that technology meets spec.

Building Owner Role

RIGHT NOW:

- ▶ Comment on specification – already done, thanks!
- ▶ Sign Letter of Interest to indicate desire to procure spec compliant technologies – those who sign the letter by May 20 will be announced at the formal launch of the program at the end of May.
- ▶ Join BBA and engage Energy Management and Information Systems team.

Once technologies are available:

- ▶ Sign up to demonstrate the products with DOE.
- ▶ Share lessons learned, energy savings estimates and other pertinent info with others.
- ▶ Incorporate new technologies into regular procurement cycles.

Manufacturer Role

RIGHT NOW:

- ▶ Comment on specification – already done, thanks!
- ▶ Sign Letter of Intent to indicate plans to produce spec compliant technologies- those who sign the letter by May 20 will be announced at the formal launch of the program at the end of May.
 - If your firm **INTENDS TO PARTICIPATE** please set up a discussion with Jason Koman (jason.koman@ee.doe.gov) in the next 60 days.
- ▶ Work on developing your product with technical assistance and Challenge rules guidance from DOE.
- ▶ Submit prototypes for testing.

Current Timeline

- ▶ Soft launch was April 2013
- ▶ Official explanation webinar was May 2
- ▶ Finalize list of suppliers planning to submit prototypes
- ▶ Formal program launch on May 30
 - Includes formal rules for submitting prototypes to Challenge, timelines etc.
- ▶ Receive prototypes and verify compliance
- ▶ In-building field test
- ▶ Name challenge compliant entries
- ▶ Work with building owners, private and federal, to deploy technology