

# Home Improvement Catalyst: Strategy and Framework

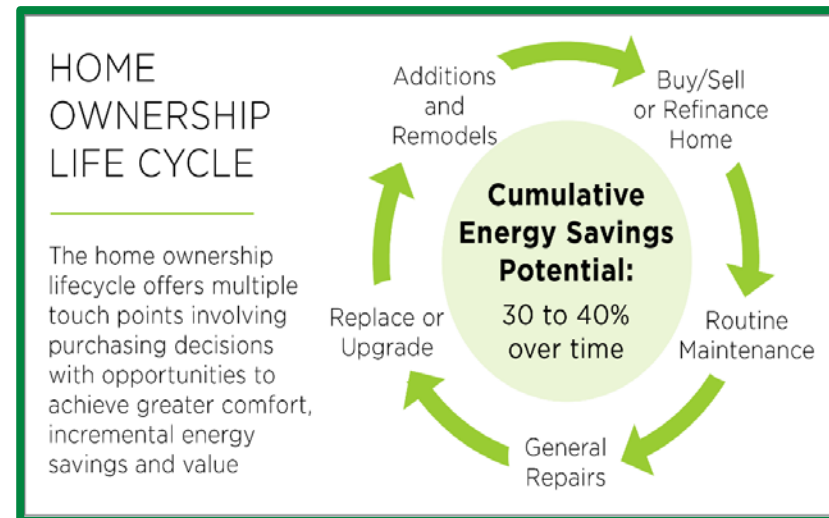


# Home Improvement Catalyst (HI-Cat)

**Purpose:** Identify and prioritize activities where DOE can have the greatest impact in accelerating adoption of energy efficient measures at key home improvement transactions.

## Objectives:

- Focus on **demonstration** of individual measures, packages or practices especially in **heating, cooling and building envelope**.
- Improve decisions during **typical home improvement transactions** including higher efficiency measures and systems approach.
- Provide **support** where there are **gaps** (e.g., few utility incentives, lack of industry standards, complicated code compliance, need for handoff from Building America, installation issues).
- Expand and demonstrate RBI's impact to **reach** more partners and more homes on a national **scale** (less savings per home than other RBI activities but on a wider scale).



# HI-Cat Uses a Three-Step Approach

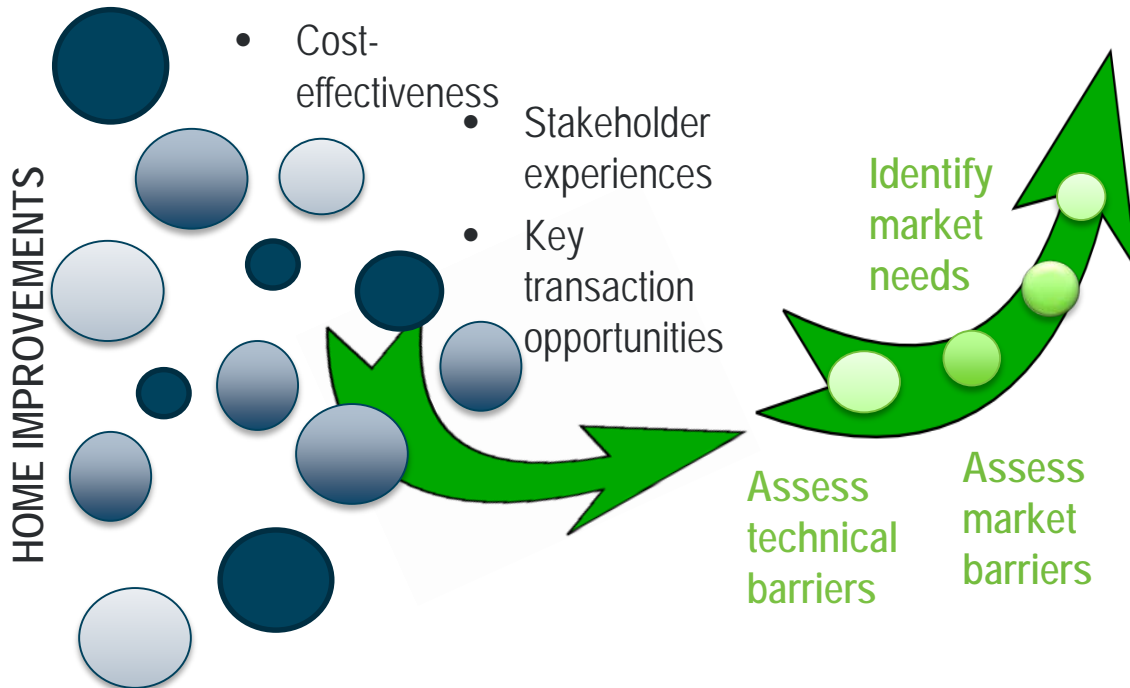
Identify & prioritize home improvements.

Assess barriers & identify market activities.

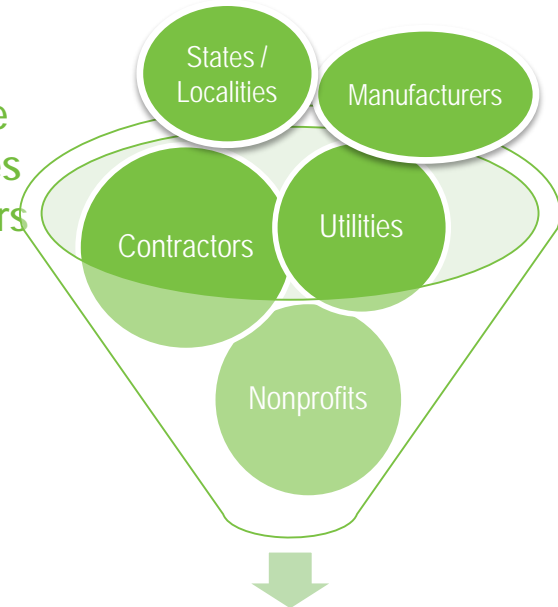
Accelerate adoption via strategic market partners & channels.

- Energy savings potential
- Number of homes

- Cost-effectiveness
- Stakeholder experiences
- Key transaction opportunities



Leverage resources & partners



Accelerated Market Adoption of Home Improvements

# HI-Cat Process Overview

RBI can evaluate and prioritize home improvements, and then systematically identify potential activities to accelerate market adoption.

## Phase: Prioritize candidate home improvements through screening criteria.

### Impact Screen

Evaluates whether or not improvement meets a threshold for significant impact:

- Technical Potential
- Number of homes could install the improvement

### Economic Screen

Evaluates manufacturer capabilities and cost-effectiveness, and whether or not improvement meets threshold characteristics:

- Manufacturer Capabilities
- Cost-effectiveness (pay-back period)
- Cost Reduction Potential

### Stakeholder Screen

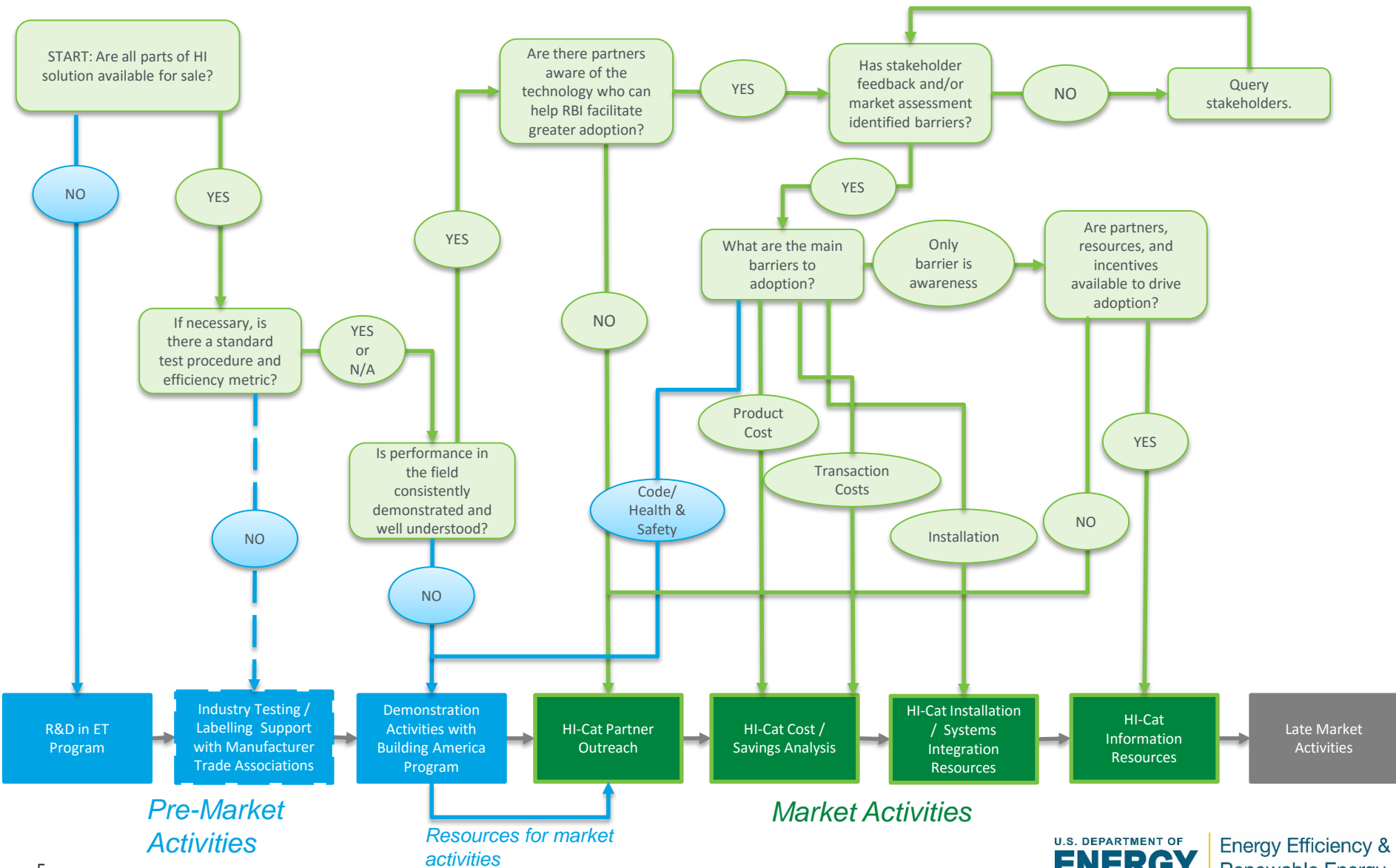
Evaluates market status of the improvement from the perspective of relevant stakeholder groups, and provides insights into criticality of RBI involvement:

- Building professionals, REEO's, Utilities, and Consumers

## Prioritized Home Improvement

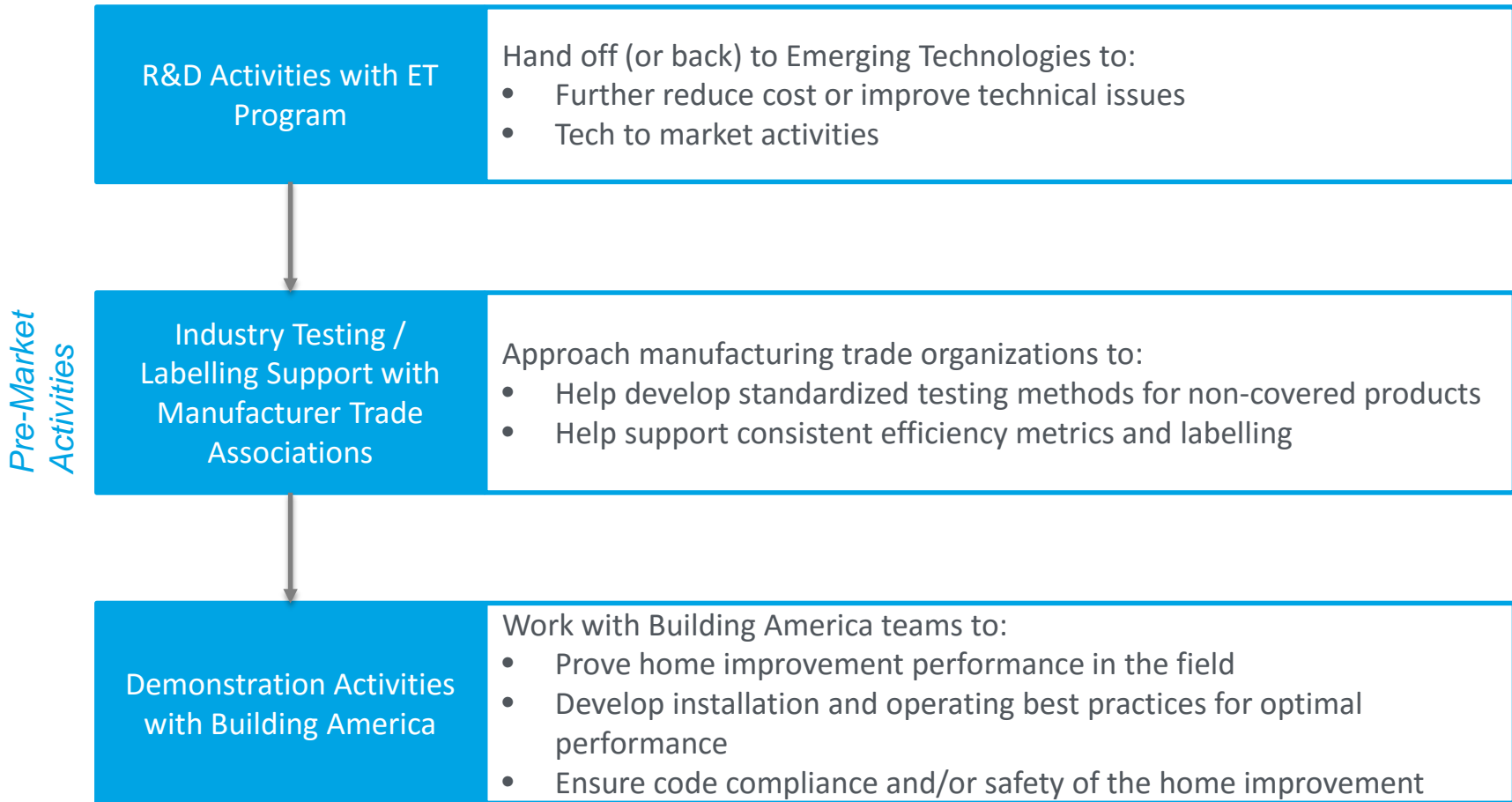
## Phase: Systematically assess technical and market barriers to identify market activities.

# Step 1—Assess barriers with HI-Cat Activity decision Tree



# Step 2—Identify technical activities needed

In preparing for performing market stimulation activities, there are critical pre-market criteria that must be met in order to have a solid technical foundation. If they are not, RBI can help facilitate the following activities.



# Step 2—Identify Market activities needed, continued

With a strong technical foundation, RBI can pursue market stimulation activities by establishing partnerships with national, regional and state entities, training the workforce, providing resources on cost and savings, and facilitating deployment campaigns.



## Step 3—Create market strategies

After **evaluating barriers** associated with prioritized home improvements, RBI can **develop market strategies** to overcome barriers and accelerate market adoption.

**Phase: Identify appropriate market channels and partners to accelerate adoption for selected measures and related practices at key transaction points. Formulate an actionable and measurable plan with milestones.**

These strategies will consider how RBI can affect the market including factors such as:

- Potential stakeholder partners
- Geographic areas targeted
- Available financial incentives
- Existing resources to be leveraged
- Technical requirements
- National scale potential



# HI-Cat Resources in development

## Technical support resources

- Measure sequencing guide
- Technology guidance and field implementation tools
  - Cold climate heat pumps
  - HVAC diagnostic software
- Crowdsourcing for Innovation
  - Online community connecting emerging technologies and business process solutions to accelerate home upgrades: <http://web.ornl.gov/jump>

## Communications and outreach

- Peer exchange calls
  - Share lessons learned, best practices, learn about innovative or emerging models
- Case studies
  - Upstream incentive strategies
  - Engaging consumers over time
  - Quality installation and HVAC diagnostic software tools
- Implementation models
  - Long term engagement of customers
  - Coordination across trades
  - Leveraging supply chains

# HI-Cat Demonstration Partnerships

**Goals:** Test, validate and document strategies and methods for leveraging home improvement investments, engaging customers over time, and increasing savings through individual trades

## **Partners include:**

- Utilities, manufacturers, trades/contractors, regional energy efficiency organizations and local governments

## **Demonstrations planned:**

- Develop technical guidance and outreach resources for cold climate heat pump technologies
- Demonstrate advanced HVAC installation and diagnostic solutions to optimize system performance, efficiency and comfort benefits
- Develop and test consumer messaging and engagement strategies and pathways for making staged improvements over time
- Demonstrate use of DOE tools and resources (e.g., Home Energy Score, consumer checklists) to accelerate adoption of home upgrades

# For More Information

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