

U.S. DEPARTMENT OF
ENERGY

Office of
ENERGY EFFICIENCY &
RENEWABLE ENERGY

Residential Buildings Integration: Rethinking Our Partnership Strategy

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**IT'S NOT NECESSARY TO
CHANGE. SURVIVAL IS NOT
MANDATORY.**

Dr. W. Edwards Deming



Rethinking Our Partnership Strategy

Go Wide: Number of residences reached

Go Deep: Magnitude of energy reduction per residence

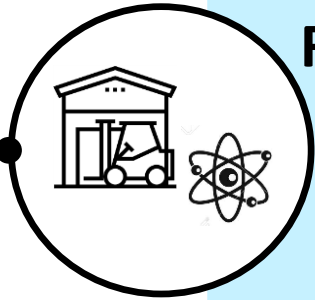
- What should our Partnership activities be?

- ✓ Technical resources, how-to guides, training
- ✓ Tools, energy modeling, standard methods
- ✓ Programs (e.g., Home Performance)
- ✓ Information dissemination
- ✓ Convening
- ✓ Pilots

- How can RBI's partnerships be structured to have the greatest impact?

- ✓ Systematic changes (financing policy, insurance, utility programs)
- ✓ Channel partners (associations, utilities, NGOs)
- ✓ Public information, education (social media, bully pulpit)
- ✓ Residential property entities (public housing, developers, real estate portfolio owners or managers)

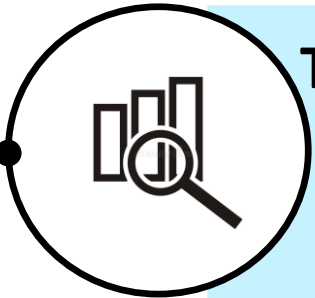
RBI New Areas Under Consideration



Research & Development

- **Advanced Building Construction**
- Grid Interactive Efficient Buildings
- **Resiliency**
- Smart Technologies, Automated Default Detection
- Healthy Homes

- ✓ Trying to link our research to outreach & partnerships more effectively



Tools

- Home Energy Scoring Tool
- **Single EnergyPLUS Calculator**
- Building America Solution Center/Technical Resources
- Data/Analytical Tools (e.g., REStock, UrbanOpt)
- **Workforce Development & Training Resources**

- ✓ Interested in strengthening our work on data & analytics



Partnerships

- Home Performance with ENERGY STAR
- Home Energy Score
- Zero Energy Ready Homes
- Better Buildings Residential Network
- Solar Decathlon (Design & Build)
- **Challenges/Prizes; Aggregated Purchasing**
- **Community-Based Technical Assistance**

- ✓ Interested in having greater impact with existing partnerships & possibly focusing on new partner types

Example: Strengthening Links Between R&D, Data, Tools & Partnerships: Improving Home Performance with ENERGY STAR

- ✓ **Project-level data on energy savings and installed measures**
 - Necessary to validate program
- ✓ **Standardized data delivery methods desired**
 - HPXML and/or Home Energy Score anticipated to accommodate data transmission
- ✓ **Use data and analytics to more effectively target measures for savings and peak shaving**
- ✓ **Look for opportunities to introduce best practices, new technologies**



Looking Ahead

RBI Proposed Activities	Targeted Stakeholders and/or Partner Types											
	Building Industry	Utilities	Building Trades	State/Local Government	NGOs	Real Estate	Manufacturers	K-12 & Universities	Financing & Insurance	Retailers	Homeowners	Other
Advanced Building Construction	X		x	x	x	x	X	x	x			x
Manufacturer Challenges w/Aggregated Purchasing		x		X			X		X			
Resiliency	X	x	x	X					X			x
Workforce Development & Training	x	x	X				x	X		x		

Many Ways to Impact Energy & Carbon Associated with the Residential Sector

Sector

- New
- Existing
- Single Family
- Multifamily
- Manufactured Housing

Event/Opportunity

- Point of Sale
- Build/Remodel
- Equipment Replacement
- Utility outreach
- Disaster relief

Partner

- Utility EE & DR programs
- Builders, remodelers, contractors
- Cities/States
- Manufacturers
- Finance/Insurance
- Retailers
- Other???

Problem/Solution

- Health concerns
- Sales price/value
- Disaster concerns

Facilitated Conversation

Scope of Facilitated Session

In Scope:

- Discussion around new RBI partnership/deployment solutions

Out of Scope:

- Current RBI programs
- R&D solutions

The Discussion between you and Lunch

Keeping in mind the following overarching goal to...

Significantly reduce residential building energy use (while increasing renewable use) and overall carbon footprint

...we seek to determine the most effective methods to apply RBI resources to partnership and deployment solutions.

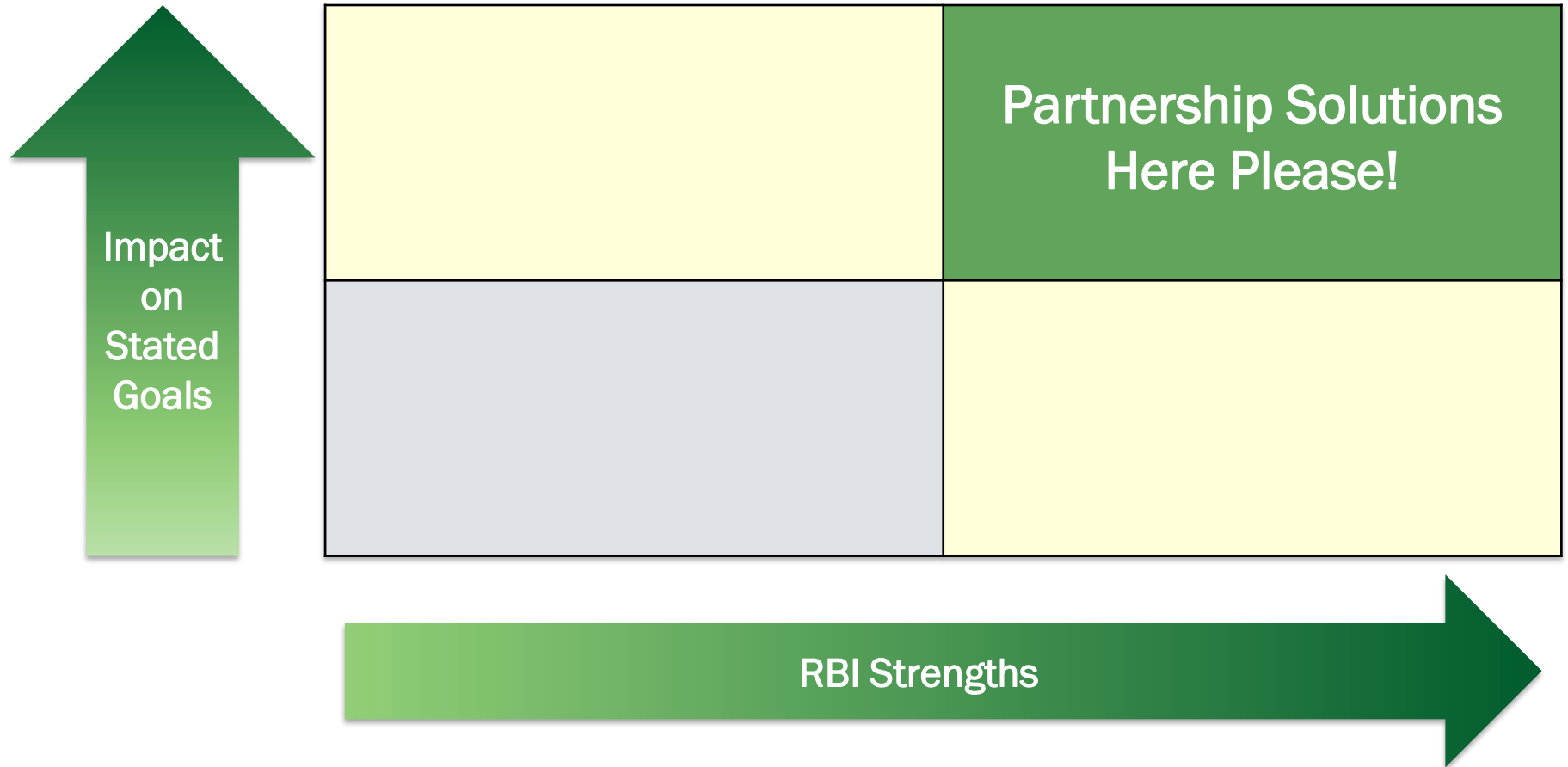
Example types of work

- Technical resources
 - how-to guides, training
- Tools
 - energy modeling, standard methods
- Programs
 - HPwES
- Information dissemination
- Convening others

Example types of partners

- State and/or local governments
- Utilities
- Manufacturers
- Retailers
- NGOs
- Associations (e.g., NARUC, EEI, NLC, NACO, AESP)
- Other?

RBI Partnership/Deployment Solutions Focus Area: Our Best Chance of Success



What We Have Planned



- **Advanced Building Construction**
- **Automatic Fault Detection & Diagnosis**
- **Bulk purchasing**
- **GEB**
- **Workforce development**

Question #1 – RBI's Role



Research & Development

- Advanced Building Construction
- Resiliency



Tools

- Single EnergyPlus Calculator
- Data systems and analysis



Partnerships

- Workforce
- Challenges/Prizes
- Aggregated Purchasing

What role(s) best accentuates the strengths of RBI when pursuing new partnership/deployment solutions?

- Are any current programs no longer appropriate for meeting today's residential energy challenges?

Question #2 – RBI Partners

What partners can enable RBI to have further impact on reducing residential building market energy use and carbon footprint?

- **States, cities, utilities, home owners, manufacturers?**
- **What role would these entities play to complement RBI?**
- **Who needs to better understand and utilize RBI tools to have additional impact?**

Question #3 – New RBI Ideas

If you ran RBI...where would you put your resources? What other new ideas can help RBI reach goals related to energy use and carbon footprint reduction?

- **What are new high impact activities?**
- **With limited resources, where should RBI focus in what role?**
- **How do we ease tech to market from the R&D side of RBI and BTO?**
- **How can RBI better inform stakeholders on investment decisions in the residential building sector with data and tools?**
- **How can we improve data and tool capabilities within RBI?**