



**Better Buildings Residential Network  
Peer Exchange Call Series:  
*Renters and Residential Energy Efficiency*  
July 12, 2018**

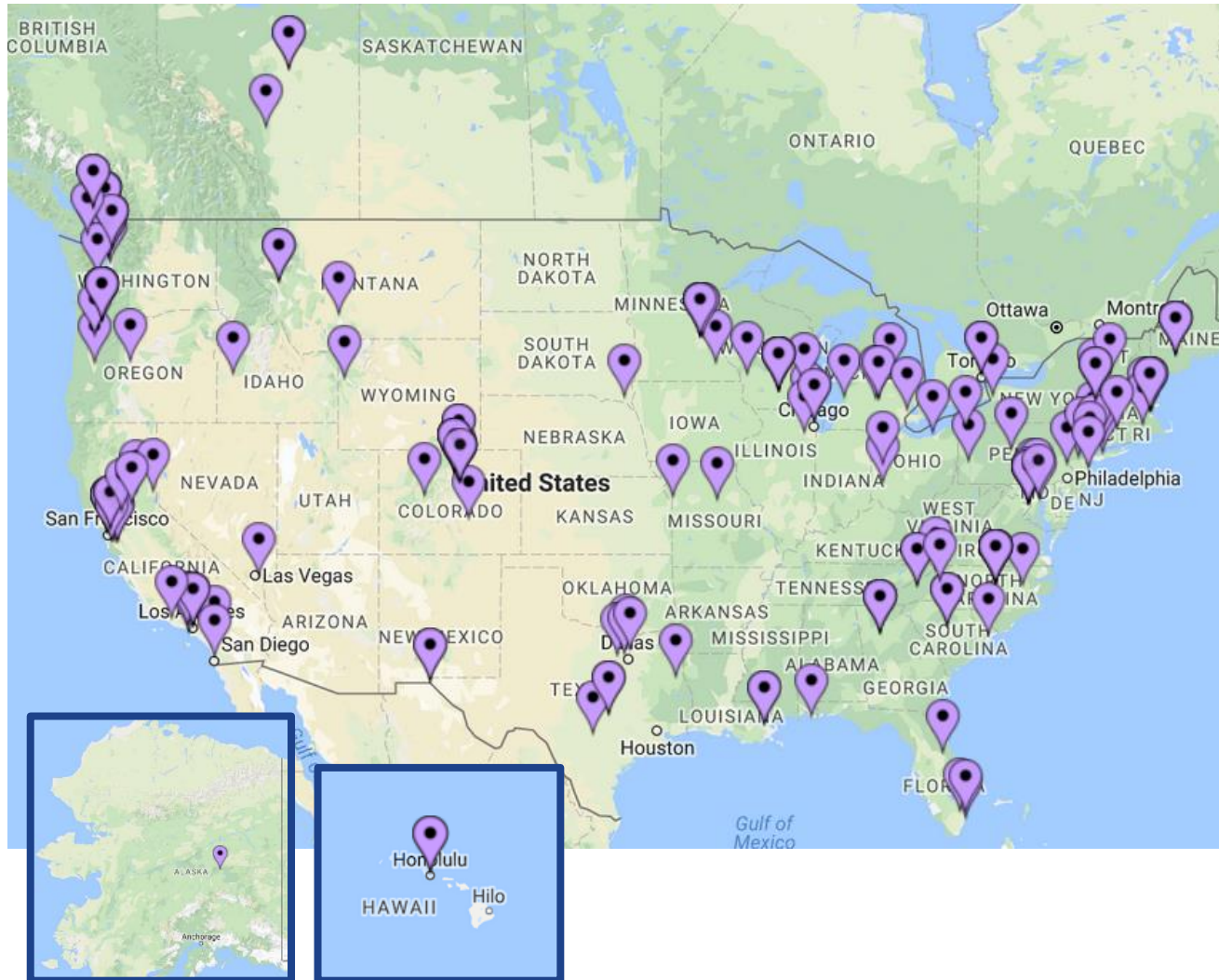
# Agenda and Ground Rules

- Agenda Review and Ground Rules
- Opening Poll
- Residential Network Overview and Upcoming Call Schedule
- Featured Speakers:
  - **Alisa Petersen** and **Jacob Corvidae**, Rocky Mountain Institute
  - **Elizabeth Vasatka**, City of Boulder
  - **Samantha Caputo**, Northeast Energy Efficiency Partnerships
  - **Ben Karasch**, C.S. Construction
- Open Discussion, Closing Poll, and Announcements

## Ground Rules:

1. **Sales of services and commercial messages are not appropriate** during Peer Exchange Calls.
2. Calls are a safe place for discussion; **please do not attribute information to individuals** on the call.

# Call Attendee Locations



# Better Buildings Residential Network

## Join the Network

### Member Benefits:

- Recognition in media and publications
- Speaking opportunities
- Updates on latest trends
- Voluntary member initiatives
- Solution Center guided tours

### Commitment:

- Members only need to provide *one number*: their organization's number of residential energy upgrades per year

### Upcoming calls:

- July 26<sup>th</sup>: Algorithm-Based Home Energy Assessments
- August 9<sup>th</sup>: The Sustainability of Energy Efficiency Products

*Peer Exchange Call summaries are posted on the Better Buildings [website](#) a few weeks after the call*

*For more information or to join, for no cost, email [bbresidentialnetwork@ee.doe.gov](mailto:bbresidentialnetwork@ee.doe.gov), or go to [energy.gov/eere/bbrn](http://energy.gov/eere/bbrn) & click Join*



**Jacob Corvidae**  
Rocky Mountain  
Institute



**Alisa Petersen**  
Rocky Mountain  
Institute



**Elizabeth  
Vasatka**  
City of Boulder

# ENERGY EFFICIENCY STANDARDS FOR RESIDENTIAL RENTALS



Transforming global energy use to create a clean, prosperous, and secure low-carbon future.

# Agenda:

**Minimum efficiency standards for residential rentals overview**

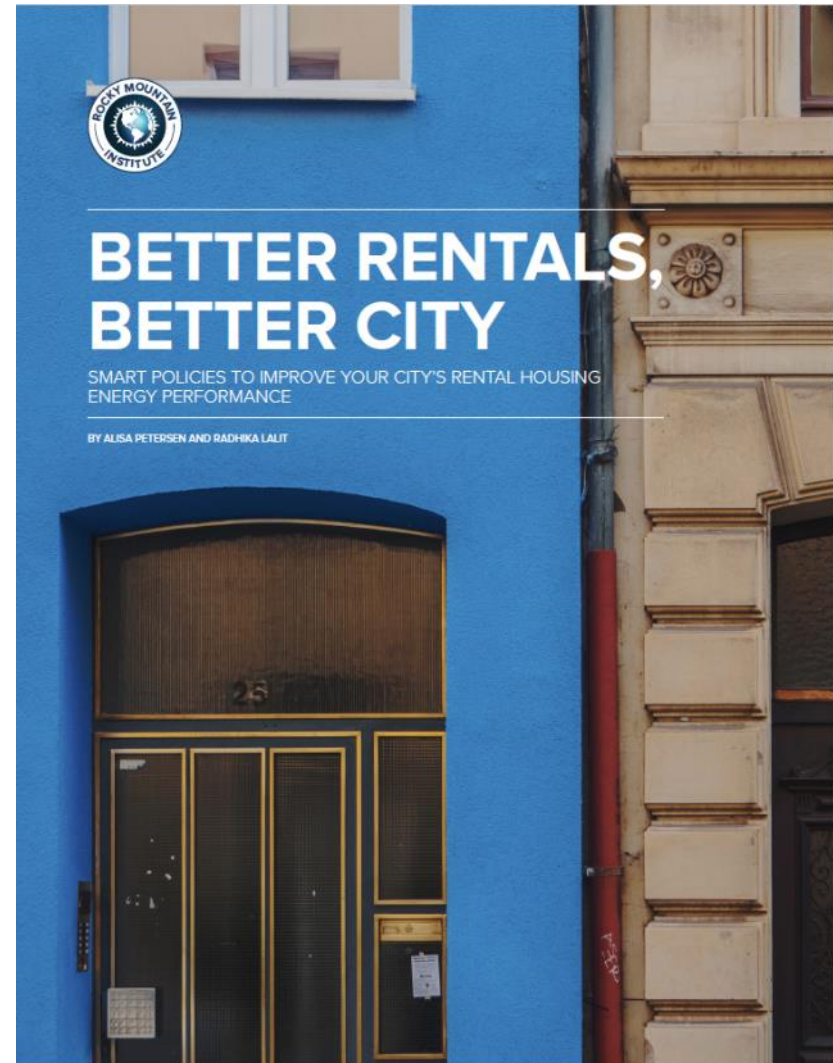
**Boulder's SmartRegs program**

**City cohort model and impact**



# Minimum efficiency standards for rentals

A policy for existing residential rental properties that requires property owners to meet a minimum efficiency standard before receiving their rental licenses



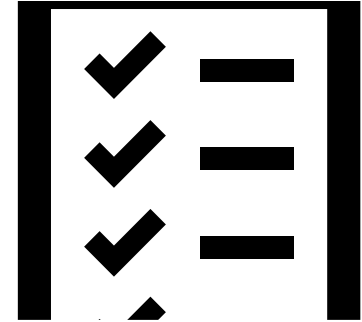
# Benefits of efficiency standards for rentals



Addresses the split incentive issue



Reduce energy risks for vulnerable households



Easy integration into existing rental licensing program

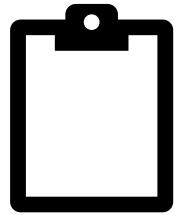


Addresses existing buildings with faster impact than point of sale



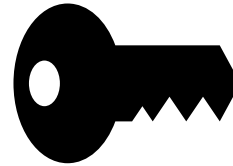
High climate impact

# Ideal cities for efficiency standards for rentals



Existing rental  
licensing program in  
place

Large portion of city's  
housing stock are  
rental properties (i.e.  
college towns)



Old/inefficient building  
stock

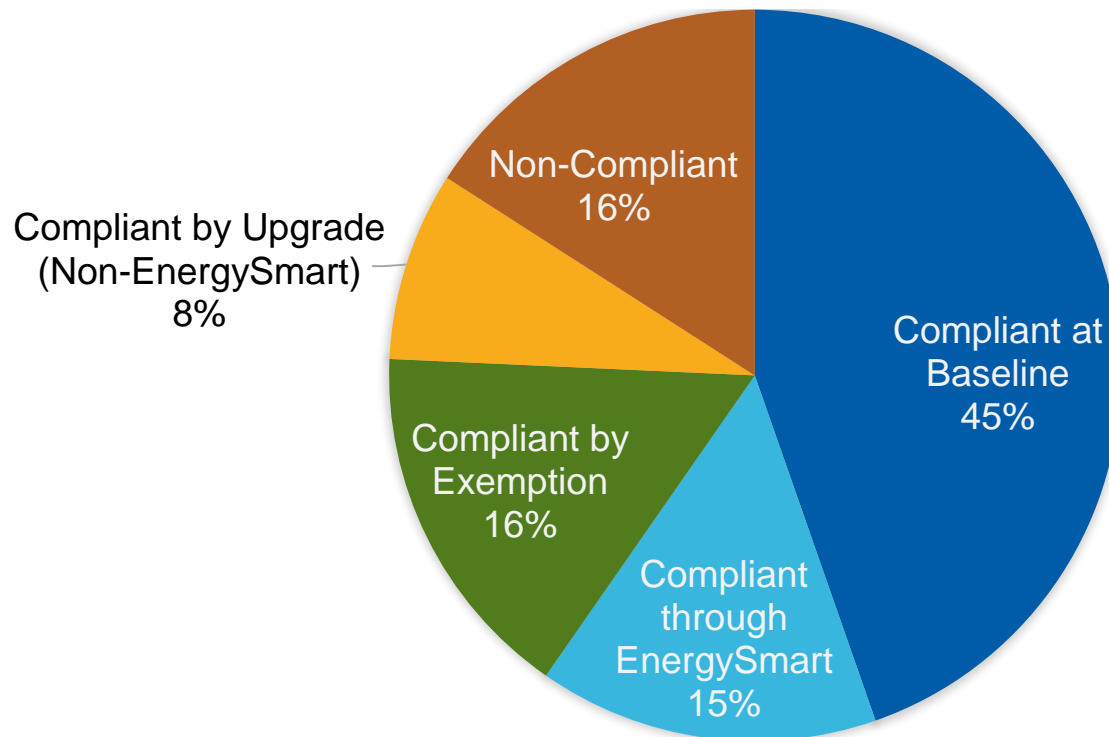
# Boulder's SmartRegs program: overview

- **Policy Approval/Implementation:** Conversation began in 2010, adoption 2011, deadline is Dec 31, 2018 all licensed rentals need to meet a basic efficiency standard
- **Funding:** funded through carbon tax and fees collected from noncompliant rentals
- **Implementation:** Rentals can either meet the efficiency requirement using a program checklist score of 100 or a HERS score below 120
- **Compliance:** Smartregs compliance must be achieved before deadline or license expires
- **Disclosure:** public map of rental units that indicate whether compliant, non-compliant, or exempt



# Boulder's SmartRegs program: progress to date




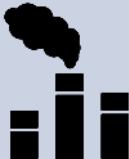

- 23,000 licensed rental units in Boulder
- 93.5% of units have been evaluated
- 84% of units are compliant



# A city roadmap to develop a framework



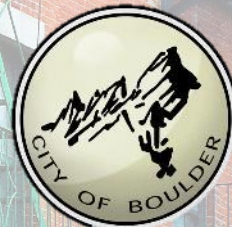
# Aggregated cohort impact calculation

Cost for City to Implement Over 3 Years	Annual Energy Bill Savings	Annual Energy Savings	Annual CO2 Reduction	Energy Inspector Jobs
 <b>\$14.9M</b>	 <b>\$187M to \$561M</b>	 <b>9.2 to 27.6 TBtu</b>	 <b>0.94M to 2.82M Tons</b>	 <b>366</b>

Note: range is based on 10-30% energy savings assumption over existing conditions

**THANK YOU!**

**QUESTIONS?**



Transforming global energy use to create a clean, prosperous, and secure low-carbon future.

# Additional Resources

- Municipal code language for SmartRegs from the City of Boulder:
  - [https://library.municode.com/co/boulder/codes/municipal\\_code?nodeId=TIT10ST\\_CH2PRMACO\\_10-2-2ADINPRMACOMO](https://library.municode.com/co/boulder/codes/municipal_code?nodeId=TIT10ST_CH2PRMACO_10-2-2ADINPRMACOMO)
- Better Rentals, Better Cities report from Rocky Mountain Institute:
  - [https://www.rmi.org/wp-content/uploads/2018/05/Better-Rentals-Better-City\\_Final3.pdf](https://www.rmi.org/wp-content/uploads/2018/05/Better-Rentals-Better-City_Final3.pdf)

# Three Key Take-Aways

- Enforcing minimum efficiency standards as part of the rental license application process has resulted in high levels of compliance.
- Ideal candidate cities for such a requirement are those with an existing rental licensing program, and whose housing stock includes many rental properties and is old/inefficient.
- Over three years, the plan is expected to cost the city \$15 million and save renters \$187 to \$518 million in utility costs.





**Samantha Caputo**  
Northeast Energy Efficiency Partnerships



# Renters' Checklist and Residential Energy

Samantha Caputo  
July 2018 Peer Exchange Call  
Better Buildings Residential Network

# Northeast Energy Efficiency Partnerships



*“Assist the Northeast and Mid-Atlantic region to reduce building sector energy consumption 3% per year and carbon emissions 40% by 2030 (relative to 2001)”*

## Mission

We seek to accelerate regional collaboration to promote advanced energy efficiency and related solutions in homes, buildings, industry, and communities.

## Vision

We envision the region's homes, buildings, and communities transformed into efficient, affordable, low-carbon, resilient places to live, work, and play.

## Approach

Drive market transformation regionally by fostering collaboration and innovation, developing tools, and disseminating knowledge



# About NEEP

A Regional Energy Efficiency Organization



One of six REEOs funded in-part by U.S. DOE to support state and local efficiency policies and programs.

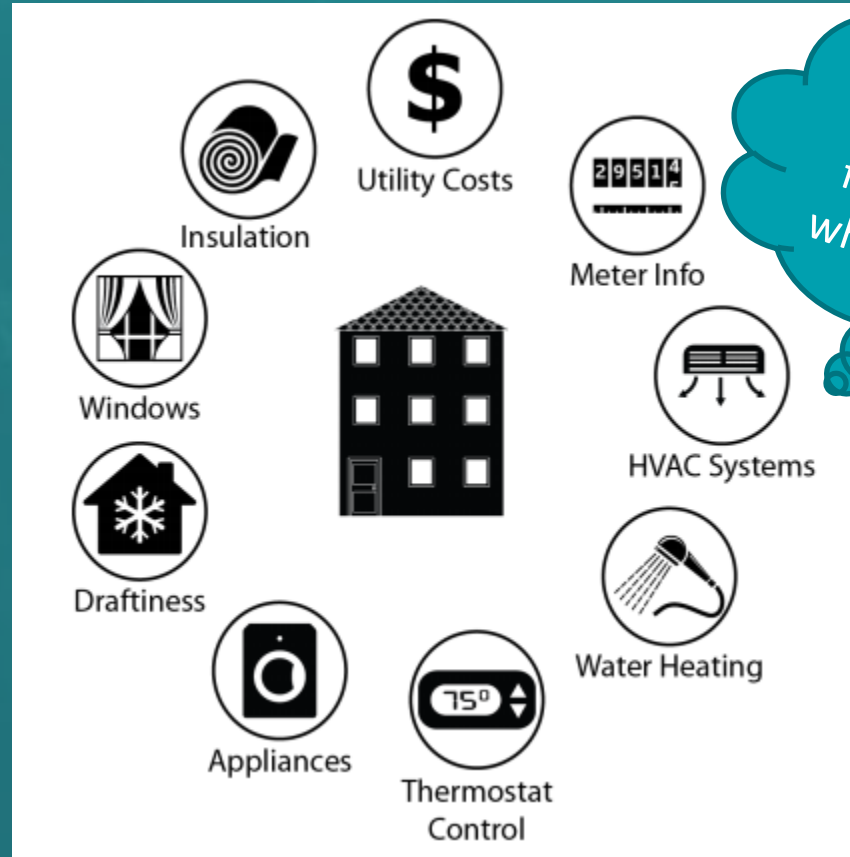
# NEEP Green Real Estate Resources



- [Guidance for Real Estate Professionals on Home Energy Efficient Attributes](#)
- [Home Energy Labeling Information eXchange](#)
- [Multifamily Energy Efficiency Retrofits: Barriers and Opportunities for Deep Energy Savings](#)
- [A Guide for Renting and Creating Lower Cost Energy Efficient Apartments and Homes](#)



# What to ask and look for before renting?



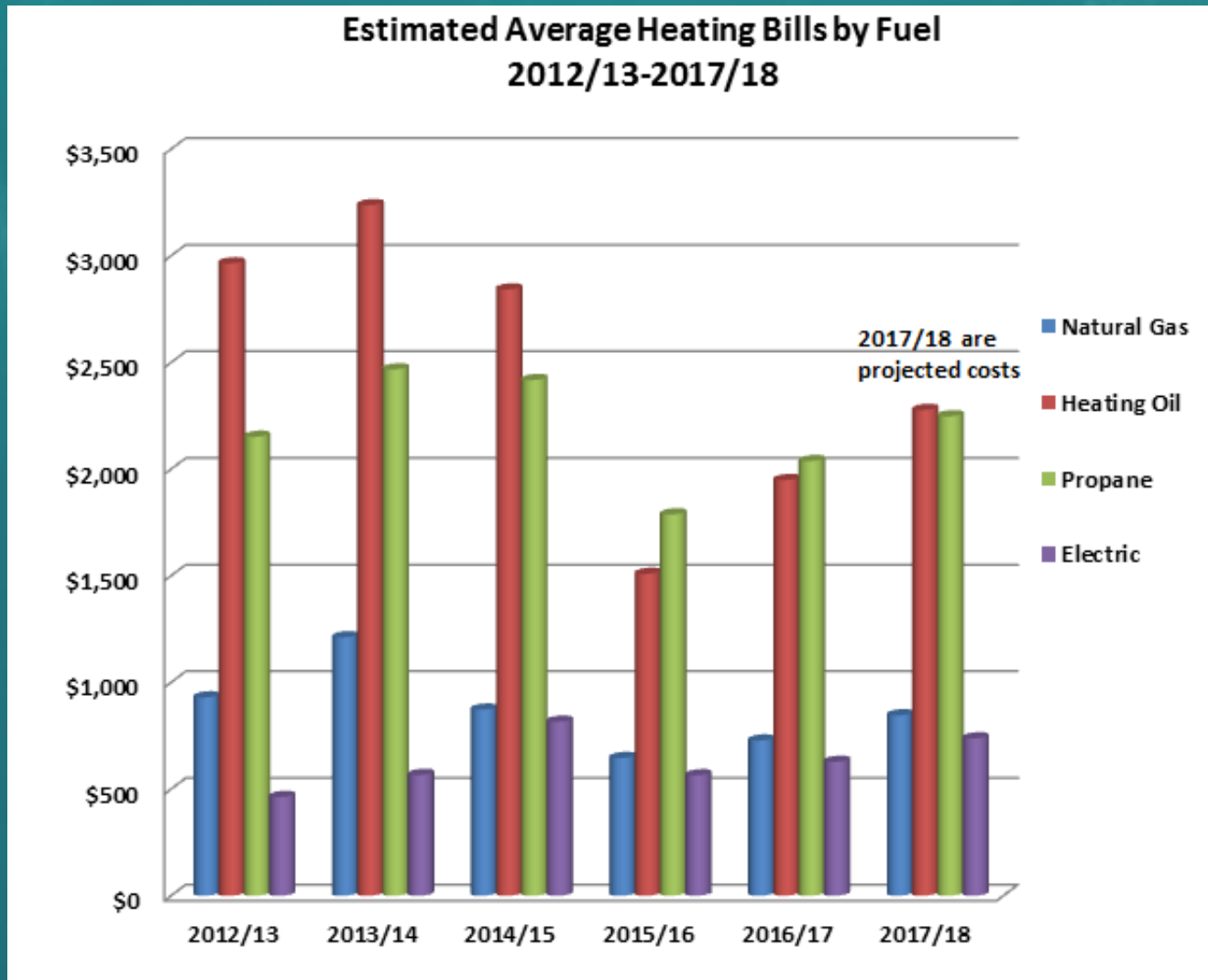
I didn't know my apartment had oil for space heating when I moved in....

# The Checklist








Before You Rent Checklist			Property Address		
System	✓	Notes	System	✓	Notes
<b>Metering</b>			<b>Heating Equipment</b>		
Individually Metered	✓		Age of System		
Master Metered			Type of Fuel		
<b>Utility Cost</b>			<b>Water Heating Equipment</b>		
Landlord Pays Utilities			Equipment Location		
Renter Pays Utilities	✓		Age of Water Heater		
<b>Type of Utilities</b>			<b>Appliances – Age &amp; Condition, ENERGY STAR?</b>		
Gas	✓		Age of System		
Oil	✓		Equipment Location		
Water	✓		Oven	✓	
Electric	✓		Dishwasher	✓	
Internet/Cable TV	✓		Refrigerator	✓	
<b>Thermostat Control</b>			Washer/Dryer	✓	
Programmable Thermostat			<b>Notes:</b> Brand new appliances, not installed when we viewed apartment; washer and dryer in basement, coin-op		
In-Unit Thermostat	✓				
Hallway Thermostat					

# What I wish I would've known



# The Checklist Continued...

Before You Rent Checklist			Property Address		
System	✓	Notes	System	✓	Notes
<b>Air Infiltration &amp; Insulation</b>			<b>Other</b>		
Building Insulated/Air Sealed			Ample Outlets		
Unit Insulated/Air Sealed			Cable/TV/Phone Connection		
Air Leakage – Inspect for drafts & gaps			# of light fixtures, type of bulb – CFL, LED		Mostly CLF & Incandescent
Inspect Fireplace Damper			Natural Light		Yes, apt. faces east
<b>Windows</b>			<b>Energy Ratings / Certifications:</b>		
Single Pane			<b>Notes:</b> Need to replace most of the lights with LEDs, didn't ask about air sealing, big gap under the front door		
Double Pane					
Triple Pane or more					
Storm Windows					
Screens					
<b>Safety</b>					
Carbon Monoxide and Smoke Detectors					
Fire Extinguisher					

# Where to find the resource



ABOUT NEEP

INITIATIVES

EVENTS

BLOG/ NEWS ROOM

NETWORK

RESOURCES



Northeast Energy Efficiency Partnerships

## GREEN REAL ESTATE RESOURCES



In the modern real estate marketplace, buyers and renters can sort and filter listings of potential buildings for myriad characteristics. However, energy efficiency and other energy features are rarely among these. [The value of energy efficiency in homes](#), offices, and other buildings has historically not been effectively communicated between the property owner, real estate broker, appraiser, lender, and buyer due in large part to a lack of consistent tools to facilitate this exchange. In recent years, though, considerable advances have been made to streamline this process, enable accurate valuation of building energy efficiency in real estate transactions, and make energy efficiency visible.

### RESILIENT HIGH PERFORMANCE BUILDINGS & COMMUNITIES

CAPEE

Energy Codes ▾

Energy Rating ▾

[Green Real Estate Resources](#) ▾

Real Estate Professionals

Checklist

Renter's Guide: Creating

Lower Cost, Energy Efficient

Apartments and Homes

# HELIX Summit



- Location: Providence Biltmore Hotel
- Date: **December 7, 2018** with tours of the Innovation Hub and Reception on December 6
- <http://neep.org/events/2018-helix-summit>



Thank  
you!

Samantha Caputo  
Policy and Research Associate  
[Scaputo@neep.org](mailto:Scaputo@neep.org)

# Three Key Take-Aways

- Transparency is essential for renters who do not have the ability to make upgrades to their apartments without landlord consent. The checklist will help identify areas for improvement or deal breakers the renter may want to consider.
- This checklist can help renters identify if the energy costs will be high, and if the apartment will be a comfortable place to live based on the insulation, age of equipment, windows, etc. Renters may not be able to control the cost of rent, but this checklist will help them control their energy cost and comfort levels.
- Ready-to-go, convenient resources such as this checklist are an easy way to communicate the value of energy efficiency to consumers and spark conversations.





**Ben Karasch**  
C.S. Construction

# RENTERS AND RESIDENTIAL ENERGY EFFICIENCY

---

GETTING  
LANDLORDS TO  
PARTICIPATE IN  
HOME  
PERFORMANCE  
PROGRAMS



# PRESENTER

- Ben Karasch, General Manager

Ben oversees a staff of 35-40 employees and coordinates and leads projects ranging from insulation work, interior and exterior remodels, additions all the way to new construction builds. An avid outdoorsman who loves to spend time with his friends and family. Please email [ben@cs-construction.net](mailto:ben@cs-construction.net) or go to [www.cs-construction.net](http://www.cs-construction.net) to contact.



# PROJECT START

- C.S. Construction is a design-build construction company located in Eau Claire Wisconsin, and is a participant (Trade Ally) in the Focus on Energy Home Performance with ENERGY STAR® program.

The company incorporates energy efficiency in every job and strives for the highest energy savings possible for their customers.





# PROJECT OVERVIEW

- Westridge Park, Eau Claire Wisconsin
- Houses built in the 1970's – 128 units total
- Heated with electric baseboard heat and cooled with electric window unit A/C
- Great candidates for Focus on Energy's Home Performance with ENERGY STAR® Program and C.S. Construction

# PROJECT START

- During a roofing project for property owner C.S. Construction noted the insulation level was low and informed the property owner
  - Property owner cared about the overall comfort of his tenants and the energy efficiency of units - not always the case!
  - Tenant responsible for utilities
- C.S. Construction worked closely with the property owner, rental management staff and tenants to inform and educated them on the benefits of:  
Energy-efficiency improvements and the Focus on Energy Home Performance with ENERGY STAR<sup>®</sup> program
- Property owner skeptical at first of the proposed energy savings and incentives - “too good to be true.” Owner agreed to complete work on 12 units as a test case.
- Received extremely positive post-test results on the initial 12 units  
Owner was won over and embraced the program. Understand that the completed work was making a difference to energy consumption, comfort and tenant monthly expenses

# PROJECT PRICING DETAILS

- Proposed to property owner ‘packaged price’ to complete the energy assessments and the insulation upgrade work due to the large number of units at one location and similar home style
- Unknown information - what Focus on Energy incentive each property would receive as the program’s incentives are awarded by how much of an energy reduction is achieved

Air Sealing and Insulation	Tier 1	Tier 2
10-19% energy reduction	\$850	\$1,000
20-29% energy reduction	\$1,250	\$1,500
30%+ energy reduction	\$2,000	\$2,250

# THE SOLUTION

- C.S. Construction approached Focus on Energy to get approval to qualify 108 units as a 'package' as opposed to individual units so the whole project could have a set incentive  
**This approach had never been accomplished at Focus on Energy**
- The proposal based the energy savings on the initial twelve units completed
- Focus on Energy believed the proposal was solid with merit and the 108 unit project was preapproved – guarantying incentive

# WHAT MADE THIS PROJECT WORK?

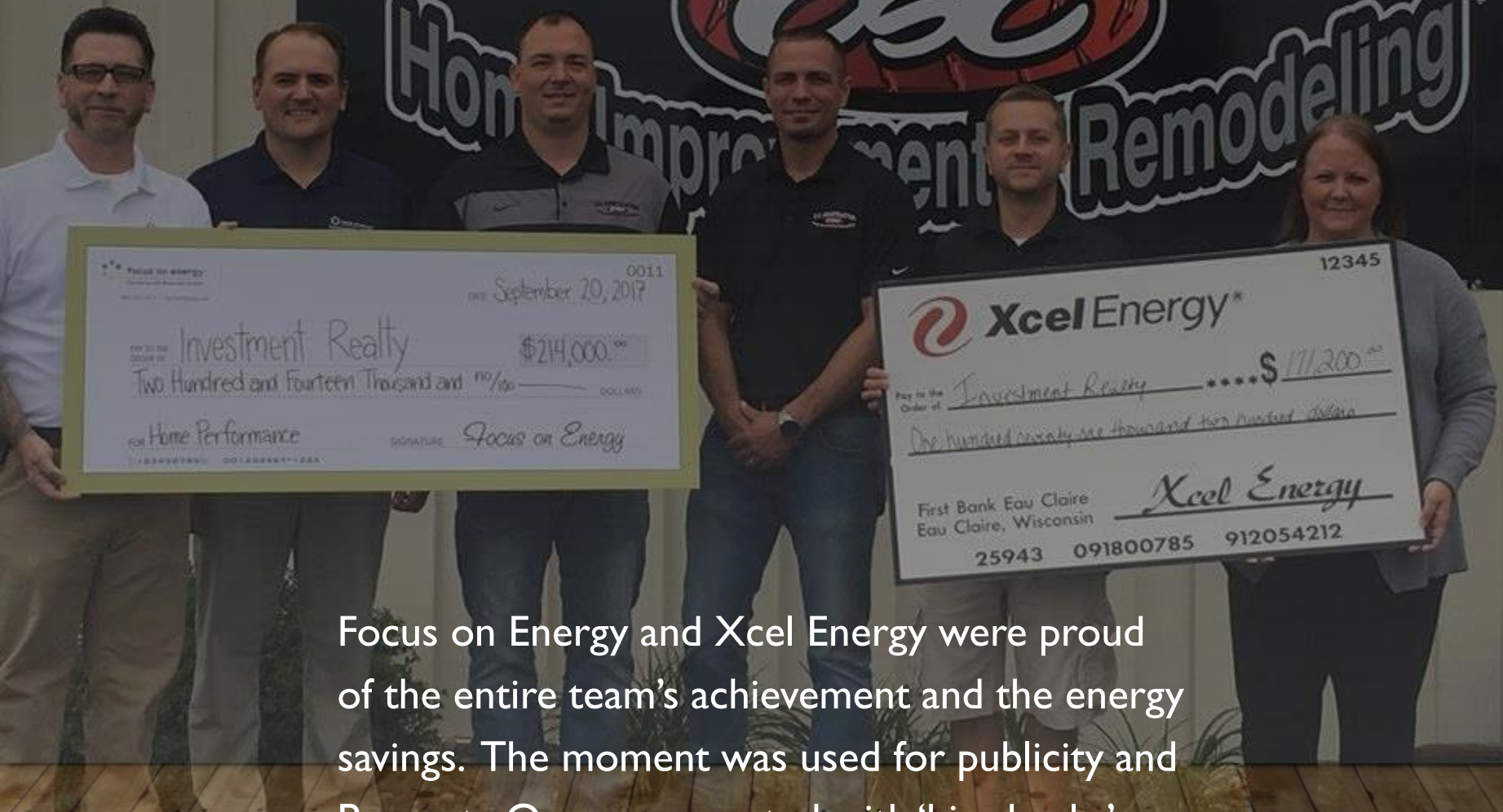
- Collaboration and teamwork were key
  - Property owner and management staff
  - Tenants
  - Focus on Energy's Home Performance Team
  - Consultant Mike Lea, - Alternative Resource Management, instrumental in helping us sell and make this project work.
- Property owner received \$214,000 incentive from Focus on Energy and \$171,200 incentive from utility company Xcel Energy
- Tenants are more comfortable, pay less in utility costs. This led to respect and trust in property owner.
- Units averaged 8424 kWh savings per year, total project saved 901,366 kWh/yr

# WHAT MADE THIS PROJECT WORK?

- Lowering the installed cost due to the economy of scale
  - 100 sites at \$4000 each rather than 25 sites at \$10,000
  - Continuous work for C.S. Construction crew also created efficiency
- Success in this project gave access to an additional 380 properties owned by the property management company
- Approached other property management companies in the Eau Claire area with a proven track record of success



# SUCCESS



Focus on Energy and Xcel Energy were proud of the entire team's achievement and the energy savings. The moment was used for publicity and Property Owner presented with 'big checks'



# SUCCESS

- C.S. Construction received the 2018 Home Performance with ENERGY STAR Contractor of the Year recognition for its strong support of ENERGY STAR and their commitment to Focus on Energy's Home Performance Program

# Three Key Take-Aways

- C.S. Construction was able to leverage an existing relationship and empirical results to convince a traditionally skeptical market agent (rental property owners) to invest in efficiency upgrades on a wide scale.
- Projects costing \$2,000 were able to deliver up to 30% savings in energy costs.
- Scale was crucial: this property owner had dozens of very similar units, which could be retrofitted in a standardized way to great effect.



# Upcoming Seasonal Messaging Opportunities

Now is the time to start planning energy efficiency messaging!

Make connections to Thanksgiving

A Recipe for an Energy Efficient Thanksgiving



Tips for an Energy Efficient Thanksgiving  
5 Ways to Make Your Thanksgiving More Energy Efficient





# Health in Buildings for Today and Tomorrow: Making Connections

## 2018 HiBR Conference

Health in Buildings for Today and Tomorrow: Making Connections

**WAITING LIST**

  
**LOCATION**  
National Conference Center

  
**DATE**  
July 19, 2018 - July 20, 2018

  
**SPEAKERS**  
42 Professional Speakers

Register at [Eventbrite](#) with case-sensitive password HiBR

U.S. DEPARTMENT OF ENERGY



AUGUST 21-23,  
2018

CLEVELAND, OHIO

## 2018 Energy Exchange and Better Buildings Summit

- August 21<sup>st</sup>-23<sup>rd</sup> in Cleveland, OH
- Register today!
- Highlights include:
  - Panel sessions and technical trainings (earn CEUs)
  - Peer-to-peer discussions
  - Ask-an-Expert/FEMP Lounge
  - Networking opportunities
  - Pre- and post-conference workshops
  - Better Buildings Partner sessions
  - Building Tours

***For more information and to register:  
[2018energyexchange.com](http://2018energyexchange.com)***

# Explore the Residential Program Solution Center

Resources to help improve your program and reach energy efficiency targets:

- [Handbooks](#) - explain *why* and *how* to implement specific stages of a program.
- [Quick Answers](#) - provide answers and resources for common questions.
- [Proven Practices](#) posts - include lessons learned, examples, and helpful tips from successful programs.
- [Technology Solutions](#) **NEW!** - present resources on advanced technologies, **HVAC & Heat Pump Water Heaters**, including installation guidance, marketing strategies, & potential savings.



<https://rpssc.energy.gov>

# Thank You!

Follow us to plug into the latest Better Buildings news and updates!



[Better Buildings Twitter](#) with [#BBResNet](#)



[Better Buildings LinkedIn](#)



[Office of Energy Efficiency and Renewable Energy Facebook](#)

Please send any follow-up questions  
or future call topic ideas to:  
[bbresidentialnetwork@ee.doe.gov](mailto:bbresidentialnetwork@ee.doe.gov)