

2019 Fall Roundtables

RESIDENTIAL SECTOR LANDSCAPE

Jess Kincaid, Residential Sector Lead





We are committed to a viable residential
sector and

We have a plan

INTRO

01

Residential
Landscape



02

Near-term
Strategy



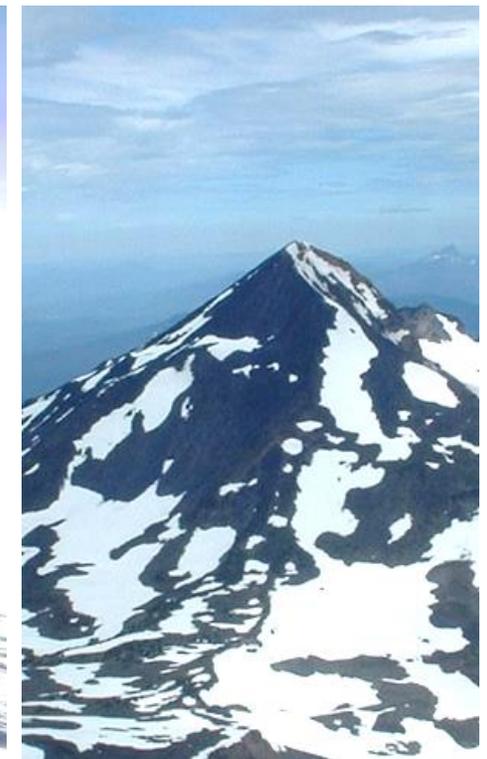
03

Long-term
Strategy



04

What
Else?

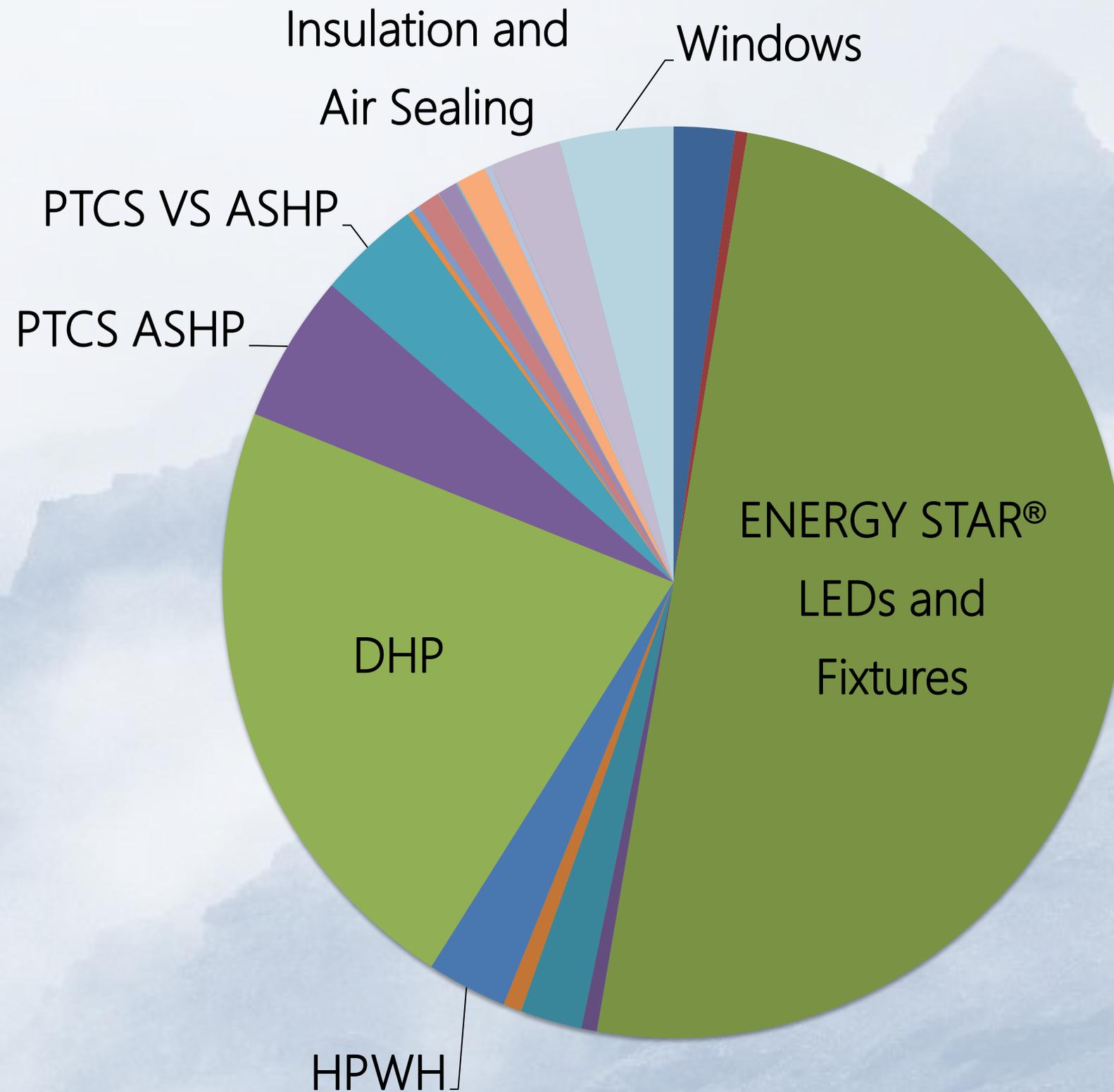


01

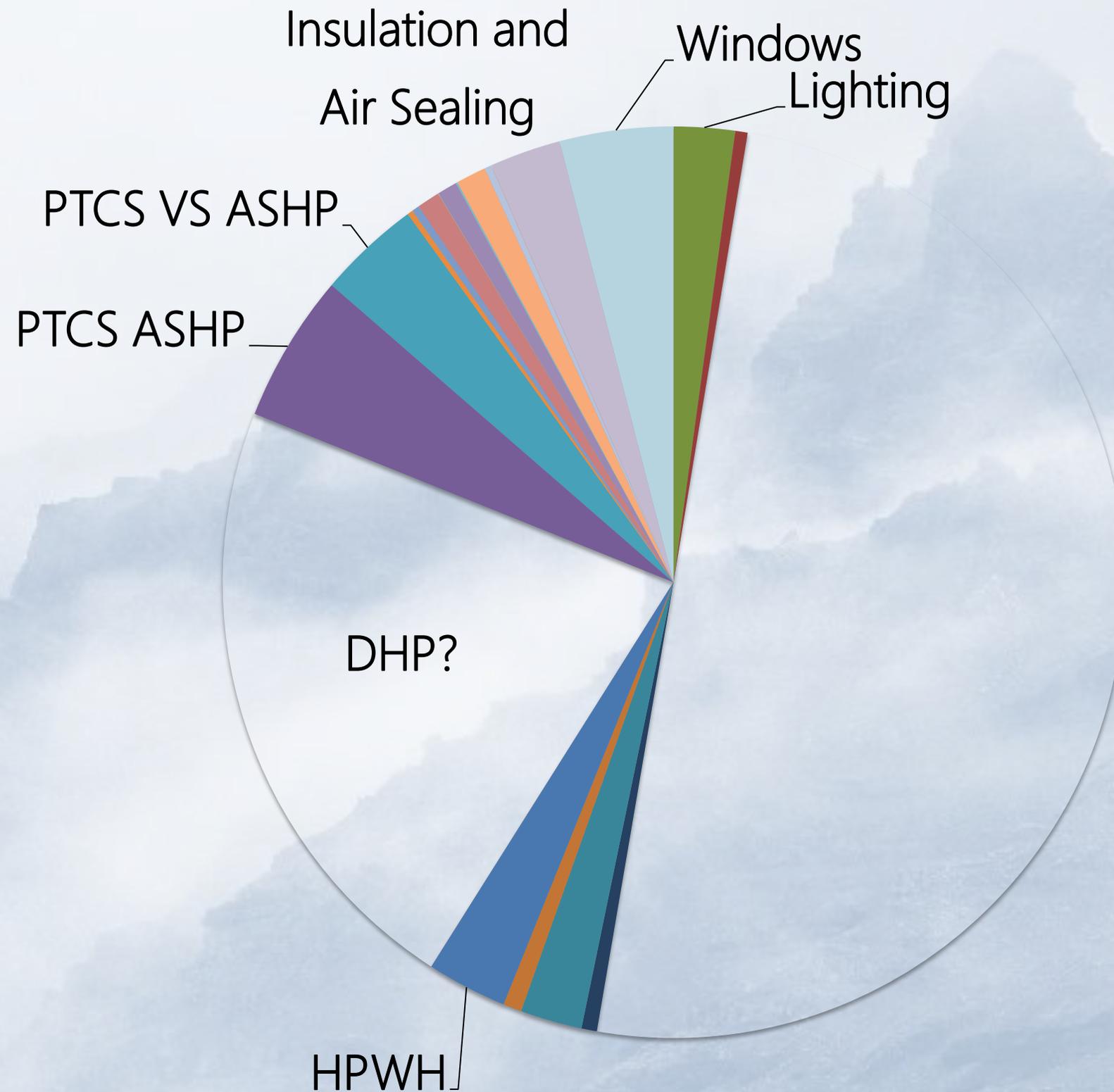
The Residential Landscape



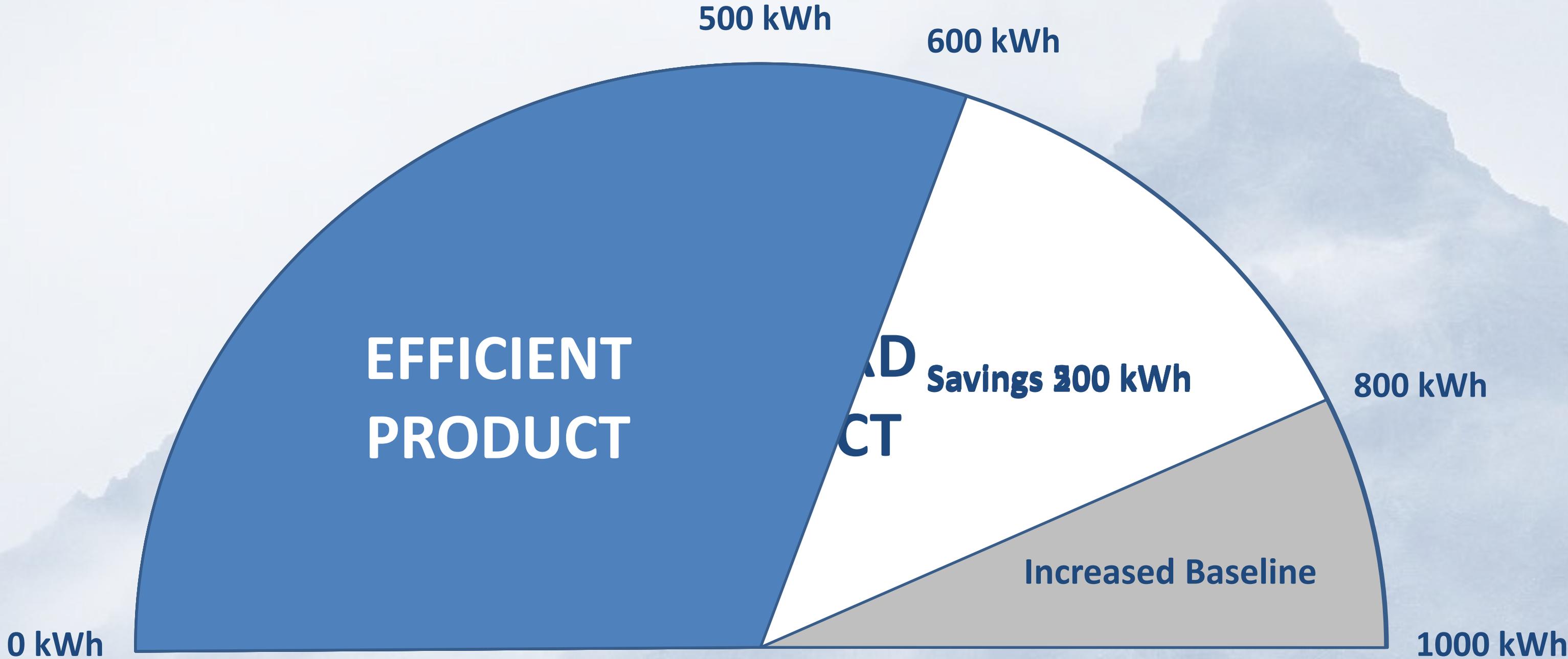
FY 2019 Residential Energy Savings to Date



FY 2022 Residential Projected Energy Savings



Cost-Effectiveness Primer: Why we have a mountain to climb



Evaluation of Energy Performance in Buildings: How to Measure and Improve Energy Efficiency in Buildings

Cost-Effectiveness Primer: Why we have a mountain to climb

	Standard Product		Efficient Product
Cost	\$100	\$115	Cost
Annual kWh	1,000	500	Annual kWh

Benefit-to-Cost Ratio 1.66

Cost

Benefit

Cost-Effectiveness Primer: Why we have a mountain to climb

Standard Product		Efficient Product	
Cost	\$100	\$115	Cost
Annual kWh	800	500	Annual kWh

Benefit-to-Cost Ratio 1.00

Cost

Benefit



Cost-Effectiveness Primer: Why we have a mountain to climb

Standard Product		Efficient Product
Cost	\$100	\$115
Annual kWh	800	600

Benefit-to-Cost Ratio 0.66



How this impacts residential measures:

1. Program successes are causing higher measure baselines.
2. Evaluated energy savings are often lower than expected.
3. Installed measure costs are increasing.
4. Updated codes and standards result in the loss of some measures.

Create new measures
to fill the gap.



Make measures
easier to implement
once we know we
can keep them.



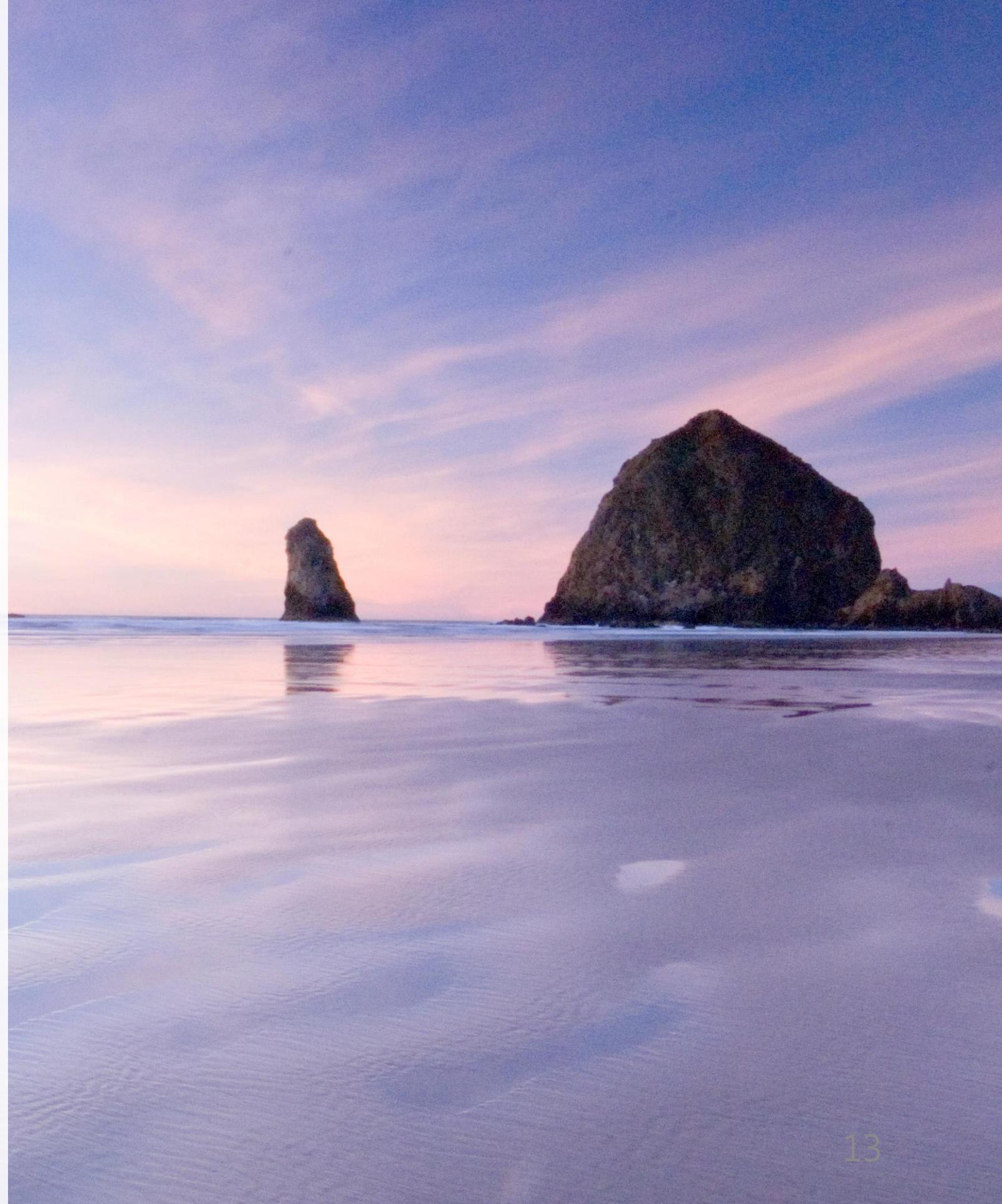
Keep all the
measures we can
by keeping them
cost effective.



What we are trying to do

The Future

- Programs are easier to implement.
- Residential and commercial offerings have more synergy.
- Contractor workforce is well trained and eager to participate.
- You have more opportunities to help your customers feel comfortable in their homes, while reducing their energy costs.



02

Near-term
strategy and how
to get involved



Thank you for your help!



Amy
Burke



Maitri
Dirmeyer



Paul
Hawkins



Claire
Gleason



Jess
Kincaid



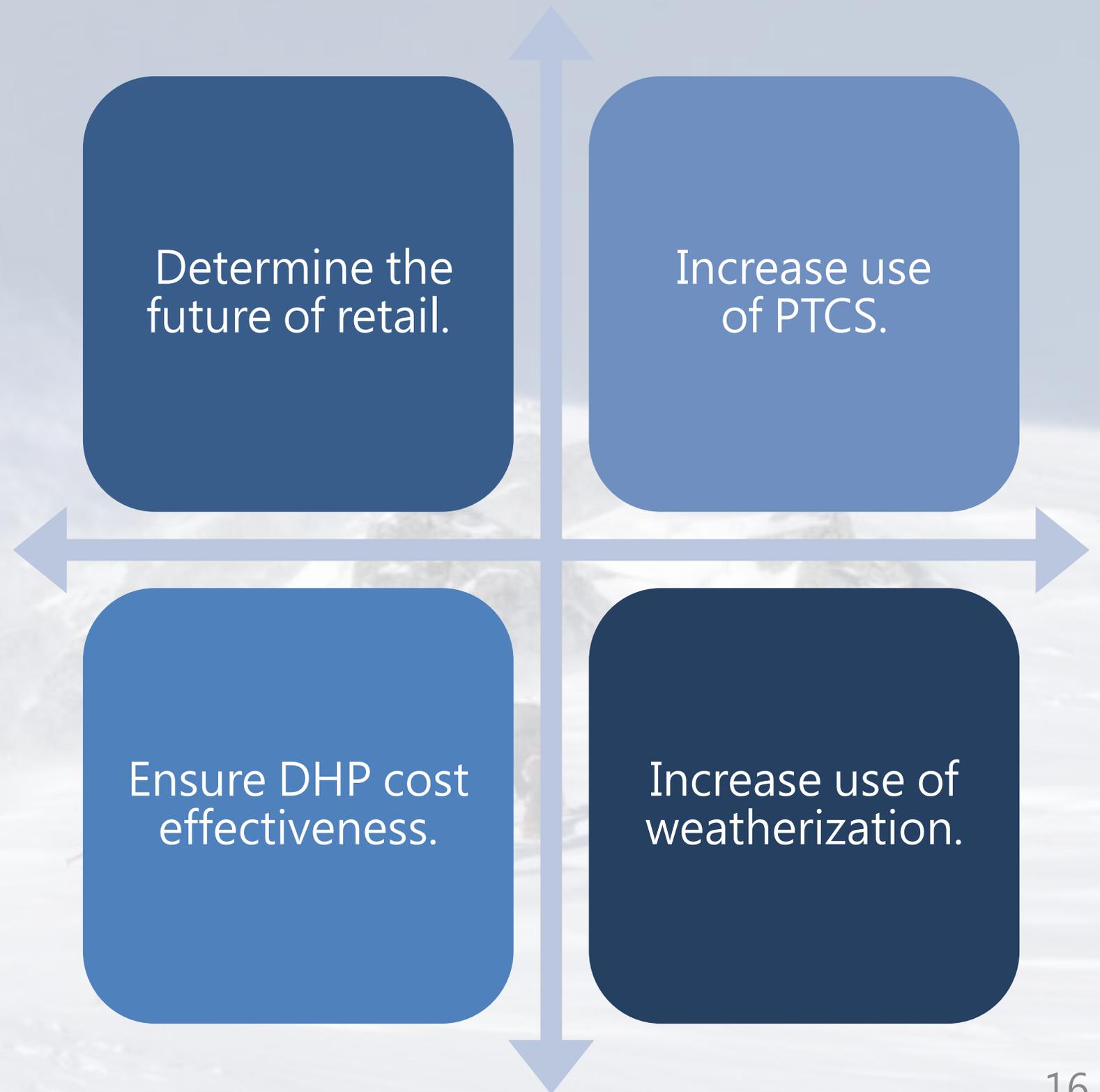
Dave
Murphy



Gary
Smith

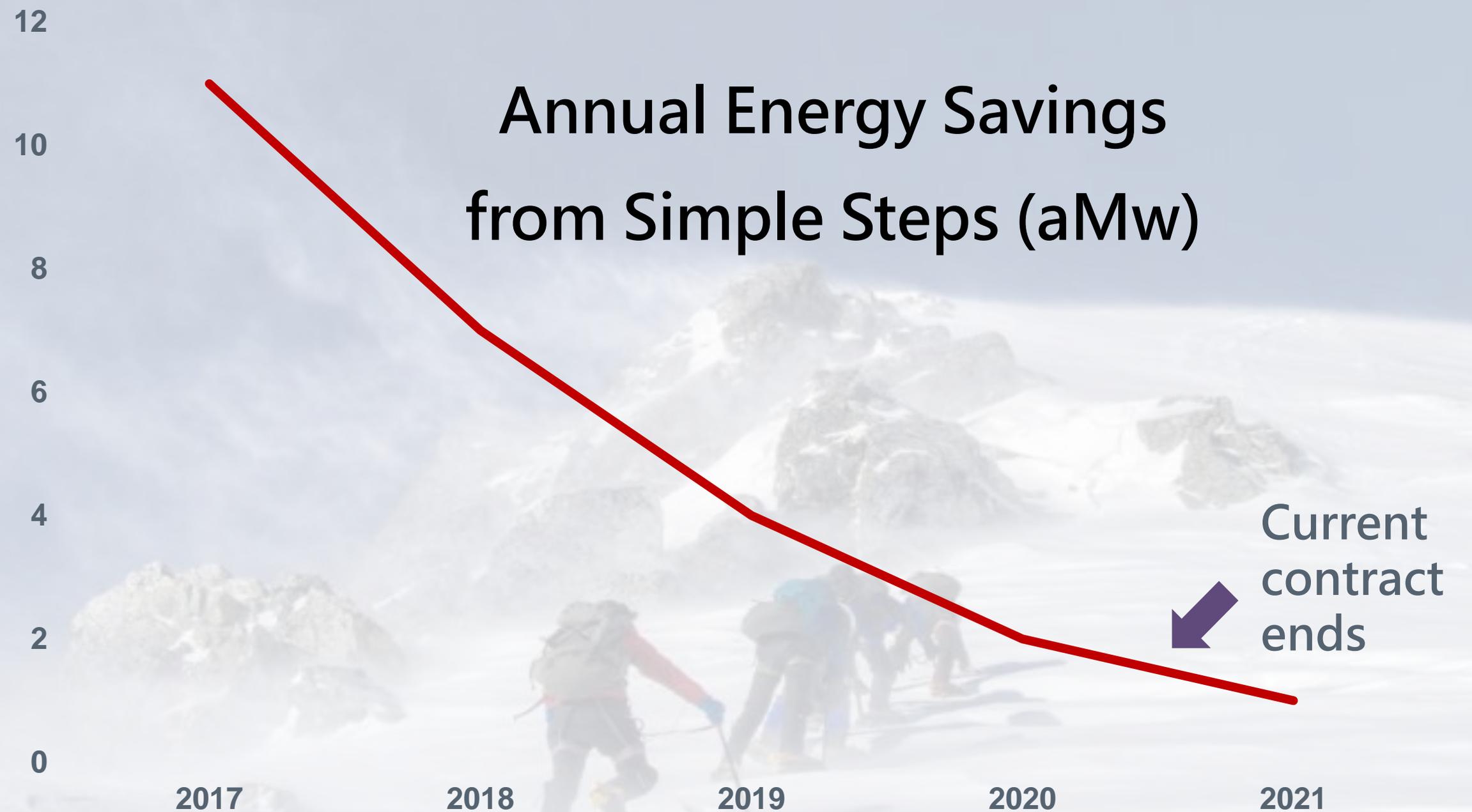
The Residential programs team

Primary strategies:



The Retail Challenge:

New approach design due Dec. 2019.



Retail Future

An offering that:

- Is easy to implement.
- Attributes funding to utilities.
- Works for more expensive measures such as water heaters and thermostats.



Retail: Help us determine the program future.

The PTCS Challenge:

Decision in early 2020.

Testing in 2020.

Implement Oct. 1, 2021.

PTCS annual savings are declining

↓
Target



PTCS Future

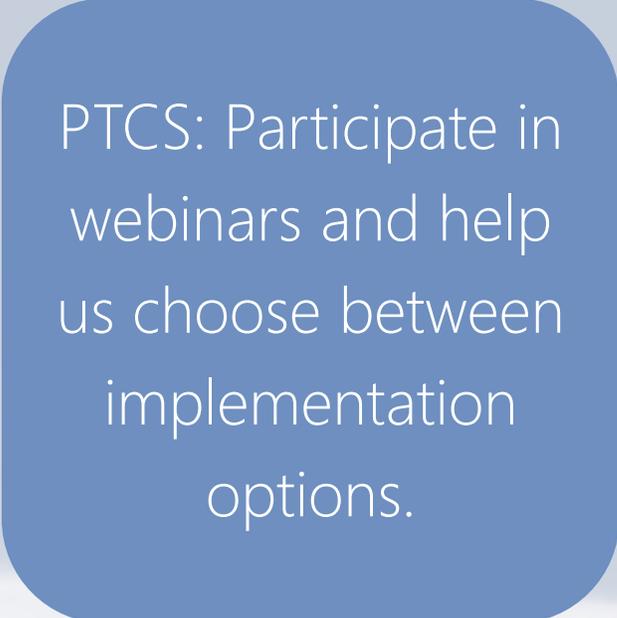
Double measure utilization by:

Simplifying program requirements:

- Streamline specification.
- Reduce paperwork.

Increasing in-field support for contractors.

Reducing contractor call backs for failure.



PTCS: Participate in webinars and help us choose between implementation options.

The DHP Challenge:

Can we keep them cost effective?

Target completion Dec. 2020.

Measure	Average TRC	Sunset Date
Ductless Heat Pump for Forced Air Furnace SF and MH	1.175	Sep. 2021
Ductless Heat Pumps for Zonal Heat SF	1.069 	Nov. 2019
Ductless Heat Pumps for Zonal Heat MH	1.069 	Nov. 2019
Ductless Heat Pumps for New Construction Single Family	>5	Jan. 2021
Ductless Heat Pumps for Multifamily	0.43	Sep. 2021

DHP Future

Compile research, evaluation, and program strategies to make measure cost effective.

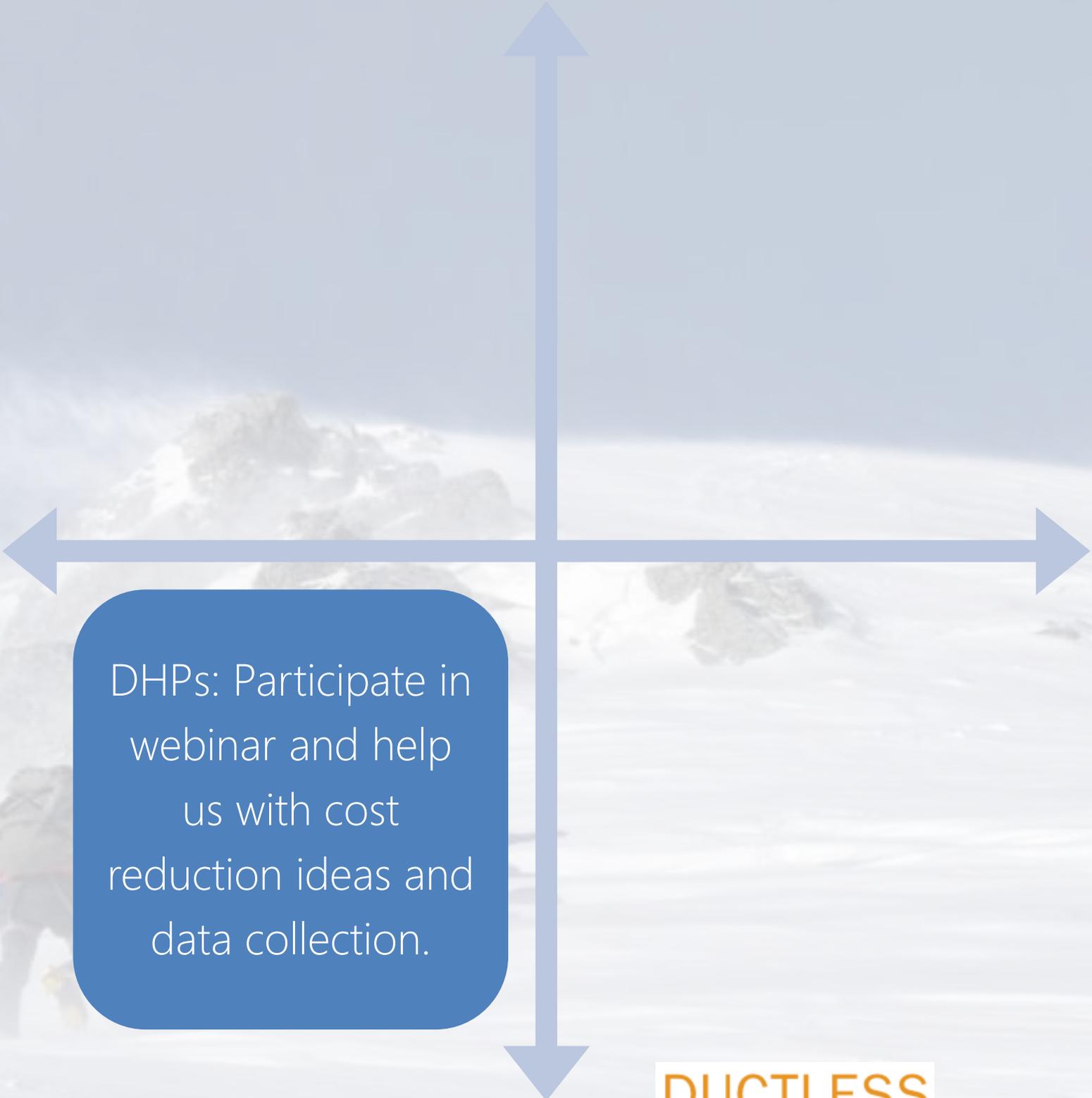
Research energy savings and cost impact of:

- Cold climate
- Higher heating and cooling efficiency
- System configuration

Evaluate savings by home and heating type.

Reduce installation cost.

Improve installation practices.



DHPs: Participate in webinar and help us with cost reduction ideas and data collection.

The Weatherization Challenge:

Begin implementation summer 2020. Field services and program support begin winter 2020/2021.

Insulation
6,000-
14,000

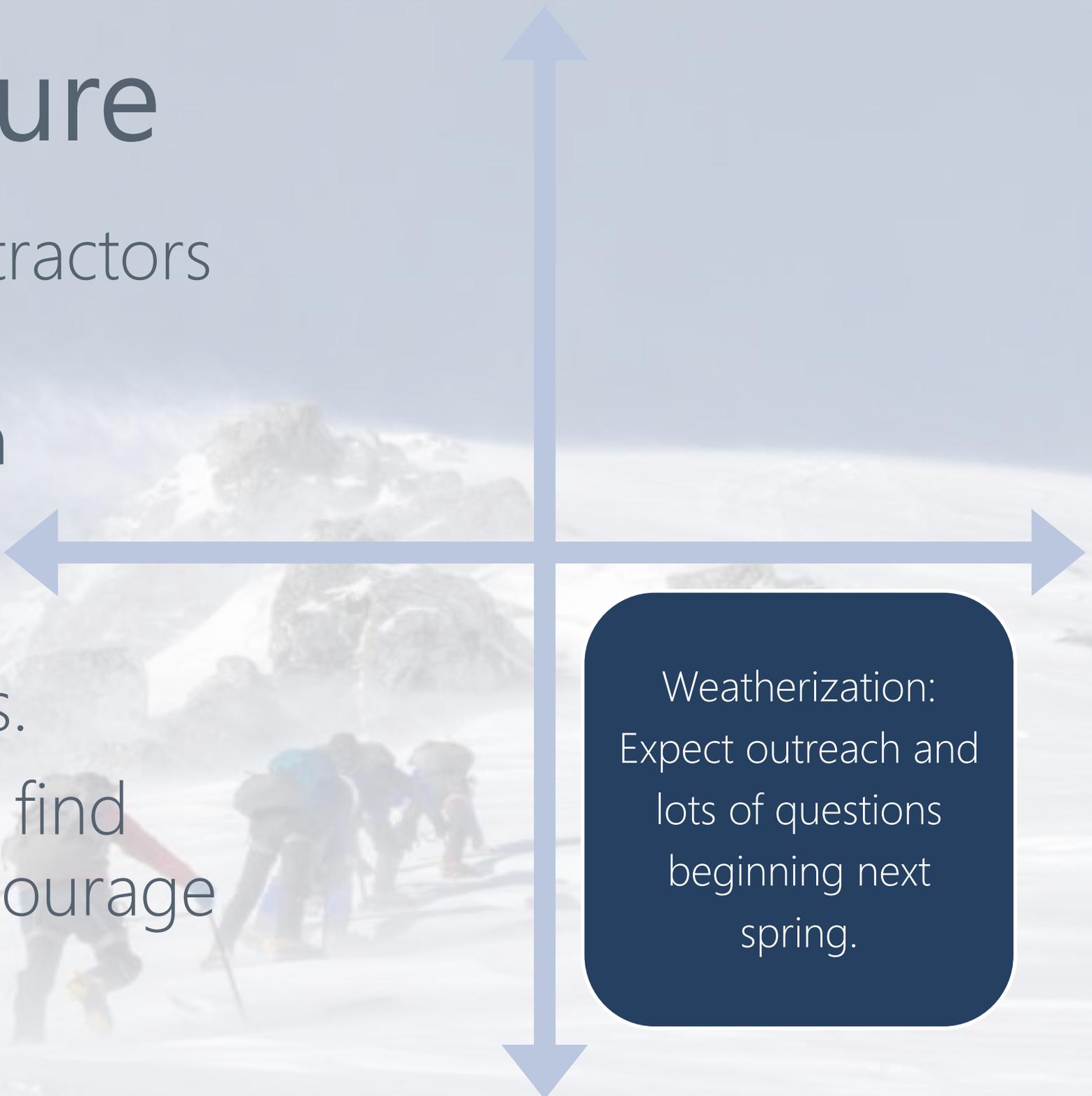
Windows
5,000-
12,000

Insulation
1,400

Windows
1,200

Weatherization Future

- Ensure there are enough contractors to achieve targets.
- Provide utility implementation support.
- Provide contractor support to ensure reliable energy savings.
- Provide marketing support to find remaining customers and encourage energy-efficient upgrades.



Weatherization:
Expect outreach and
lots of questions
beginning next
spring.

03

Long-term Strategy: Key Research Projects



Key Research Projects

Heat Pump
Water
Heaters

Develop technologies for multifamily homes and manufactured homes.

Packaged
Terminal
Heat Pumps

Determine whether they are a cost effective approach for multifamily.

Smart Line
Voltage
Thermostats

Determine if new technologies are cost effective.

HVAC
Research
Roadmap

Develop a strategy to respond more quickly to potential new measures and savings challenges.



What other
new (electric)
energy-
efficiency
measures are
you
interested in?

We are looking at:

- Residential behavioral
- Level 2 EV chargers
- Central air conditioning
- Commissioning existing ASHPs
- Duct insulation and repair
- Cellular shades
- VRV ADHP/ DHP
- Multifamily water heating
- CO2 Combined space and water heating
- MH ASHP retrofit
- New lighting technologies²⁷

04

What
Else?





How can we help
you be successful?



What are your
biggest residential
implementation
challenges?



Are there
areas where you would like
residential training support?



What would
you like us to know
about your residential programs?

Jess Kincaid
JBKincaid@bpa.gov

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