

REBUILDING BETTER

Workshop Series

Workshop #2

Materials and Equipment for a Resilient Rebuild

Let us know your thoughts! Take the survey below

<https://bit.ly/RebuildSurveyJuly>



Tonight's Agenda

Welcome | 6:00 - 6:10 p.m.

Rebates & Incentives for Rebuilding | 6:10 - 6:25 p.m.

Induction Cooking Overview and Demonstration | 6:25 - 6:35 p.m.

Rebates, Incentives, Induction Q&A | 6:35 - 6:50 p.m.

Heat Pump Basics | 6:50 – 7:00 p.m.

Heat Pump Panel (Q&A) | 7:00 – 7:15 p.m.

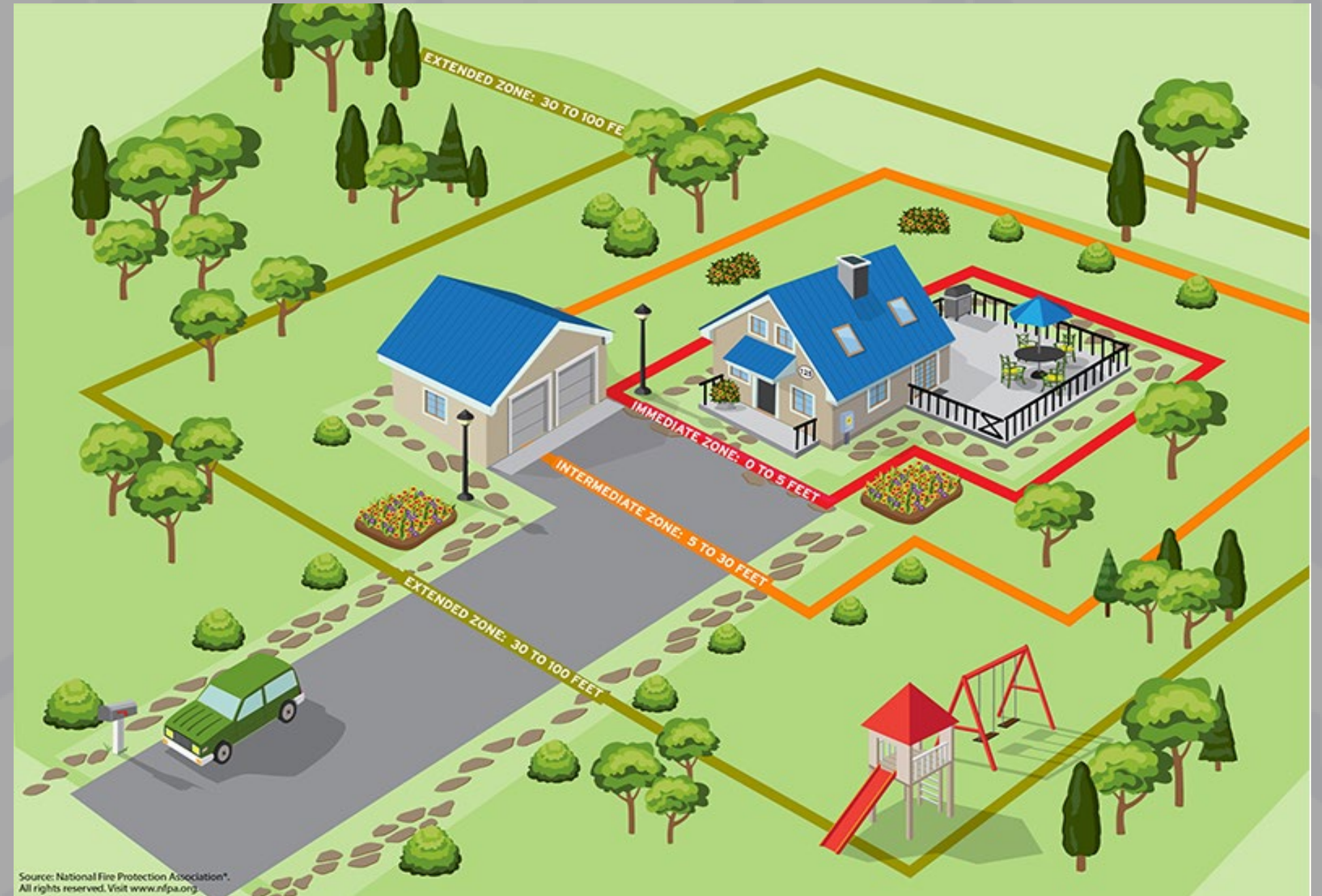
Additional Questions | 7:15 – 7:30 p.m.

Networking | 7:30 – 8:00 p.m.

Chapter 2 : Building a Resilient Home

Colorado Green Building Guild “How to be Firewise” webinars can be found on the Rebuilding Better Chapter 2 webpage.

<https://rebuildingbetter.org/chapter-two/>



National Fire Protection Association Webpage

Rebates and Incentives



Rob Buchanan

Portfolio Product Manager

Xcel Energy



Christine Berg

Senior Policy Advisor

Colorado Energy Office



Rick Garcia

Executive Director

Colorado Department of
Local Affairs



Dave Bowman

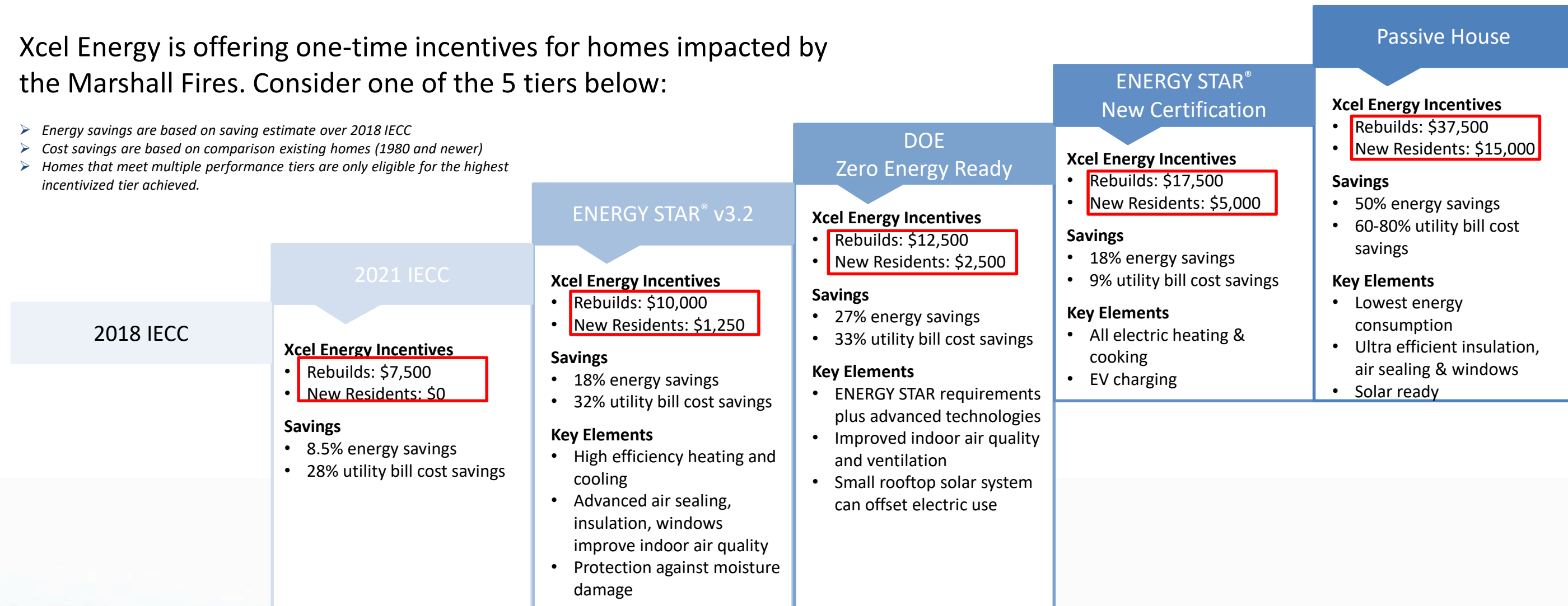
Deputy Director

Colorado Department of
Local Affairs

MARSHALL FIRE REBUILDING REBATES

Xcel Energy is offering one-time incentives for homes impacted by the Marshall Fires. Consider one of the 5 tiers below:

- Energy savings are based on saving estimate over 2018 IECC
- Cost savings are based on comparison existing homes (1980 and newer)
- Homes that meet multiple performance tiers are only eligible for the highest incentivized tier achieved.



PARTNERS IN ENERGY
An Xcel Energy Community Collaboration



Process

- Determine desired rebate tier and find builder
- Prequalification* – Handled by builder/rater/consultant
- Submission – Handled by builder/rater/consultant/code official

*For ENERGY STAR and ZERH – optional but highly recommended; required for Passive House



Answers to common questions

- Rebates do not stack
- Rebates may not cover the full cost of upgrades
- PHI and Phius standards cannot be met without additional designer & builder training

Useful Links

- [ENERGY STAR v3.2 Draft](#)
- [Zero Energy Ready Homes \(ZERH\) v2 Draft](#)
- [ENERGY STAR NextGen \(New Certification\)](#)
- [Passive House \(PHI\)](#)
- [Passive House US \(PHIUS\)](#)
- [Xcel Energy Marshall Fire Recovery](#)

State Funding for Rebuilding

Colorado Disaster Preparedness and Recovery Resources bill (SB22-206)

- Two primary reconstruction programs
- Covers all State declared disasters from 2018 and into the future

Disaster Resilience Rebuilding

- \$20 million to the Colorado Energy Office
 - Offers \$10,000 incentive grants for electrification
- \$15 million to the Department of Local Affairs
 - Grants and loans for rebuilding
 - Additional incentive funding mitigation beyond code



COLORADO
Energy Office



COLORADO
Department of Local Affairs

The State will supplement rebuilding and mitigation funds with federal dollars (Community Development Block Grant (CDBG) and CDBG-Disaster Recovery) for a total of about \$12M

Colorado Energy Office Electrification Program

- \$10,000 rebate for high efficiency electric homes or long-term rental units that are built to the 2021 International Energy Conservation Code (IECC) standards, Boulder County's BuildSmart standards for unincorporated Boulder County – or stronger standards.
- Requirements
 - NEEP Certified Cold Climate Heat Pump
 - Electric Resistant or Induction Stove
 - Heat Pump Water Heater
- Can be combined with any Xcel rebate
- Application will be available soon
- Incidental gas use for equipment, such as fireplaces or grills, is allowed.



Rebuilding Grant Eligibility



COLORADO
Department of Local Affairs

Area Median Income Level ¹	Maximum Grant Amount
< 80% AMI	Up to \$50,000
81-100% AMI	Up to \$37,500
101-120% AMI	Up to \$25,000
121-150% AMI	Up to \$12,500
> 150% AMI	NA

¹ AMI levels vary by county and household size.

AMI Levels for Boulder County

Boulder County Median Family Income = \$125,400

Household Size	1	2	3	4	5	6	7	8
80% AMI	\$ 63,000	\$ 72,000	\$ 81,000	\$ 89,950	\$ 97,150	\$ 104,350	\$ 111,550	\$ 118,750
100% AMI	\$ 90,000	\$ 100,350	\$ 112,900	\$ 125,400	\$ 135,450	\$ 145,500	\$ 155,500	\$ 165,550
120% AMI	\$ 105,350	\$ 120,400	\$ 135,450	\$ 150,500	\$ 162,500	\$ 174,550	\$ 186,600	\$ 198,650
150% AMI	\$ 131,700	\$ 150,500	\$ 169,300	\$ 188,100	\$ 203,150	\$ 218,200	\$ 233,250	\$ 248,300



Rebuilding Loans

- Available to all income levels
- Terms comparable to SBA home loan terms
- Capped at \$50,000

Additional Eligibility

- Home must have been damaged or destroyed in a State declared disaster from 2018 forward
- Home must have been owner occupied as primary residence on date of disaster declaration
- Must follow current code (no opt-outs)
- No second homes
- No rental properties (subject to change if funds become available)

**Grant plus loan assistance cannot exceed the homeowners “gap”.
“Gap” is based on standard rebuild cost less assistance already received.**



Mitigation Component

- Additional funding for mitigation construction and design.
- Specific guidelines under development and will be available by end of the month.
- Incentive program modelled from Oregon for mitigation beyond current code.

Additional Information

- Single application for grant, loan, CEO incentive, mitigation incentive and Community Foundation
- Boulder County Recovery Navigators will be on board by end of month to assist.
- Visit our website for FAQs <https://cdola.colorado.gov/disaster-resilience-rebuilding-program>

Induction Cooking Overview and Demonstration



Rachael Bramblett

Residential Energy Advisor

EnergySmart



Andrew Forlines

Culinary Director

Chef AF Consulting

Induction Cooktop Lending Program

- Try out a portable induction cooktop for free for two weeks!
- Program includes Duxtop portable cooktop and compatible cookware
- Sign up to reserve your spot:
www.rebuildingbetter.org/induction-resources/
 - 303-544-1000
 - info@energysmartyes.com





Chef
Andrew Forlines

INTRODUCTION TO
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Learn If Induction Is Right For You!

andrew@chefaf.com

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Consistent

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Easy to clean



Counter top
induction burner



Induction Cooking

- Since 1933
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- 90% Efficient
- Reduced Ventilation
- Less Spill Over Heat
- Cookware Compatibility

Induction Cooktop



Easy to clean



Counter top
induction burner



Available in:
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andrew@chefaf.com

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The background of the slide features a repeating pattern of light blue house icons. Each icon consists of a simple roofline with a chimney on the left side and a square window with a four-pane grid pattern in the center. The icons are arranged in a regular grid across the entire page.

Q&A

Rebates, Incentives, Induction Cooking

Heat Pump Basics



Presented By Robby Schwarz

New Homes Advisor, EnergySmart

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Thinking **ZERO** to 360°

BUILD Tank_{inc}

How does a Heat Pump Work?

- A Heat Pump **moves energy**
- It **doesn't generate energy**



Heat Transfer

Heat transfer is the exchange of thermal energy between physical objects

- Always from high to low / Hot to Cold / More to Less

Things do not have to be hot to have heat or energy

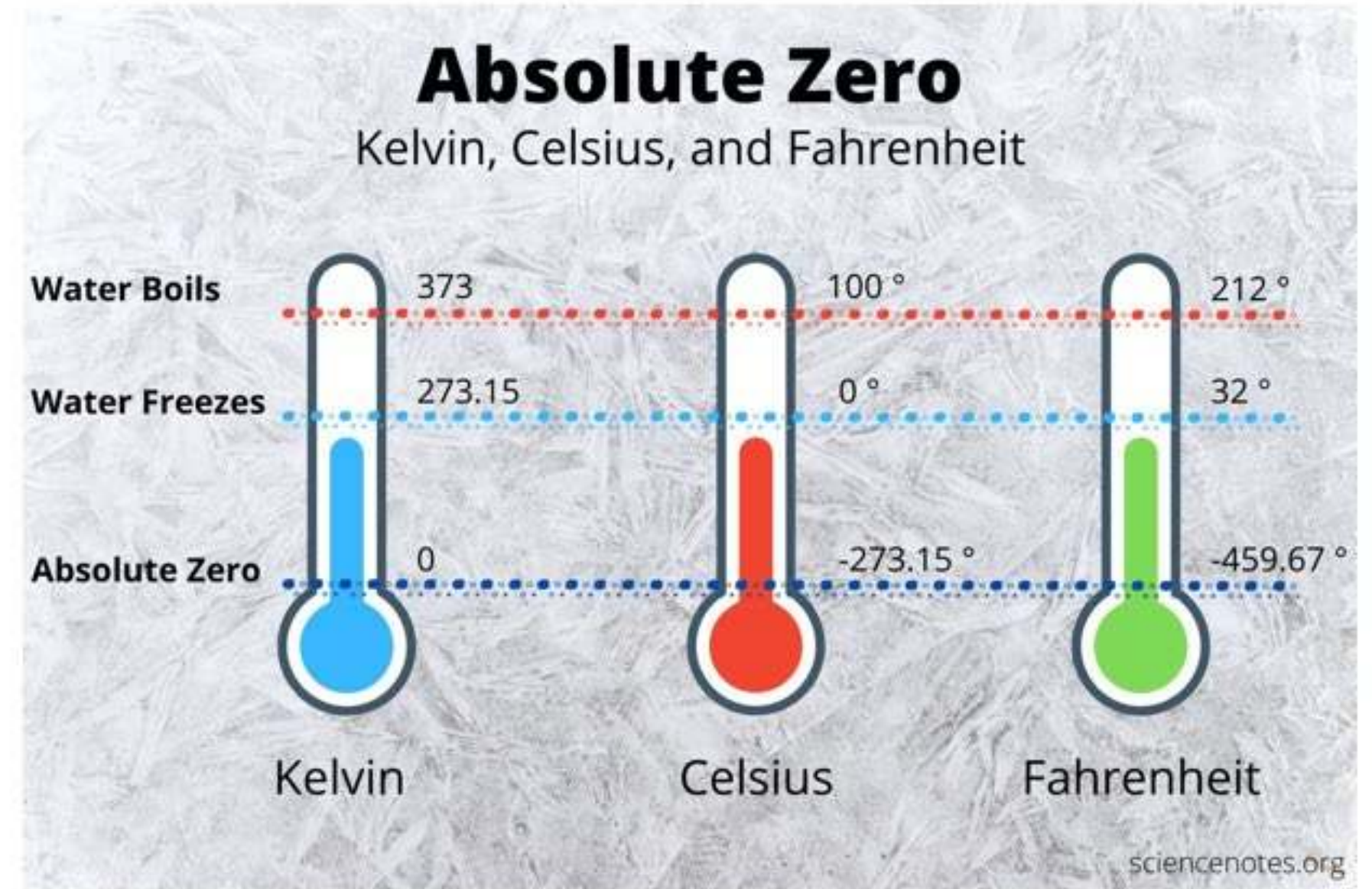
- They only have more heat or energy than..... to transfer heat/energy



Kelvin and the absolute temperature scale

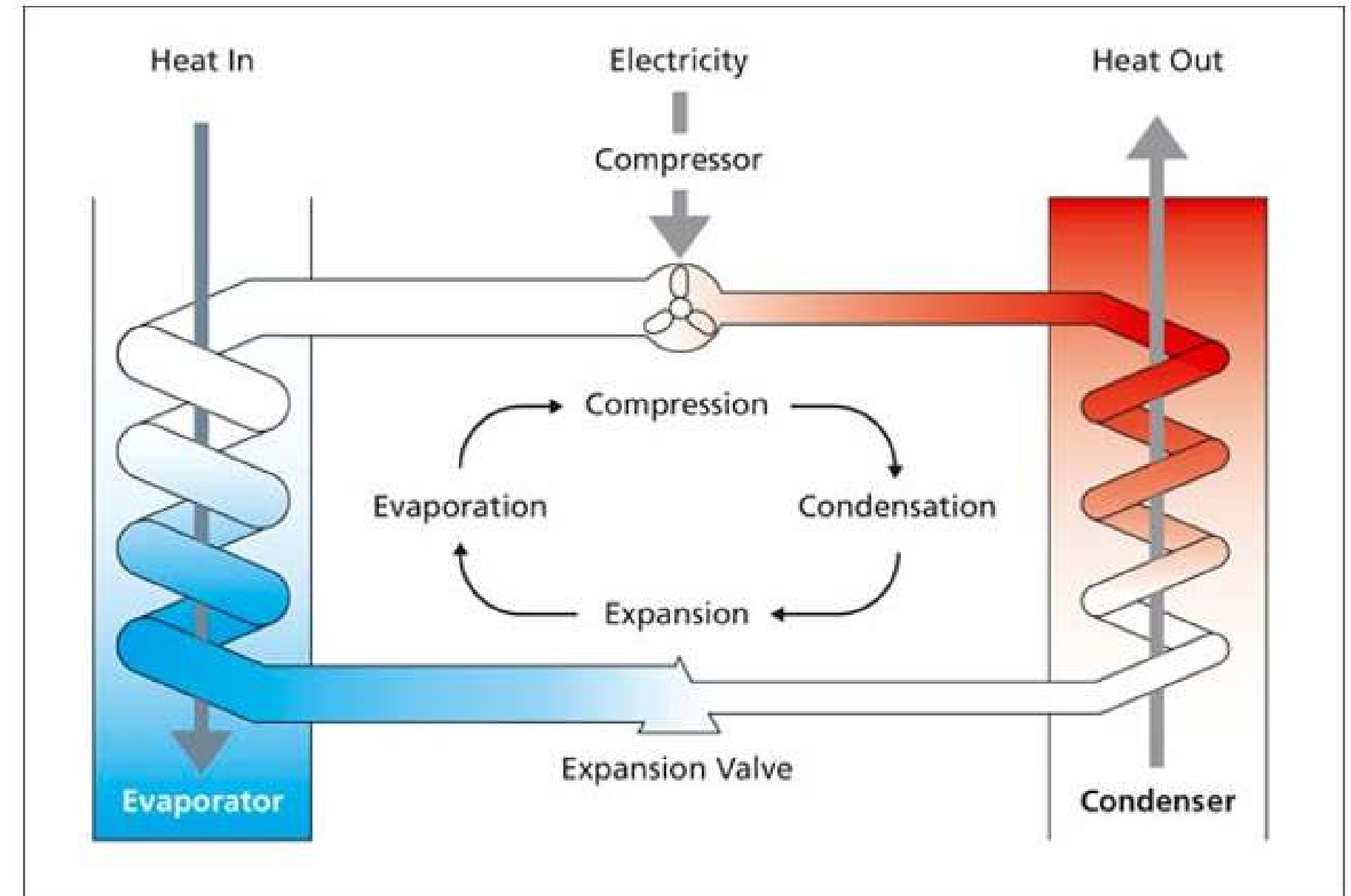
Energy in Cold air / its there / and its usable...

- Fahrenheit and Celsius, used for temperature measurements
 - Melting point of ice 32°F
 - human body 97.8°F
 - boiling point of water 212°F
- The kelvin scale is used to describe the energy in a molecule that causes temperate to change



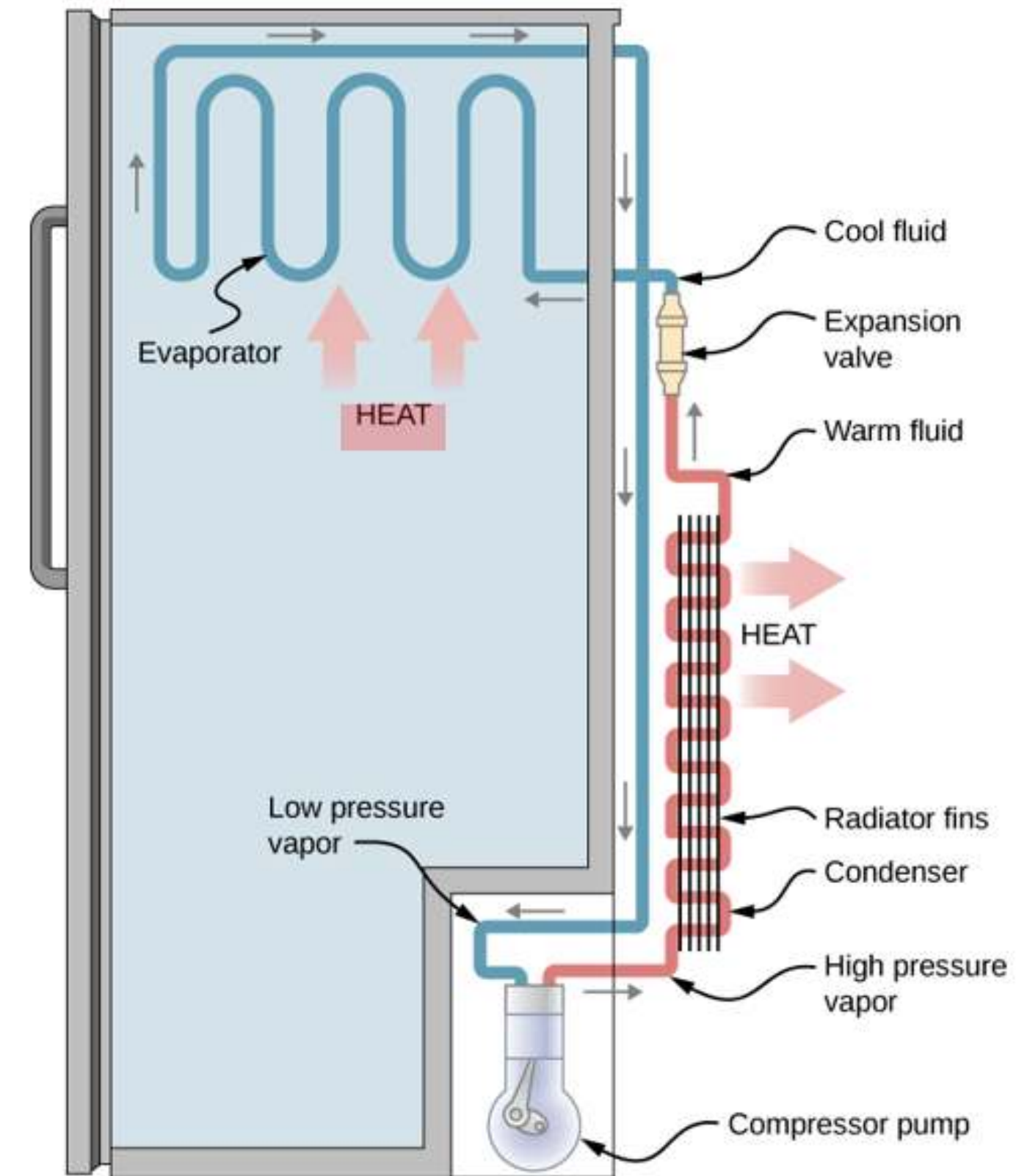
Refrigerants Unique Power

- Easy to manipulate
- Low boiling points
- Moves quickly from a liquid to a vapor and back to a liquid again
- Can phase change repeatedly
- As it changes phases it absorbs and releases heat



How does a Heat Pump Work?

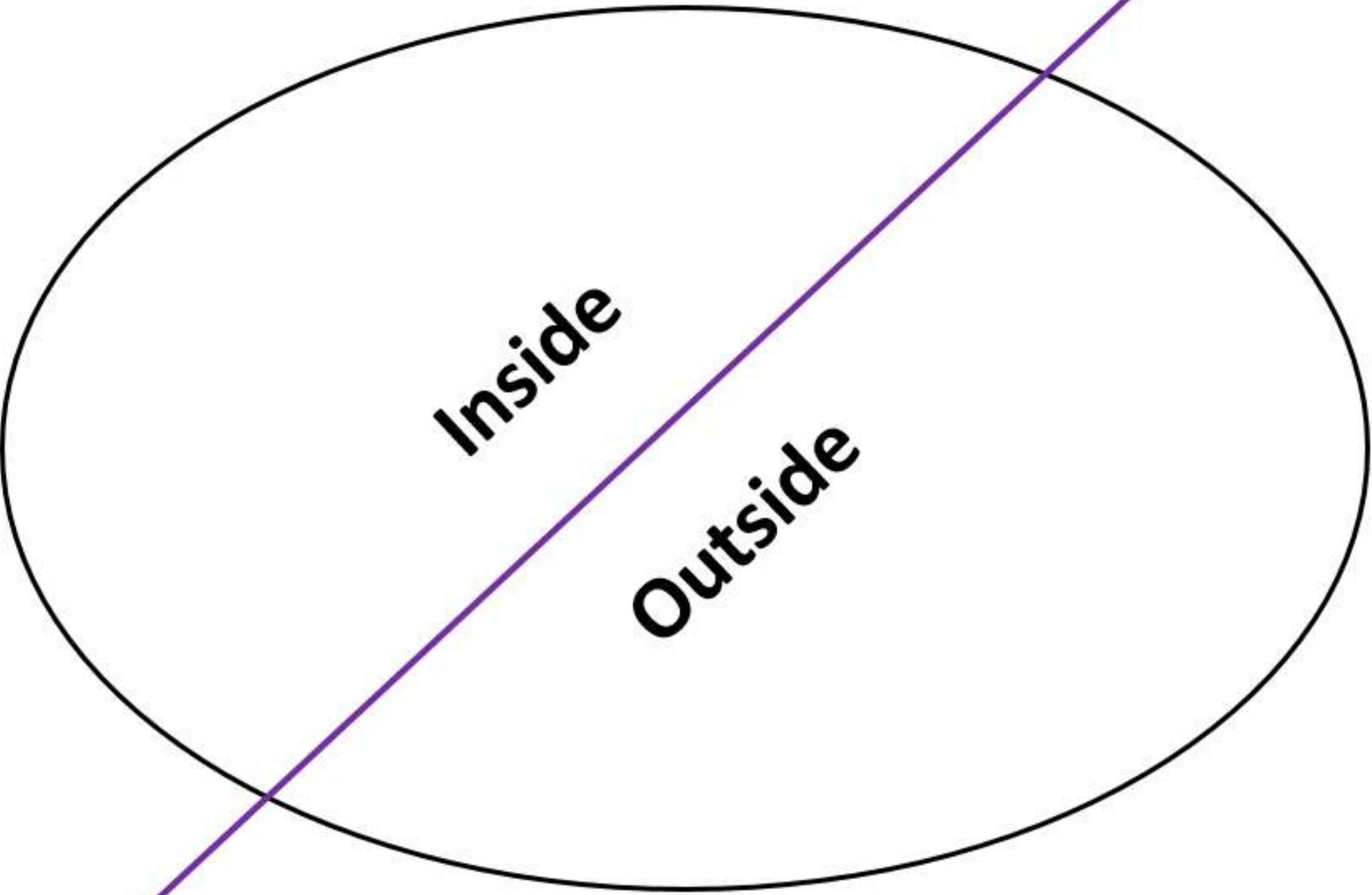
- Move energy across a boundary
- Move heat from inside to outside
- Moves heat from outside to inside
- A Refrigerator **does not create cold air**, it removes heat from air to cool it
- An Air Conditioner **does not create cold air**, it removes heat from air to cool it



HOT - COLD

Compressor

Coil



Coil

115°

-10°

Expansion Valve

Heat Pump Panel



Matthew Baker

Manager – Electrification,
Utility and Government
Programs

Daikin Comfort Technologies



Brian Fowler

Owner
GeoSource Distributors



Shawn LeMons

Performance Construction
Manager
Mitsubishi Electric Trane
HVAC US



Bill Lucas-Brown

Vice President
Zero Energy Solutions



Contact EnergySmart

RebuildingBetter.org

info@EnergySmartYes.com

303-544-1000

Thank you! Questions?

Mark your calendars for Workshop #3!

Wednesday, August 3, 6:00 – 7:30 p.m.
Louisville Recreation Center
900 Via Appia Way

<https://bit.ly/RebuildAugust22>

Let us know your thoughts! Take the survey
below

<https://bit.ly/RebuildSurveyJuly>

