

# State of the Refrigerant Transition and Other Industry Issues

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# Air-Conditioning, Heating, and Refrigeration Institute (AHRI)

Advocate for 330+ HVACR and  
water heating manufacturers

Developer of 100+ international  
industry standards and guidelines

Administrator of 40+ certification  
programs



# Our Members are Manufacturers

Cooling and heating products for  
residential, commercial and industrial applications

central AC &  
heating equipment

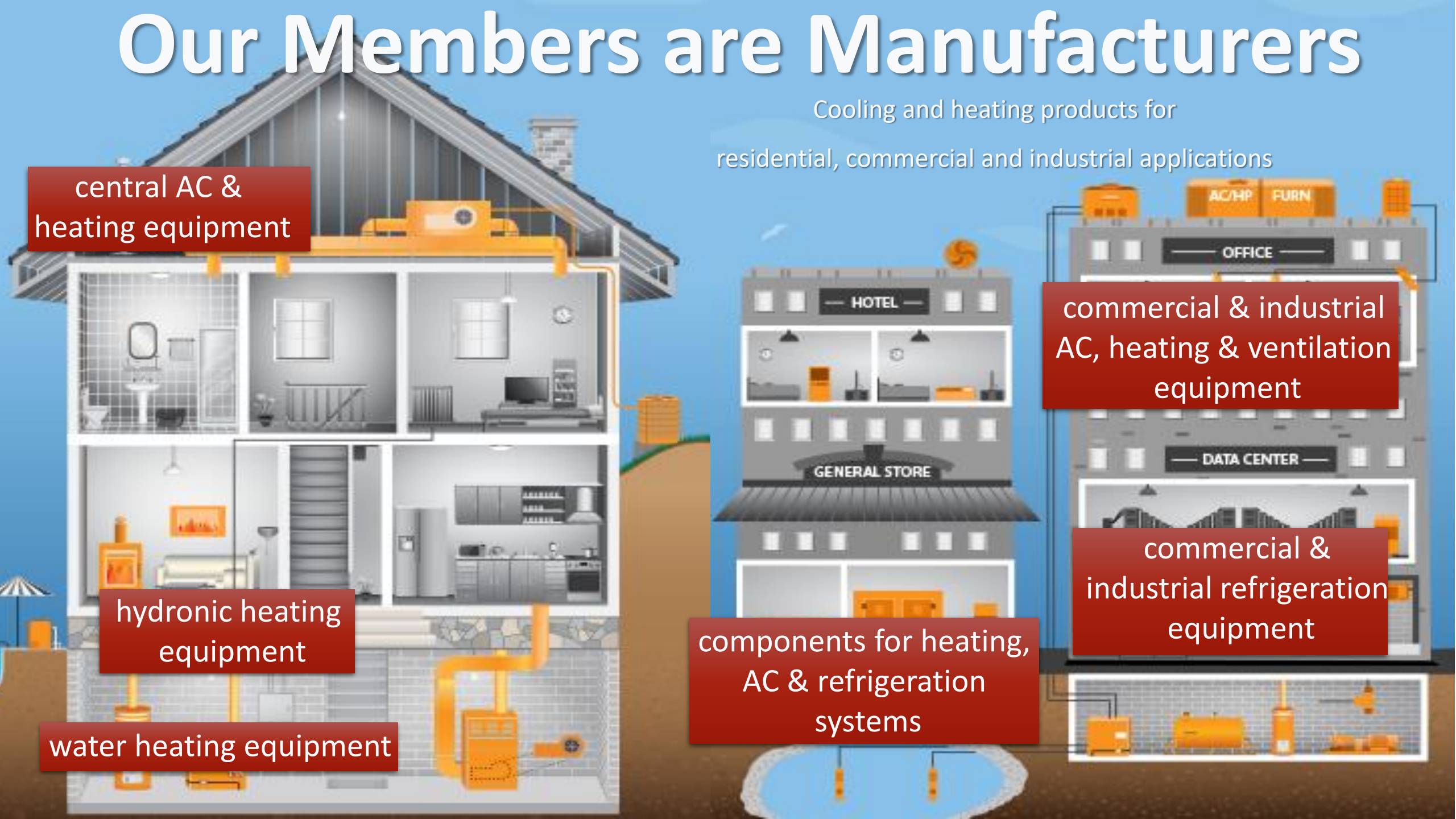
hydronic heating  
equipment

water heating equipment

components for heating,  
AC & refrigeration  
systems

commercial & industrial  
AC, heating & ventilation  
equipment

commercial &  
industrial refrigeration  
equipment





# Headquarters Office: Arlington, Virginia USA

## Global Offices:



China (Hefei)



MENA (Dubai)



Latin America (Mexico City)



India (Mumbai)



Canada (Toronto)

# For Discussion Today

## Refrigerant Transition

- AIM Act Implementation
- A2L State Building Code Initiative
- Refrigerant reclaim

## Tax Credits for Highly Efficient Equipment (Inflation Reduction Act)

## Sustainable Sustainability





## Our Shared Commitment

- For decades, our industry has worked toward a cleaner environment and the lowest possible emissions.
  - Increased the overall efficiency of our products and equipment more than 50 percent over the past 30 years.
  - Undergone three refrigerant transitions for the sole purpose of environmental protection.



## Our Shared Commitment

- Our support brought about the U.S. Energy Policy and Conservation Act which instituted federal efficiency mandates for many of our products in 1978 (National Security Issue – OPEC Boycotts).
- The Kigali Amendment was our idea. Really.
- No one should question our commitment to environmental stewardship.

# USA Refrigerant Transition



# Refrigerant Transition: Where We Are Today

AIM Act Passed

Kigali Amendment  
Ratified

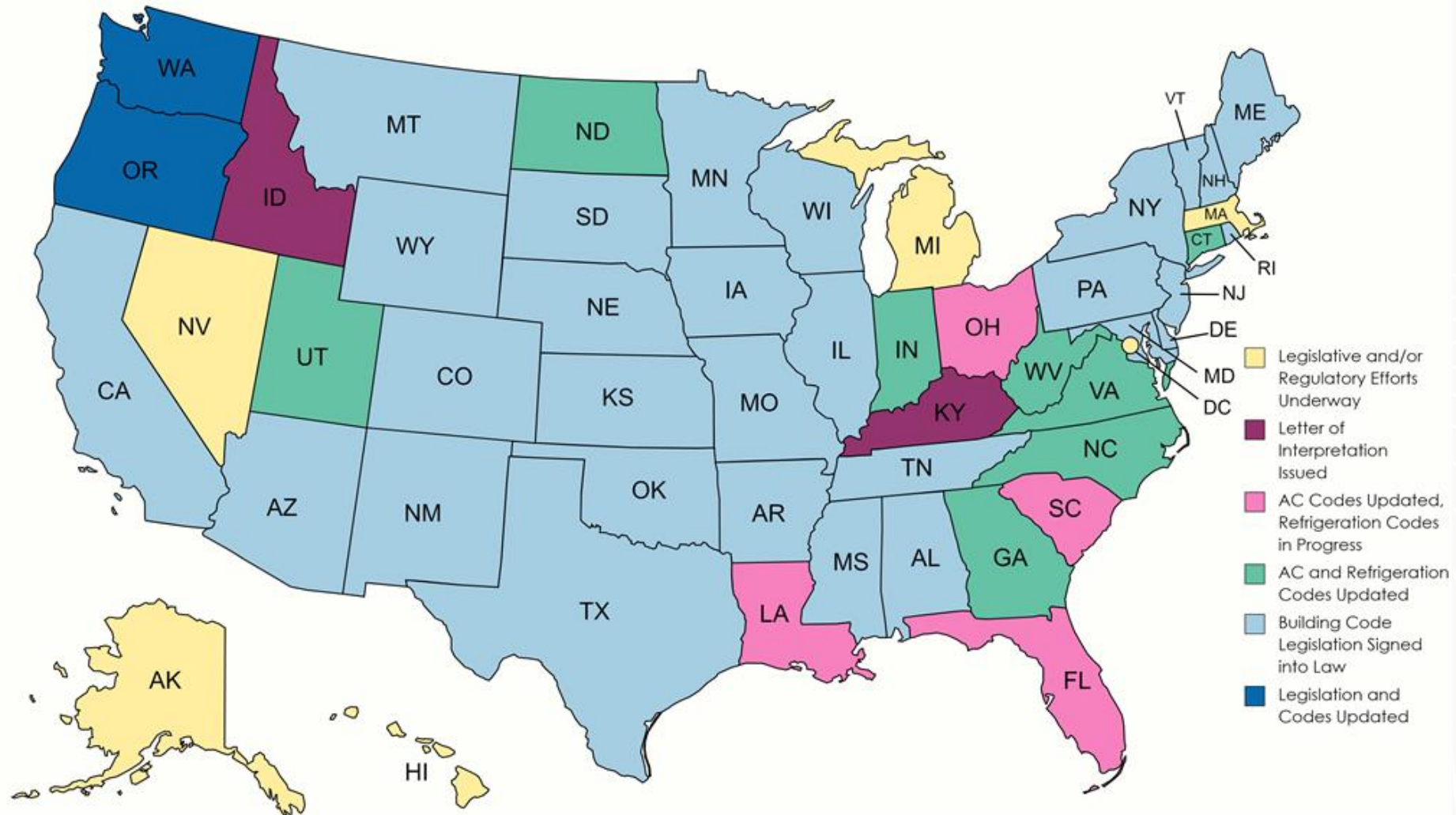
Refrigerant Research  
and Testing Completed

State Building Codes  
Updated – Getting  
there (see subsequent  
slide)

EPA AIM Act  
Implementation Well  
Underway

Members On Cusp of  
Widespread Production  
and Distribution of New  
A2L Equipment

# Low-GWP Building Code Status





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## HFC Regulatory Outlook

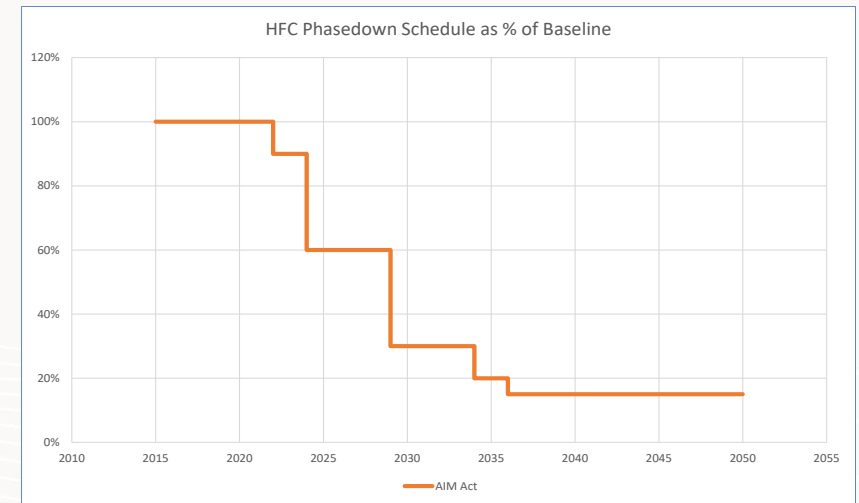
- HFC production and consumption phase down
- Technology Transitions (TT) Final Rule
- Refrigerant management (Subsection (h)) Proposed Rule
- SNAP approvals and use conditions
- California, Washington, and New York



# American Innovation and Manufacturing Act of 2020

## U.S. EPA Implementation

- Mandates production and consumption phasedown of HFCs
  - Allocation rule sets baselines and allocation methodologies
- Allows sector transitions (Technology Transitions rule)
- Refrigerant management including recovery and reclaim (Subsection (h) rulemaking)



### 2011-2013 baseline:

- 2022: 10% reduction
- 2024: 40% reduction
- 2029: 70% reduction
- 2034: 80% reduction
- 2036: 85% reduction

# Technology Transitions

- Prohibitions on manufacture, import, installation of equipment based on GWP or specific refrigerant
- Compliance dates ranging from January 1, 2025, to January 1, 2028, depending on the subsector
- A three year “sell through” period for products manufactured/imported prior to applicable compliance date
- Labeling, reporting, recordkeeping for refrigerant, charge, date of manufacture or installation, and other details
- Annual reporting beginning January 1, 2025, for all entities, with reports due 90 days after end of reporting period

# Transition Dates

Systems	GWP	Compliance Date
Residential and Light Commercial Air Conditioning and Heat Pumps	700	January 1, 2025
Variable Refrigerant Flow Systems	700	January 1, 2026
Chillers	700	January 1, 2025
Data Centers	700	January 1, 2027
Residential Dehumidifiers	700	January 1, 2025
Household Refrigerators and Freezers	150	January 1, 2025
Retail Food Refrigeration – Stand Alone Units – Vending Machines	150	January 1, 2025
Commercial Refrigeration (various systems)	Various	January 1, 2025 to January 1, 2028



# Refrigerant Management

- EPA proposed new refrigerant management rules in 2023
- Leak detection/repair rules for commercial equipment
- Reclaim mandates for initial charge and servicing
- No new certification standards for technicians
- Wide range of views on recovery/reclaim policy goals

# States

AIM Act does not prevent states from differing from federal plan

- California, Washington, and New York are implementing or looking to adopt own HFC regulations
- Other states not active on direct HFC restrictions for now

# Education and Awareness

AHRI is committed to working with other organizations to raise awareness of the updated model codes

- Interactive State Map on AHRINet.org
- Partnering with ICC, PHCC, HARDI, and ACCA to produce a series of short videos on the refrigerant transition
- Creating a new website to serve a hub of A2L refrigerant information
  - [www.saferrefrigeranttransition.org](http://www.saferrefrigeranttransition.org) (includes state map)



# There is more work to do...

## Building Codes

- Have Model Building Codes adopt latest standards (UL -2-40, UL-2-89, ASHRAE 15)
- Have all states adopt latest building codes enabling use of new refrigerants

## Shipment and Transport

- Have U.S. Department of Transportation update regulations regarding shipping of chillers, horizontal cylinders, and mid-sized systems
- OSHA/Department of Labor must finalize the update to the Hazard Communication Standard (Purple Book 7)

Harmonization with Canada and Mexico (in process)

# Energy Efficiency Incentives

# Incentives for Energy Efficient Equipment: Inflation Reduction Act of 2022

A 10-year extension and expansion of Energy Efficient Home Improvement Tax Credit (25C)

An expansion and 10-year extension of residential tax credits for geothermal equipment

New point-of-sale rebates for the purchase of efficient electric heating and cooling equipment

An expansion of the investment tax credit to include thermal energy storage technology

\$250 million in Defense Production Act funding for increasing heat pump manufacturing capacity



## Energy Efficient Home Improvement Tax Credit (25C)

- Up to 30 % Tax Credit on installation cost of HVACR and water heating products, up to:
  - \$600 per air conditioner
  - \$600 per furnace
  - \$600 per boiler
  - \$2,000 per heat pump
  - \$2,000 per heat pump water heater
- Equipment must meet the highest CEE efficiency tier (but not advanced)

# High Efficiency Electric Home Rebate Program

Administered by state energy offices – \$9.6 billion in Federal funds available until expended.

- Low-income household: 100% of costs with a maximum benefit for items listed below:
- Moderate-income household: 50% of costs, with a maximum benefit for items listed below:
  - \$8,000 for heat pump
  - \$1,750 for heat pump water heater
  - \$4,000 for electrical service upgrade
  - \$1,600 for insulation, air-sealing, and ventilation improvements
  - \$2,500 for electric wiring changes
  - Max rebate total: \$14,000



Sustainability Must Be  
Sustainable



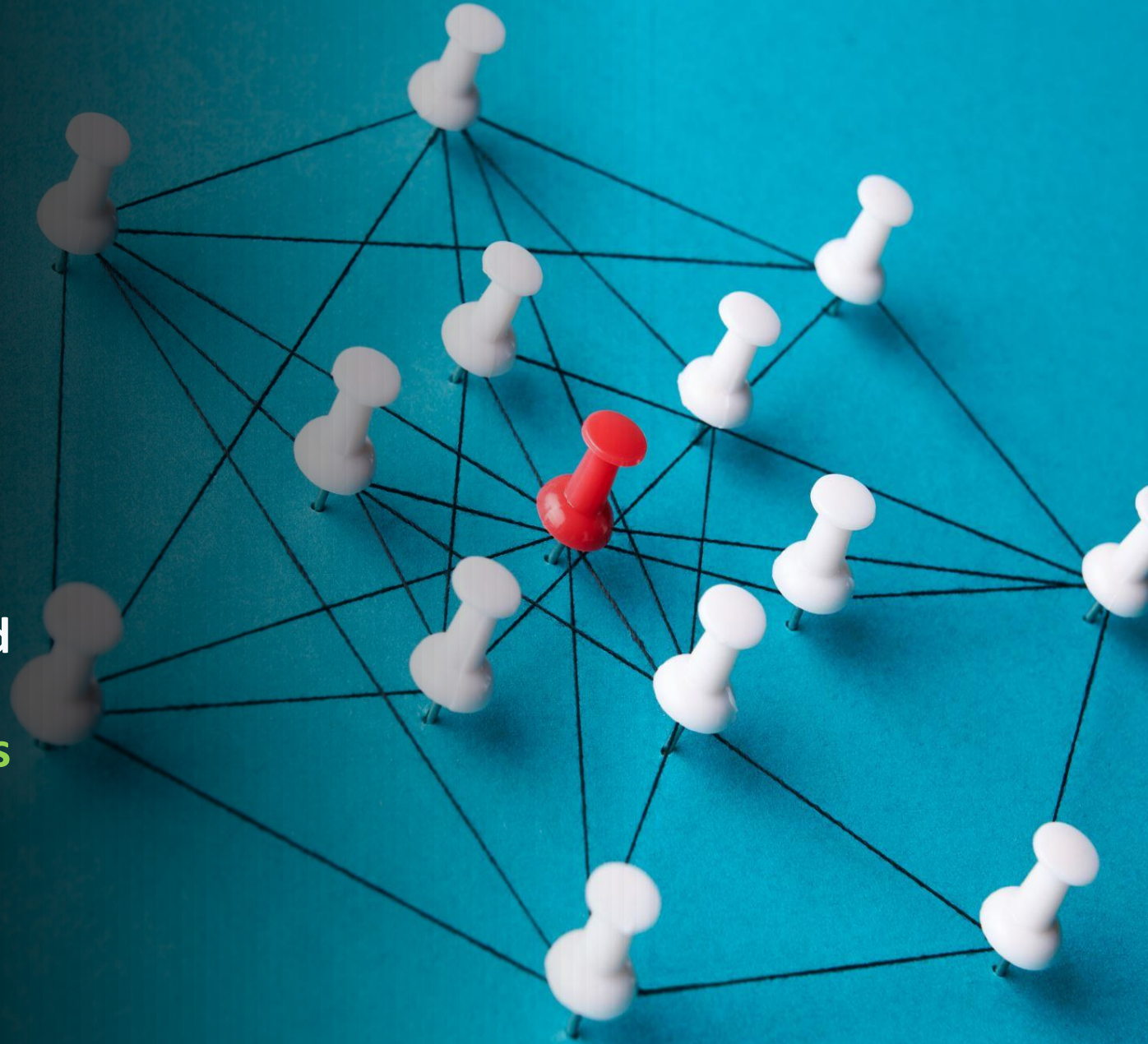


## The Challenges of Sustainable Sustainability

- Everyone wants a clean environment
- Everyone wants affordable, reliable, efficient heating, cooling, and water heating equipment
- To be successful, all nations must have reliable and affordable energy
- **Heating, cooling, water heating, and commercial refrigeration are not luxuries - they are necessities for health, safety, productivity, and comfort**

# The Challenge is How to Make all that Work

How to make all those desires and realities mesh into coherent, successful policies that **end - users accept and can afford**



To Be  
Successful,  
Environmental  
Policies Must  
Be:



Attainable – Not Aspirational



Economically Justified



Based on a sound assessment  
of current and future needs,  
supplies and demands



# If policies do not meet those criteria:

Backtracking, confusion, uncertainty, and  
political turmoil ensue

# What Can We Do as an Industry?

## Promote our experience and expertise



We are committed to continual energy efficiency and environmental stewardship.



We have been through three highly successful refrigerant transitions to improve the environment.



We know our customers -- what they like, what they don't like, what they can afford, and what they can't.



Incremental steps have been very effective; when steps have been too fast/large, customers have balked.

**We have the solutions, but the market  
(consumers, contractors) must be sold on the  
solution because for most:**

**primary concern is cost**  
**followed by comfort**  
**last environmental impact**



# In Summary

Refrigerant transition is on path to success

Tax credits have potential to increase shipments of certain equipment

Sustainability Must be Sustainable

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