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Heat Pump Supply Chain and Growth in California

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Our Members are Manufacturers

Cooling & heating products for residential, commercial & industrial applications:

central AC & heating equipment

components for heating, AC & refrigeration systems

hydronic heating equipment

water heating equipment

commercial & industrial AC, heating & ventilation equipment

commercial & industrial refrigeration equipment

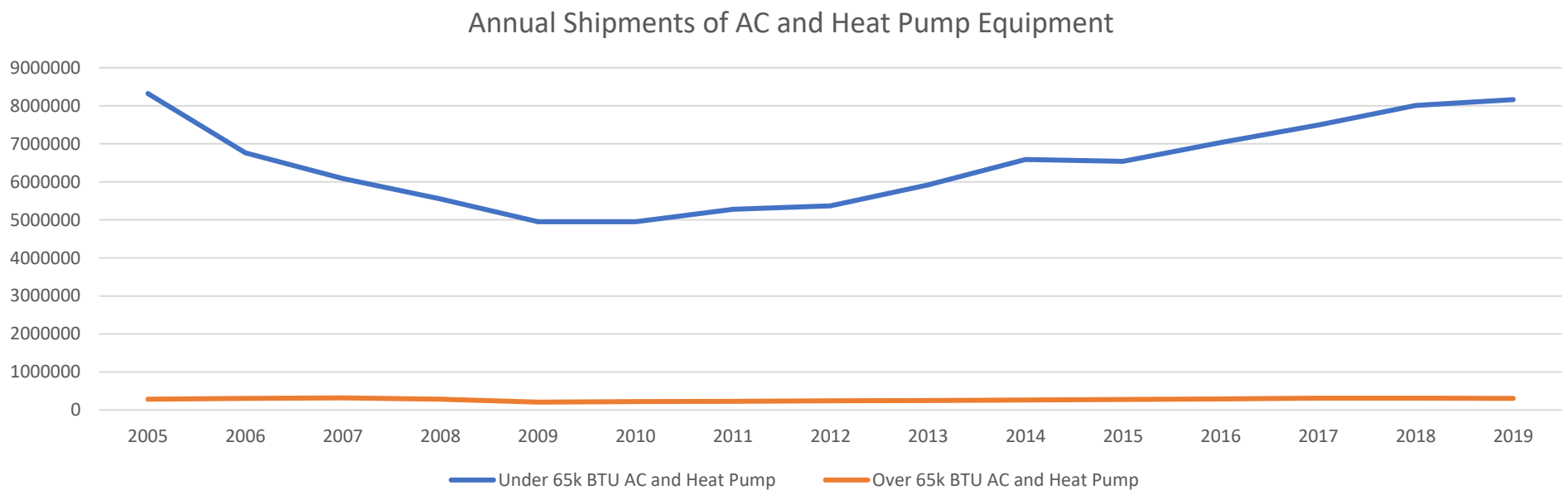
Heating, Ventilation, Air Conditioning, Refrigeration, and Water Heating Industry

Committed to greenhouse gas emission reductions, while promoting sustainable, reliable, and affordable access to essential heating and cooling.

- American Innovation and Manufacturing (AIM) Act estimated to reduce consumption of hydrofluorocarbon (HFCs) by the equivalent of 5 billion tonnes of carbon dioxide by 2035
- Energy efficiency increases estimated to reduce 200 million tonnes CO2 by 2025

AHRI Data

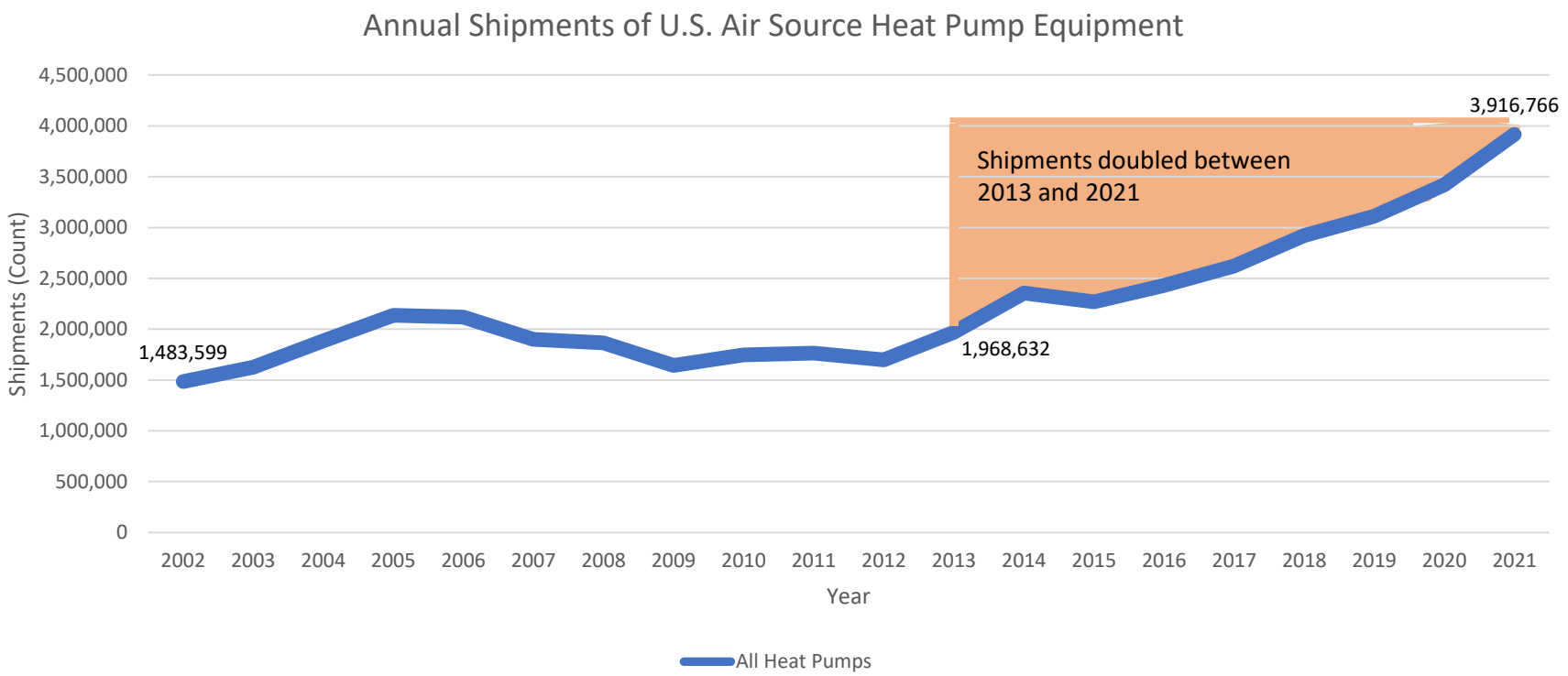
AC and heat pump shipments in the U.S. are mostly residential.



Source: https://ahrinet.org/resources/statistics/historical-data/central-air-conditioners-and-air-source-heat-pumps

AHRI Data

- Heat pumps represent ~38 percent of all CAC/HP shipments and continues to grow.



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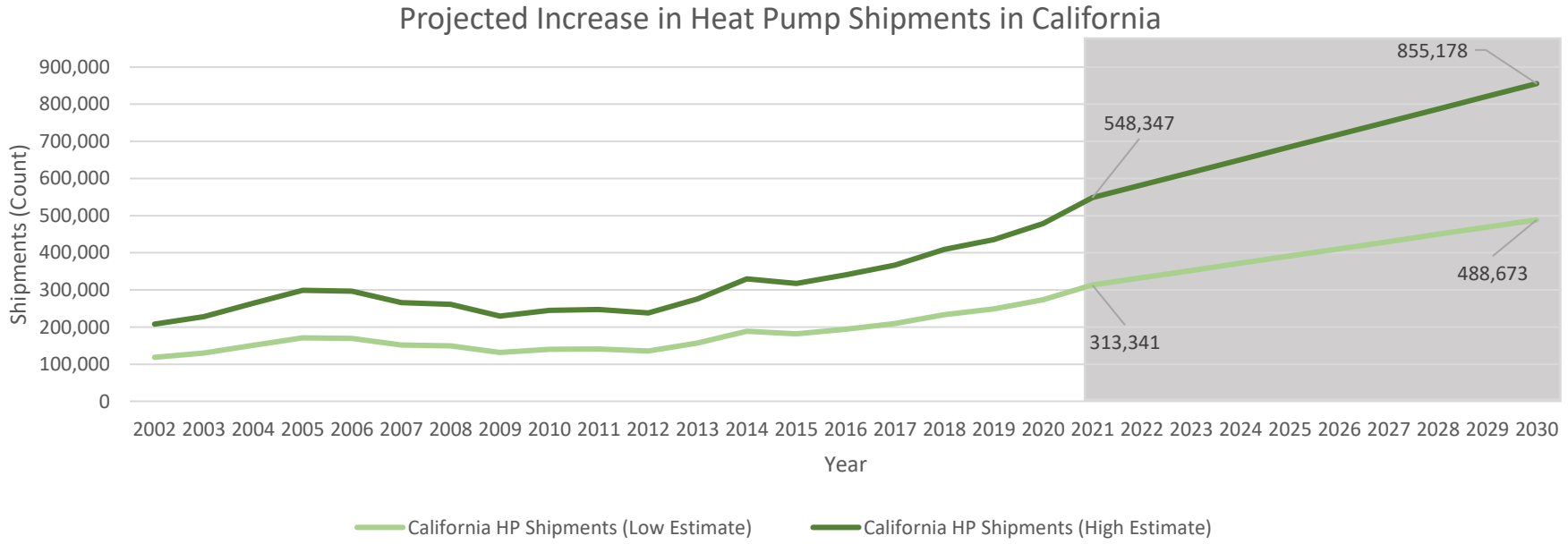
RECS/CBECS Data

- California likely contains ~8-14 percent of all heat pumps installed in the U.S.
- ~350k heat pump units/year are likely currently shipped into California.

Source: https://www.eia.gov/consumption/residential/ and https://www.eia.gov/consumption/commercial/

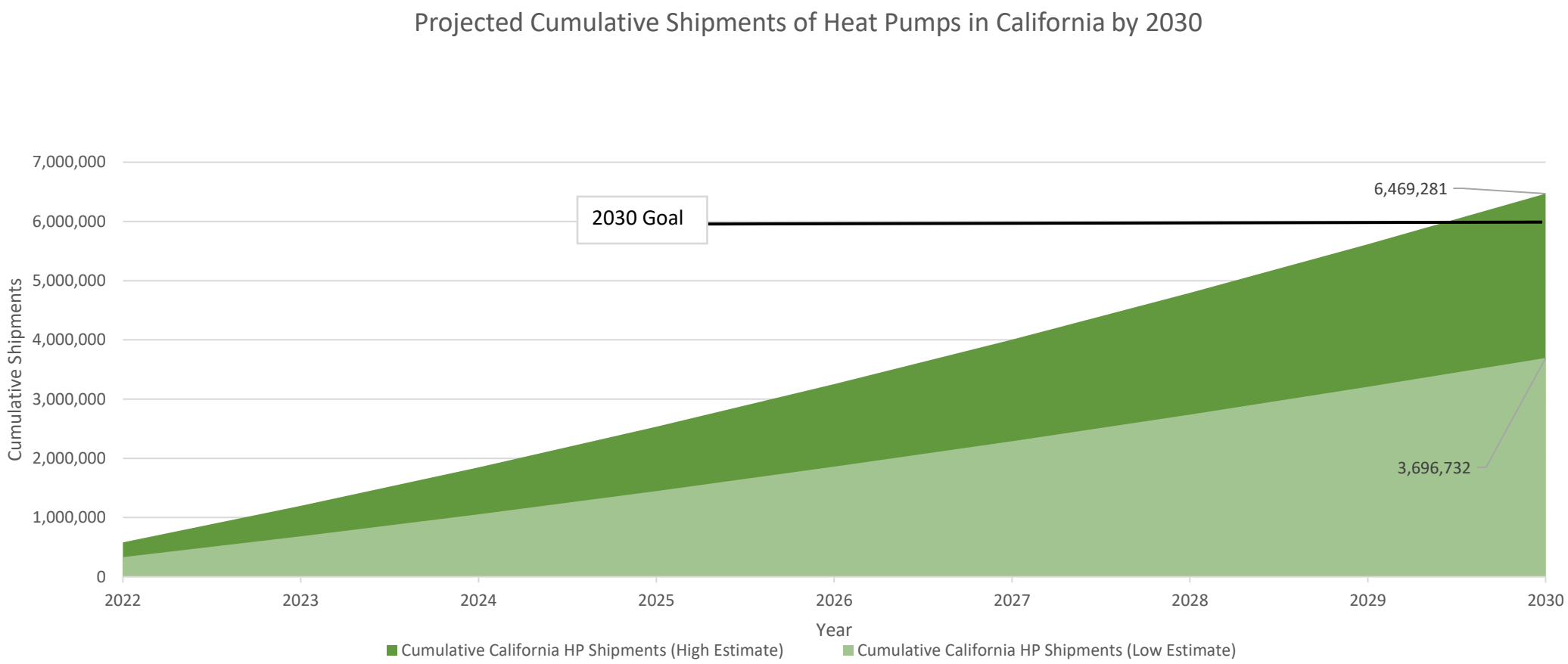
What this means for California

- California's goals of 6M new heat pumps installed by 2030 is ambitious.
- Over the next eight years, manufacturing of heat pumps would need to continue to double to meet California's goal



Can California Reach its Goal?

How do you move from mathematically feasible?



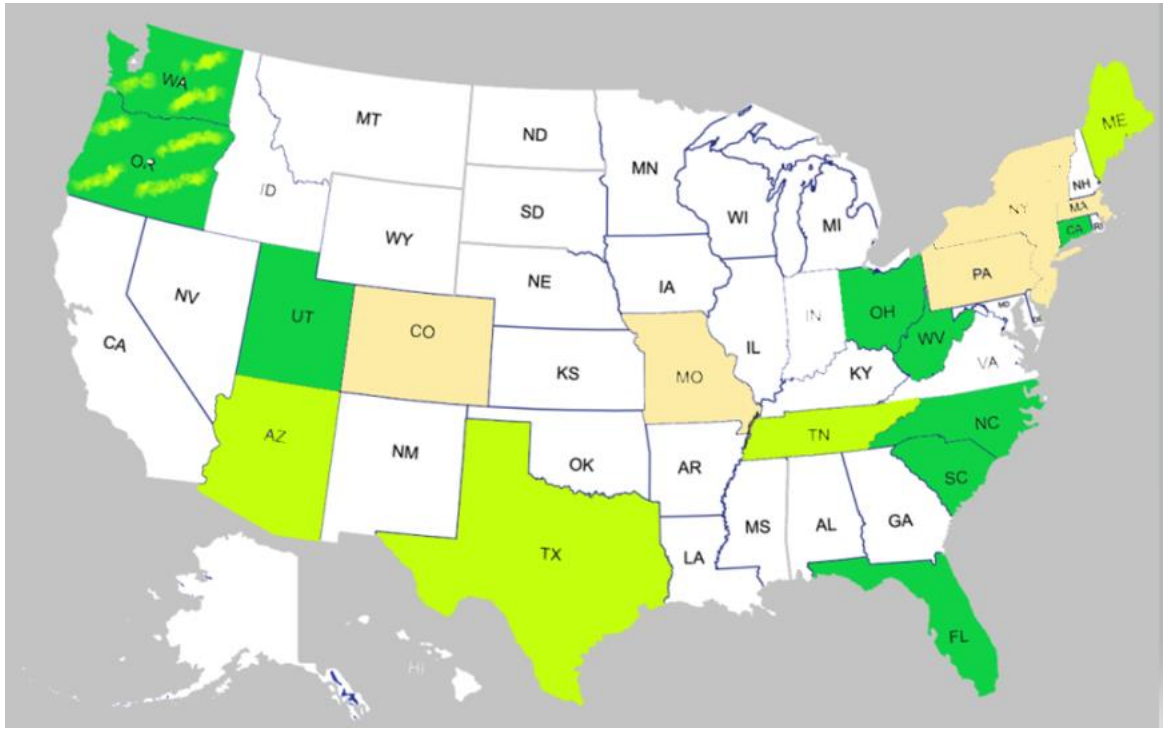
How do we work together?

- How do we ensure that we maintain access to life-saving climate control while reducing carbon footprint?
- How do we address the increased need heat transfer fluid needs during refrigerant transition?
- Will manufacturer capacities increase?

Heat Pump Building Codes

Hundreds of state and local jurisdictions

- Must adopt code changes to enable low global warming potential heat transfer fluids
- Must adopt code changes to allow for existing safety standards to be used past January 1, 2024



What does it take to transition?

- Capital investment decisions
- Identify alternatives
- Development
- Test parts development
- Testing complete systems
- Modify manufacturing process
- Tooling trials and modifications
- Sample systems
- Product testing and approvals
- Orders for mass production
- Production
- Distribution
- Training
- Building code updates
- Etc.

Record-breaking pace of required transitions

Keep the lines of communication open!

- Need for harmonized policies
- Significant planning needed for any transition for the entire supply chain (including a need for training)
- Not all jurisdictions are approaching carbon footprint in the same way

We don’t know what we don’t know ...

- Need space for innovation
- Need policies that can adjust to new information

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Thank-you!