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# CEC HEAT PUMP WORKSHOP

Jason Thomas  
April 5, 2022



# Committed to solving complex challenges

## Healthy Buildings



## Smart Cold Chain



REDUCE OUR CUSTOMERS' CARBON FOOTPRINT BY MORE THAN  
**1 GIGATON.**

### ENVIRONMENTAL



**~68M**  
metric tons of GREENHOUSE  
GAS EMISSIONS AVOIDED from  
products sold and avoided food  
waste in 2020



**17%**  
REDUCTION IN GREENHOUSE  
GAS EMISSIONS since 2015



**44%**  
REDUCTION IN WATER  
CONSUMPTION since 2015



**23%**  
REDUCTION IN HAZARDOUS  
WASTE GENERATION since 2015



**94%**  
Nonhazardous  
WASTE RECYCLED in 2020



# Demand increasing – friction still exists

## Carrier

Heat pumps are available

2005 – 

2011 – 13 HSPF



2018 – Capacity -22F

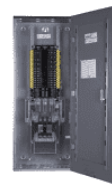


2020 – Service Ease



## Homeowner

Replacement Cost



## Contractor

Point of Sale

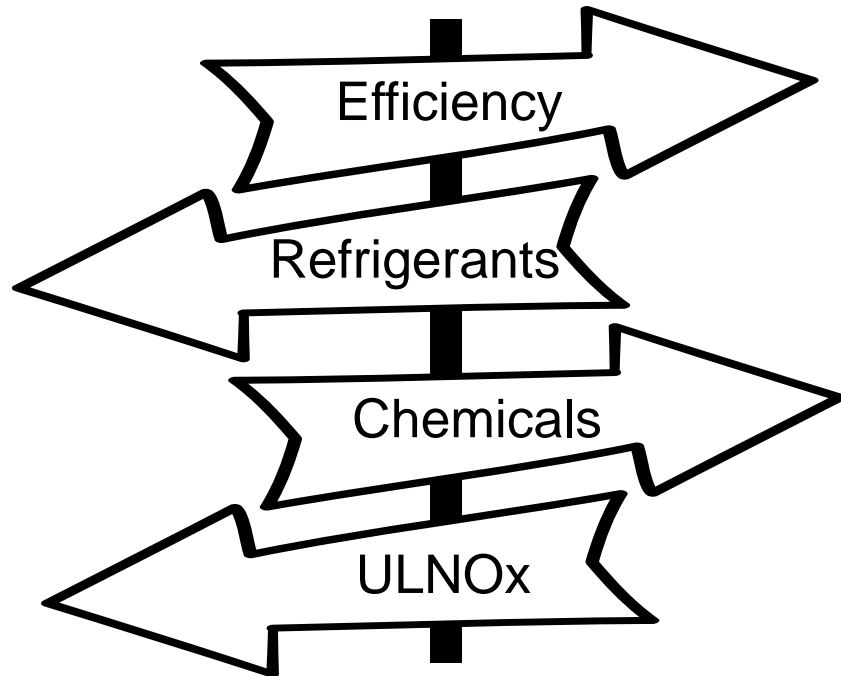


Technician Availability



# Challenges to supply ramp up

## Regulatory Demands



## Manufacturing Capacity



Executing R&D & capital investments to meet market and multiple regulatory demands

# We can achieve this goal

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## Manufacturers

- Continue to advance technology – reduce cost
- Increase manufacturing capacity to meet demand
- Contractor training
- Homeowner education

## California Government & Regulators – Smooth, predictable demand curve

- Consideration of short-term supply chain & logistics issues
  - Align regulatory objectives
  - Set compliance dates that account for capacity ramp up lead times
  - Financial support for contractor training and recruitment
  - Financial support for homeowners to offset increase cost
- Consider dual fuel systems – interim step
- Speed up transition
  - Reduce financial support needed
  - Significant environmental savings



THANK YOU