



# Efficient Electric Technology

City of Healdsburg: Energy, Sustainability and Buildings

September 24, 2019

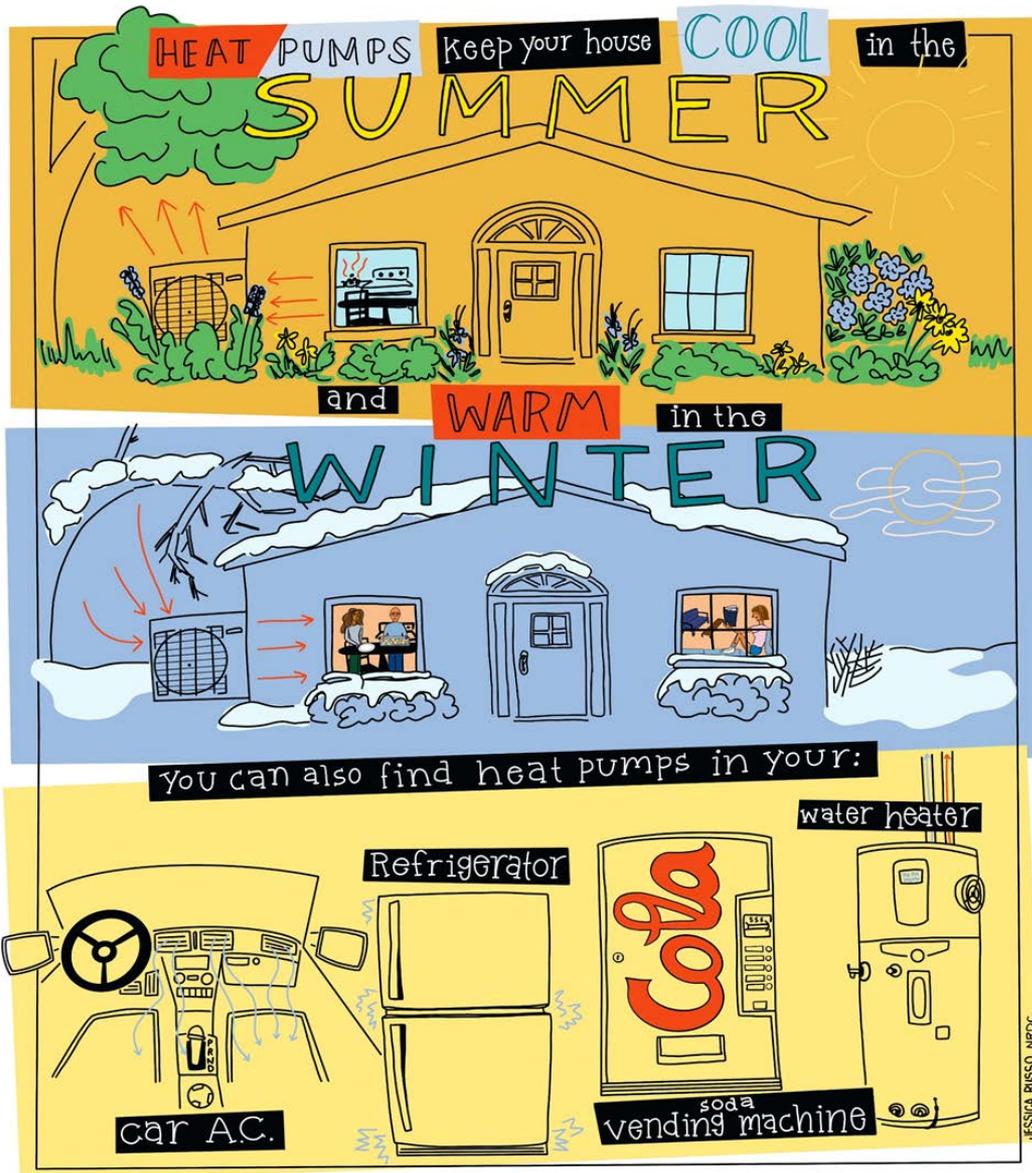
Amy Rider, Archamy Consulting

# What Does Electrification Look Like?



# Space Heating (and Cooling)

# How Do Heat Pumps Work?



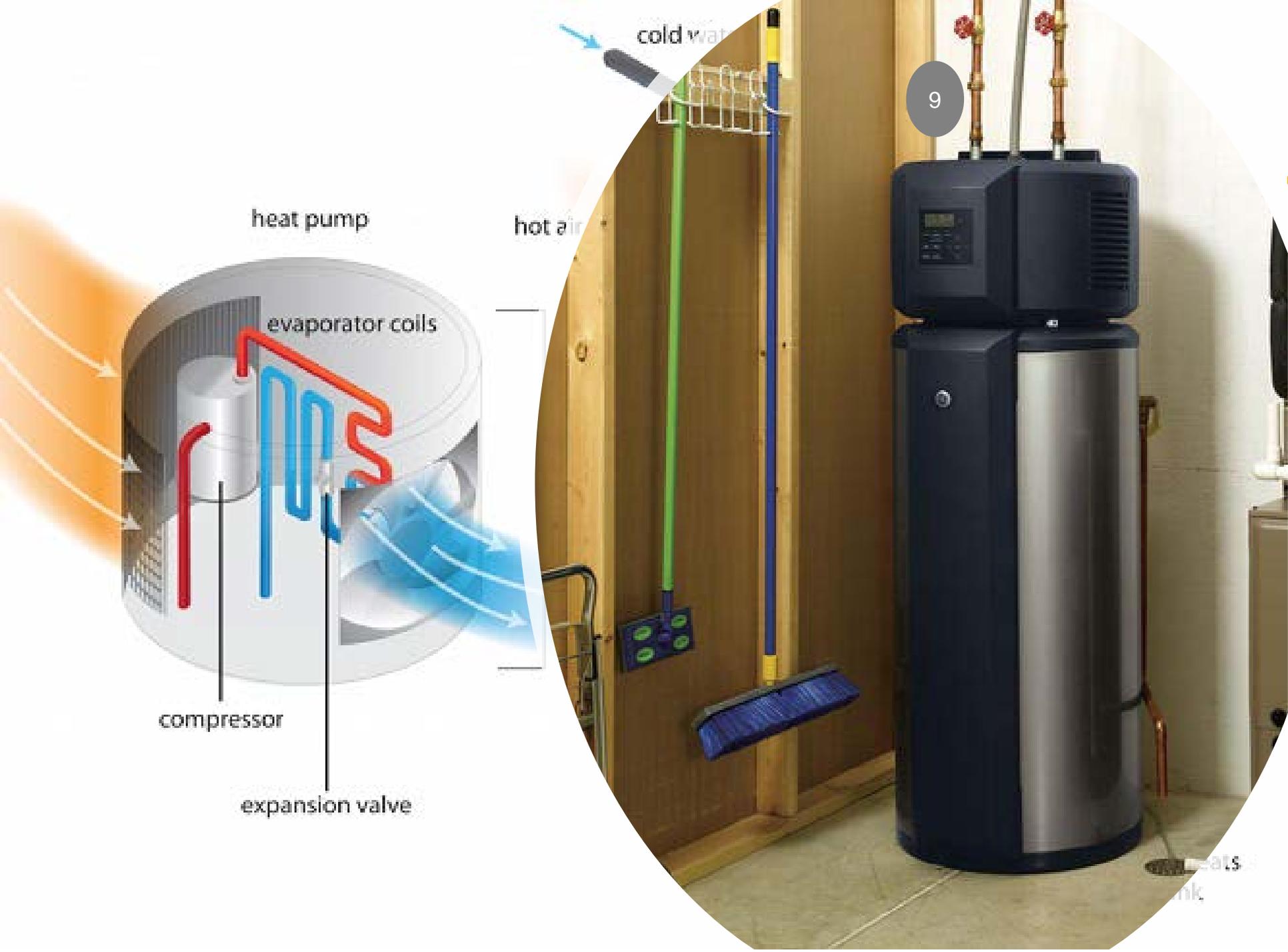
It moves heat from one place to another using refrigerant.

Just like an air conditioner or refrigerator.





# Water Heating



heat pump

evaporator coils

compressor

expansion valve

cold water

hot air

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nk,

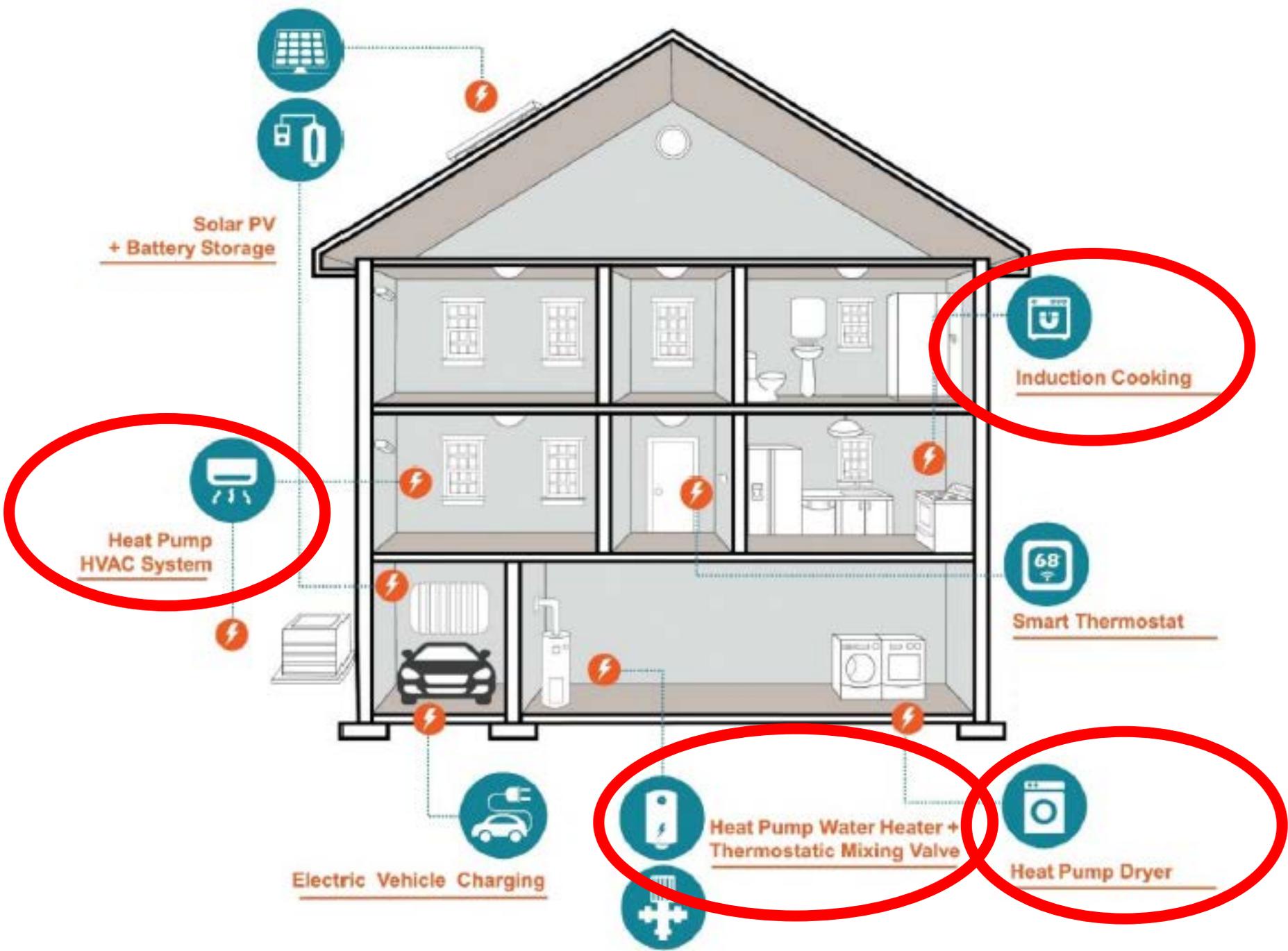
# Clothes Drying



# Cooking



# Electrical System



Solar PV + Battery Storage



Induction Cooking



Heat Pump HVAC System



Smart Thermostat



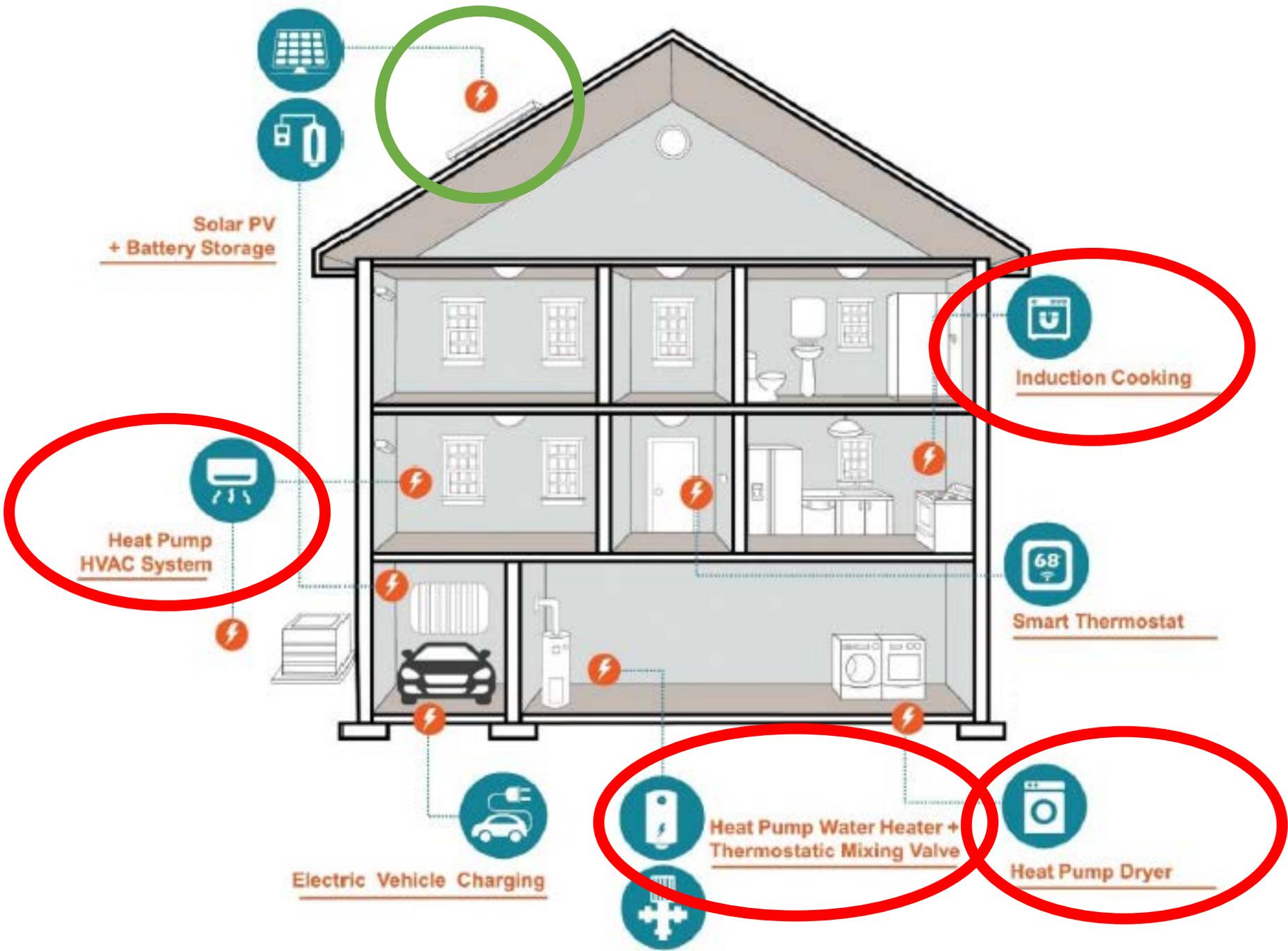
Heat Pump Water Heater + Thermostatic Mixing Valve



Heat Pump Dryer



Electric Vehicle Charging



**Solar PV  
+ Battery Storage**



**Induction Cooking**



**Heat Pump  
HVAC System**



**Smart Thermostat**



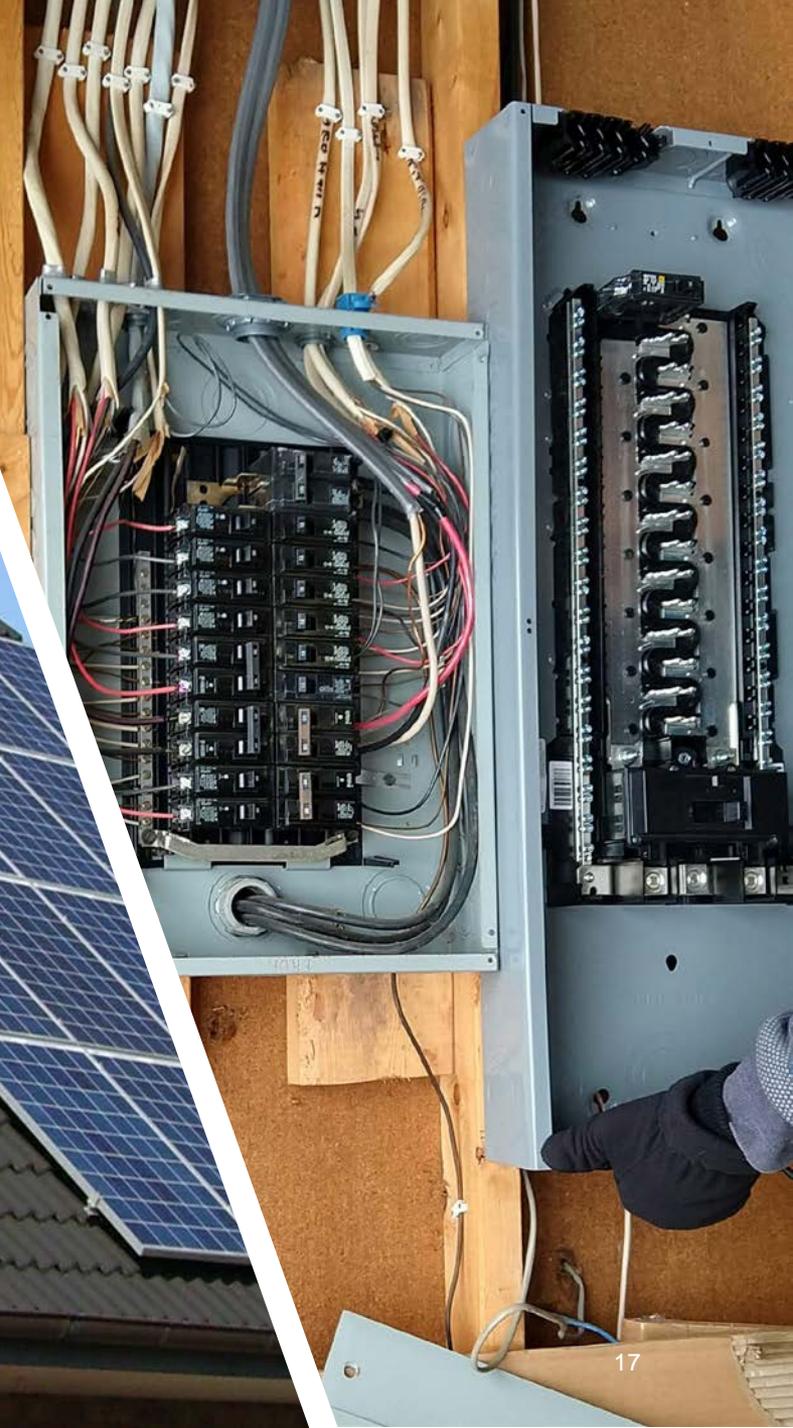
**Electric Vehicle Charging**



**Heat Pump Water Heater +  
Thermostatic Mixing Valve**



**Heat Pump Dryer**



# Questions:

**Get in touch:**

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# California Universities Are Transitioning to All-Electric Buildings

The University of California system and Stanford University are making all-electric buildings the default in new construction.

JUSTIN GERDES | SEPTEMBER 24, 2018



“No new UC buildings or major renovations after June 2019, except in special circumstances, will use on-site fossil fuel combustion, such as natural gas, for space and water heating”

# Casa Adelante, 2060 Folsom, San Francisco

127 Units, under construction



***Mithun:  
“We have  
found first  
costs to be  
neutral for  
all electric  
construction”***

**Developers: TNDC/CCDC, Architect: Mithun & YA Studio, Association for Energy Affordability  
Central Heat Pump Water Heating**

# Cascade Apartments, Seattle

230 Units, 44 floors. At 95% Construction Docs.



**Developer is Vulcan, Ankrom Mosian  
Architects,  
Engineering by Ecotope**



# All Electric Restaurants at LAX

## Bradley Terminal

**BUILT**  
[CUSTOM BURGERS]



**800°**  
DEGREES  
neapolitan pizzeria



*Border Grill*



**FRESH BROTHERS**  
PIZZA-SALAD-WINGS



**EARL OF SANDWICH**



**ciabatta bar**

