

Setting the Stage

## ACT 1: THE HEAT PUMP WATER HEATER PILOT



### BACKGROUND

Electrification is especially of interest to the City of Palo Alto Utilities (CPAU) as we offer 100% carbon neutral, low cost electricity.

### WHY ELECTRIFY?

Electrification is the shift from fossil fuels to electricity for heating/cooling, heating water, transportation, and cooking to reduce carbon emissions. Palo Alto has an aggressive goal to reduce greenhouse gas emissions 80 percent below 1990 levels by the year 2030 ("80x30"). One way we hope to achieve this goal is through electrification.

### PILOT OBJECTIVES

To gauge customer interest in electrification, promote heat pump water heaters (HPWHs), and gather feedback on the retrofit process and performance of HPWHs.

### THE REBATE

In spring 2016, CPAU launched a rebate for HPWHs offering up to \$1,500 to replace gas storage water heaters.

### HPWH PILOT RESULTS

#### PARTICIPATION RATES

To date, 5 customers have participated.

#### REASONS FOR PARTICIPATING

- Carbon footprint reduction
- PV installation
- Safety



# PILOT INSIGHTS

## CONSUMER BARRIERS & LESSONS

- Low awareness of HPWHs
- Limited number of updated reviews
- Where to buy?
- Gas is cheap
- Higher costs
  - Discrepancy in installation quotes
  - Potential electric panel upgrade
  - Potential for higher electric rates
- Installation logistics
  - Needs space and condensate drain
  - Finding a contractor to do plumbing and electrical work
- 😊 Once installed, customers are happy

## CONTRACTOR BARRIERS & LESSONS

- Little familiarity with product
- Little familiarity with installation
- No incentive to encourage adoption
- Unable to help interested customers

# CONCLUSION

Based on initial findings, electrification is not straightforward and is not necessarily cost effective. However, CPAU is committed to supporting market transformation - manufacturers, distributors, contractors, other cities and utilities - to get everyone on board and to work with regulators to help them develop policy that is in line with the State's carbon reduction goals.

# THE FUTURE

Build up the consumer value proposition by emphasizing environmental benefits

## CONTRACTOR SUPPORT

Workshops for professionals  
Training resources for contractors - coordinate with manufacturers and NEEA

## CUSTOMER AWARENESS

Create electrification landing pages  
Bill inserts  
Case studies  
Customer workshops  
Concierge service for residents: on-demand support for entire process

## CUSTOMER TARGETS

New construction  
Multi-family and commercial customers  
Single-family - particularly those who have PV/EV and those planning to install PV systems  
Bulk buy & bundling HPWH with rooftop PV

## ADVOCACY

Streamline permitting process  
Evaluate rate plan  
Work with other cities and the CEC  
Collaborative research on HPWHs



## STAY TUNED FOR ACT 2:

Small/medium commercial HPSH/HPWH pilot under consideration