

# ACEEE HWF

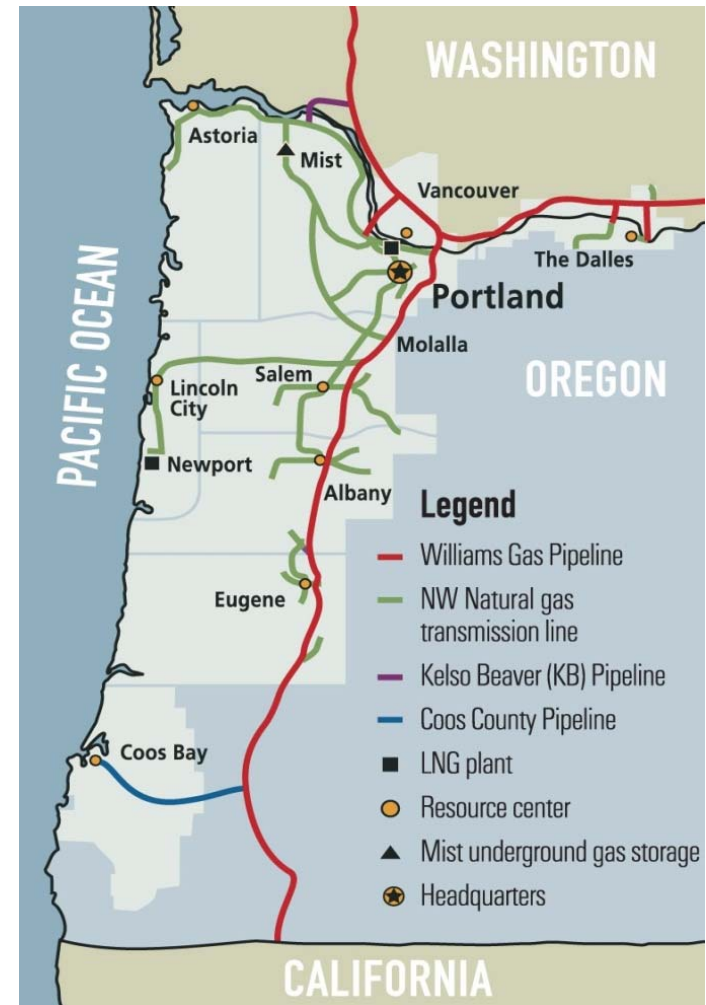
## 6A. Residential Gas Heat Pump Water Heaters

Holly Braun  
March 13, 2019



# NW NATURAL BACKGROUND

- Largest independent natural gas utility in the Pacific Northwest
- 2M customers // 1,200 employees
- Headquarters in Portland, OR
- Usage/revenue decoupled
- First natural gas utility with carbon offset program
- Efficiency and market transformation programs delivered by third parties: Energy Trust of Oregon & NEEA



# WHY GAS UTILITY FOCUS ON GAS HEAT PUMPS?





# A LOW CARBON FUTURE

We believe there is a climate imperative

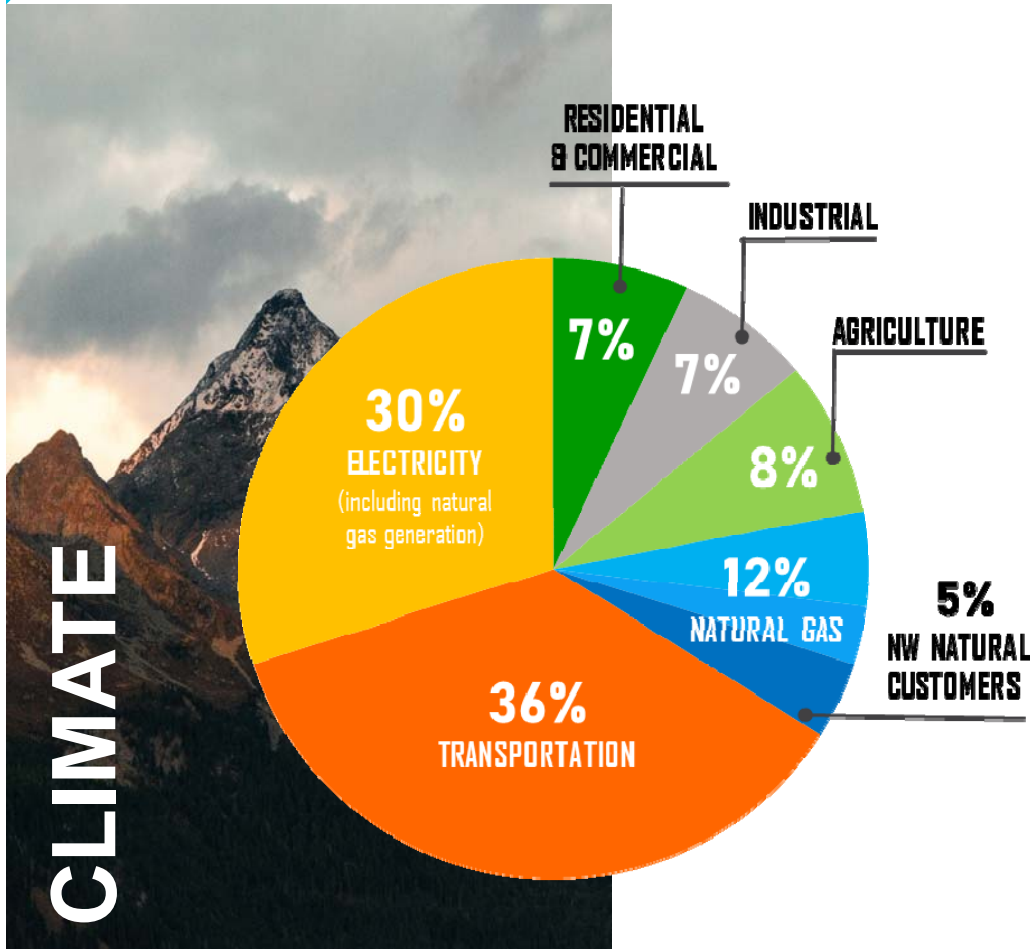
NW Natural has an important role to play in a smart and affordable Northwest climate strategy

## OUR OBJECTIVES:

- 1** Long-term goal of deep decarbonization that leaves no one behind.
- 2** Reduction opportunities take advantage of the infrastructure in place.
- 3** Lead the way on natural gas innovations and share broadly for larger impact.

CLIMATE

# NWN SYSTEM HIGHLY EFFICIENT



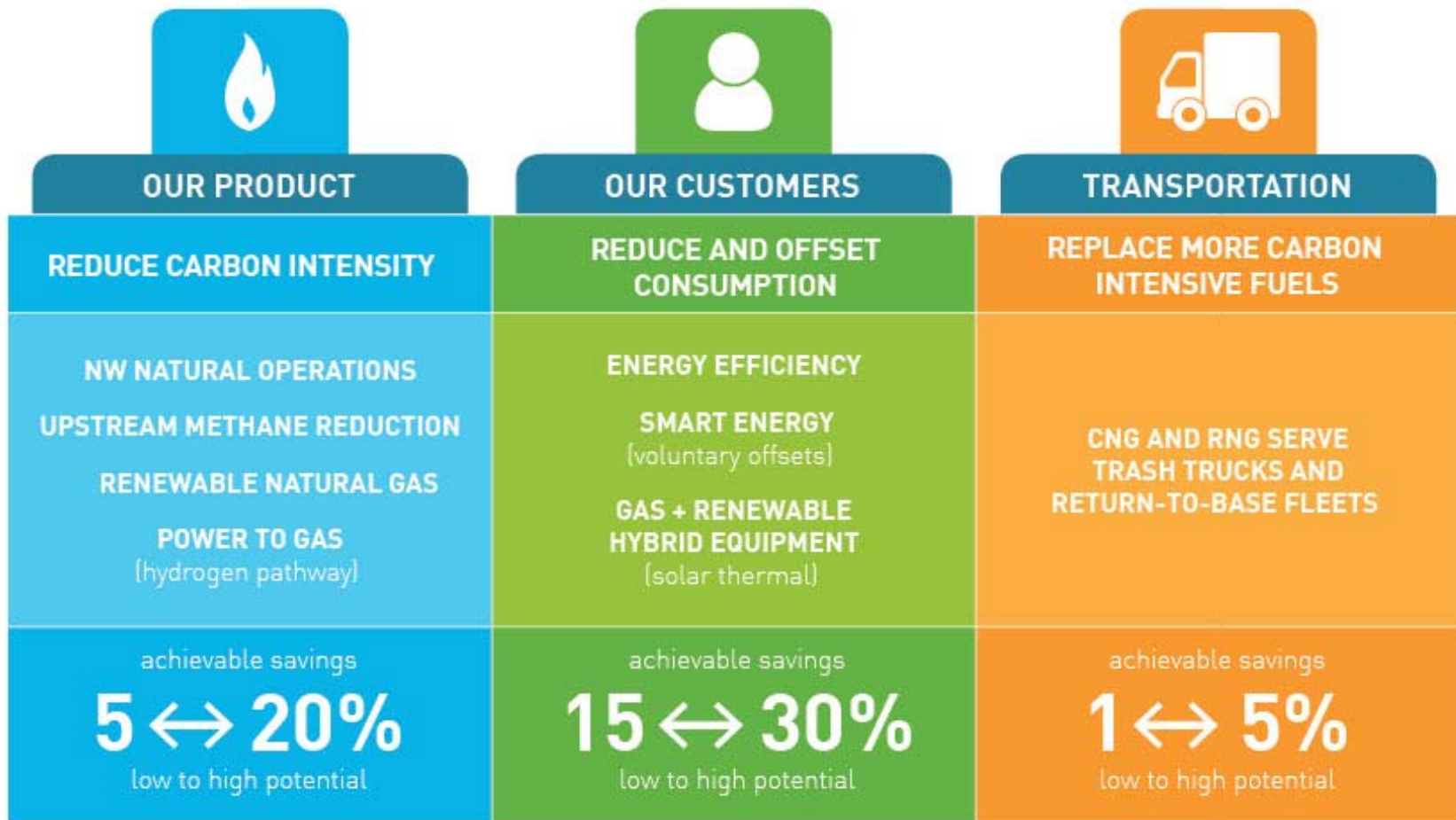
OREGON 2015 DEQ  
IN-BOUNDARY GHG INVENTORY

## NW Natural's System

- Heats 74% of residential square footage in the areas we serve
- Provides 90% of peak day energy needs for our residential space and water heat customers
- Accounts for 8% of Oregon's total GHG emissions



# LOW CARBON PATHWAY 2035



# GAS WATER HEAT DECLINING IN NEW HOMES

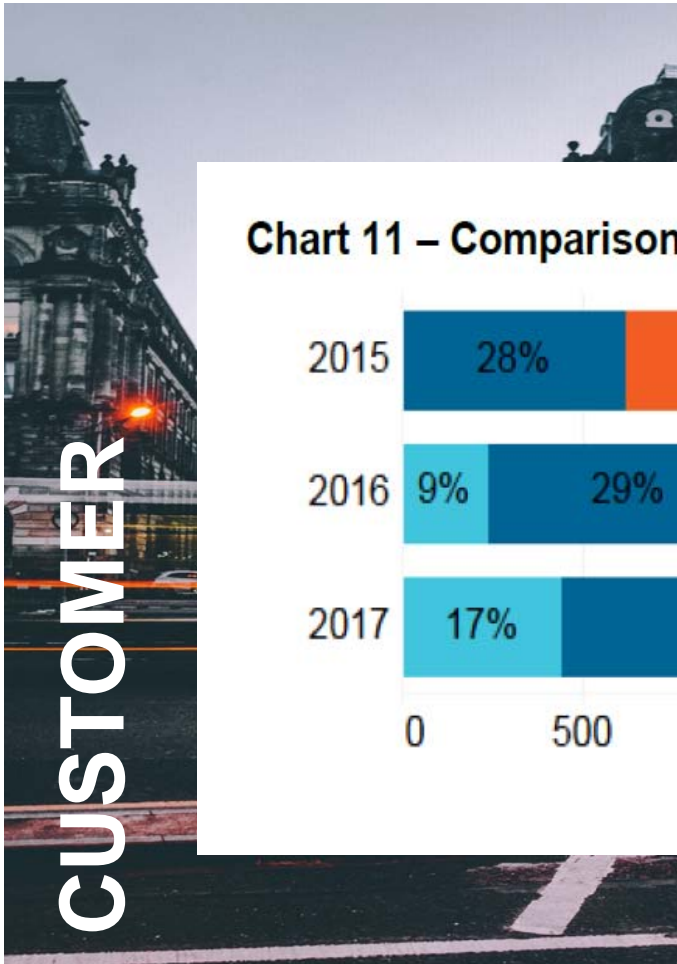
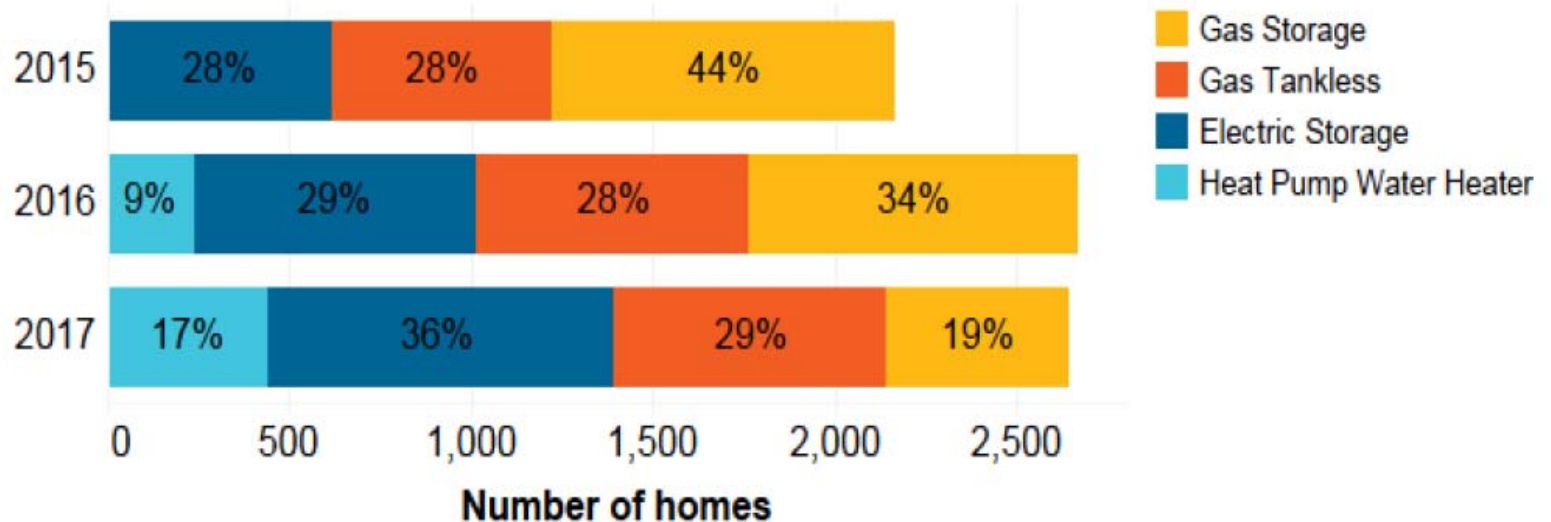


Chart 11 – Comparison of water heating types for homes with gas furnaces



# HOMEBUYER PREFERENCE FOR GAS IS STRONG



**87%** of Recent and Prospective Homebuyers Say Natural Gas is Important and Somewhat Important

**56%**  
IMPORTANT

**31%**  
SOMEWHAT

**10%**  
NOT VERY

**2%**

CUSTOMER

- Engaged Market Strategies International
- Study conducted during February and March, 2016
- Surveyed a representative sample of consumers who recently bought or planned to buy a home in NW Natural service territory
- Utilized Discrete Choice Modeling



# AFFORDABLE DECARBONIZATION



Energy+Environmental Economics

- NWN hired E3 to perform Deep Decarbonization study: how to achieve 80% reduction in carbon emissions by 2050 in light of peak winter demand
- Four different scenarios assessed: all possible to achieve deep decarbonization
- Had these areas in common:
  - Energy efficiency and conservation
  - Vehicle electrification
  - Displace carbon fuels with low carbon fuels
  - Reduce non-combustion GHG's
- **Gas heat pump scenario lowest cost to the economy and electric sector!**
  - Gas HP \$2.5B; Gas furnace \$4B; Cold-climate HP \$6B and Electric HP \$12B due to increased generation necessary to accommodate for peak demand

CLIMATE



NW Natural

# RESOURCES



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[Pacific Northwest Pathways to 2050  
Pathways summary  
www.lesswecan.com](#)

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