

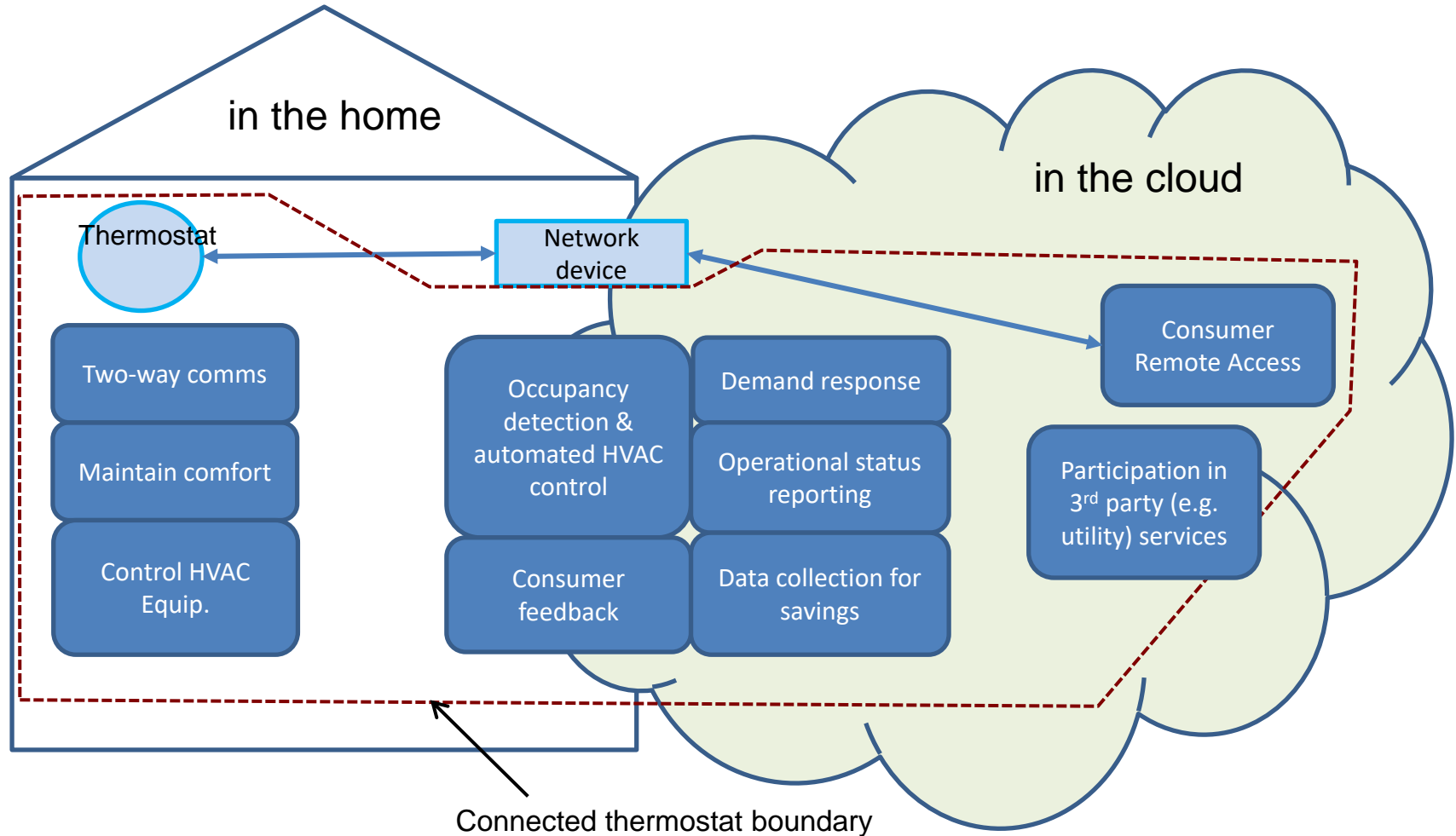


# ENERGY STAR® Smart Thermostats

## Welcome & Update

Abi Daken, U.S. EPA  
2017 ENERGY STAR Partner Meeting  
Chicago, IL  
October 25, 2017

# What do we mean by smart thermostat?





## The Service and its Energy Use

- Fundamental service: HVAC systems control for comfort
  - Use the least energy to do so, by the way
  - And make it convenient
- ***Large*** savings potential
- How to measure energy saved?



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  - Lab test



## The Service and its Energy Use

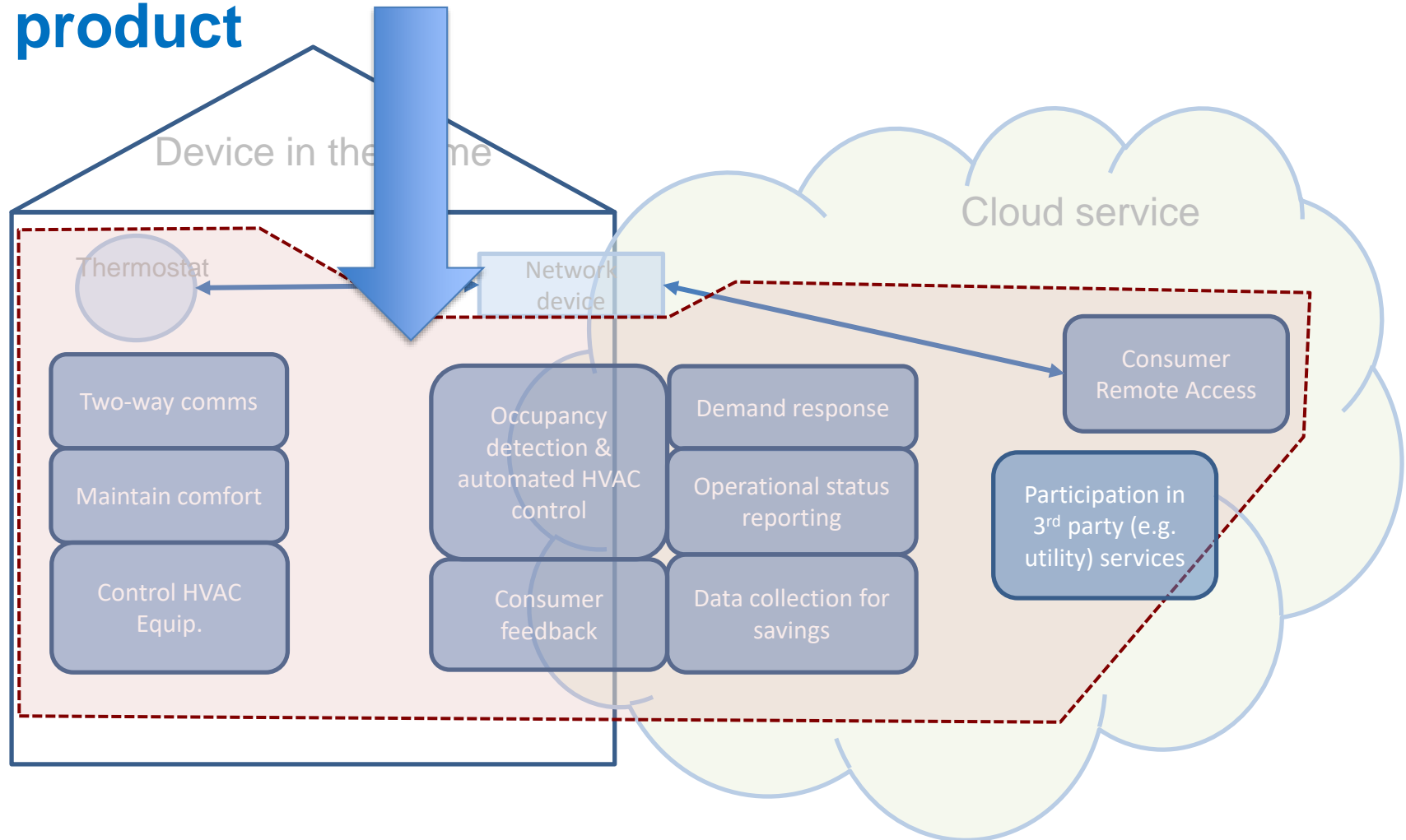
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  - Rely on features (programmability)



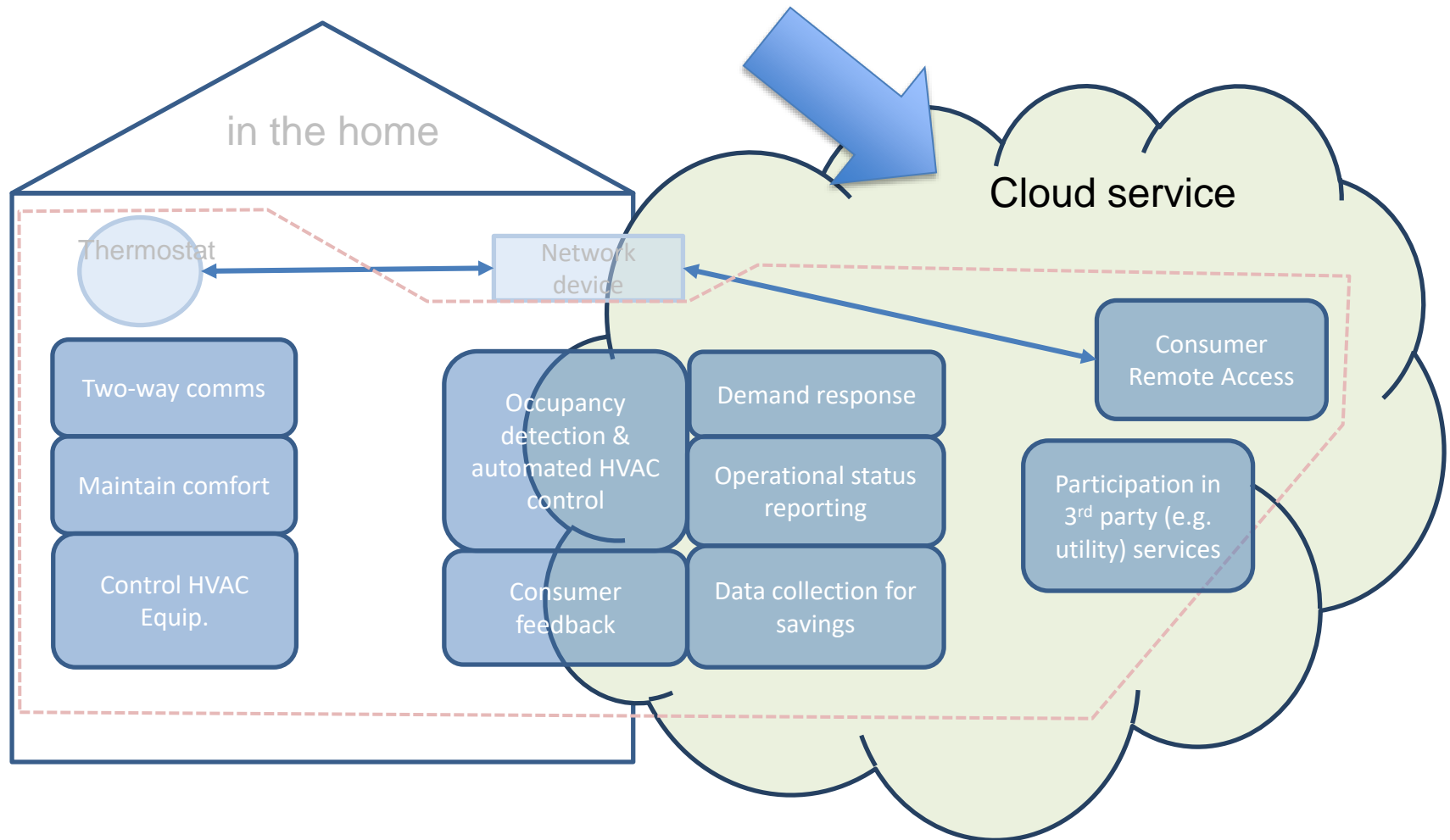
## The Service and its Energy Use

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  - **Providers now HAVE DATA reflecting user choices and interactions!**

# Hardware + Service is the ENERGY STAR product

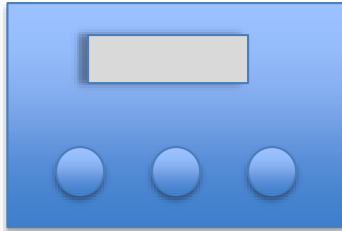


# Service Provider is the ENERGY STAR Partner

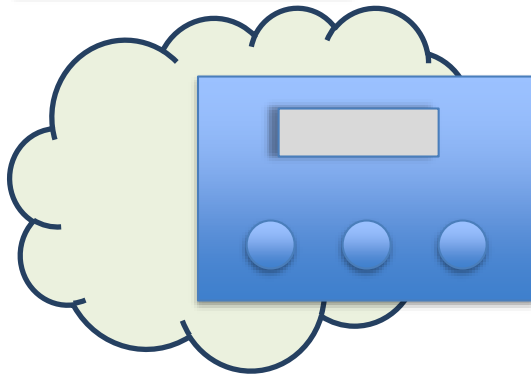




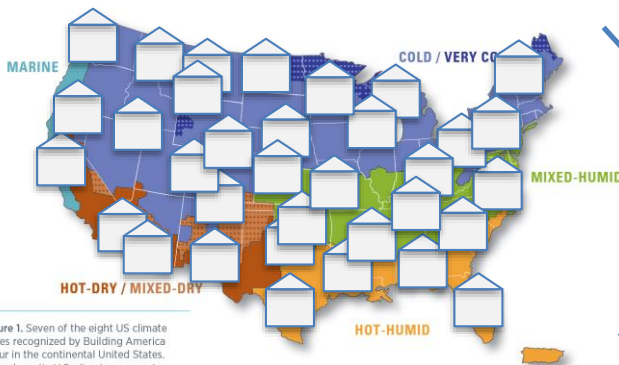
# Earning the ENERGY STAR



1. Thermostat device passes basic tests



2. Thermostat product demonstrates basic capability



Heating savings

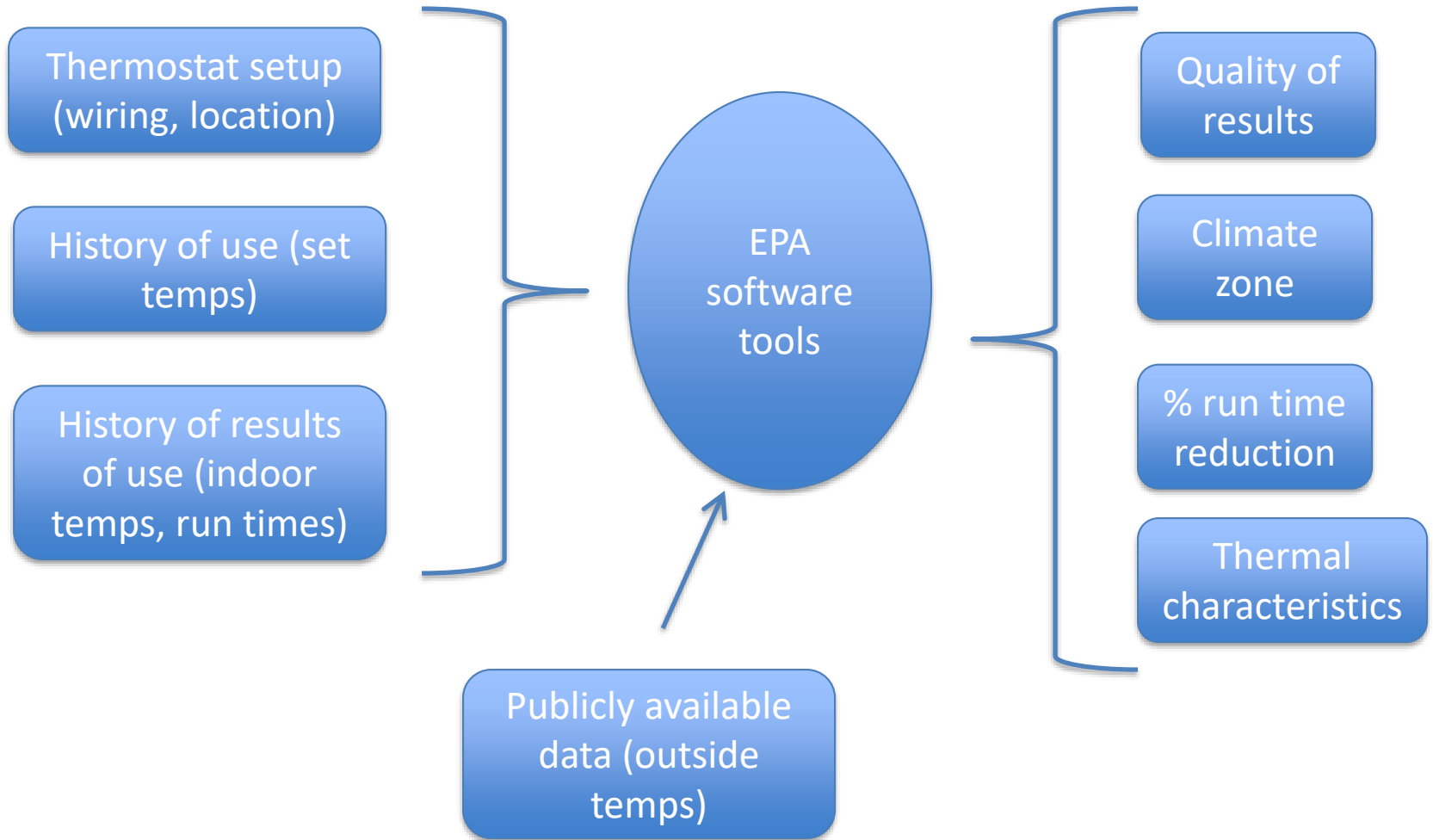
Cooling savings

3. Demonstrate field savings using EPA software tools to analyze and aggregate data from hundreds of US homes

Figure 1. Seven of the eight US climate zones recognized by Building America occur in the continental United States. Source: EPA. US climate zones not shown.



# Metric For Each Home



# For Sample of Hundreds of Homes

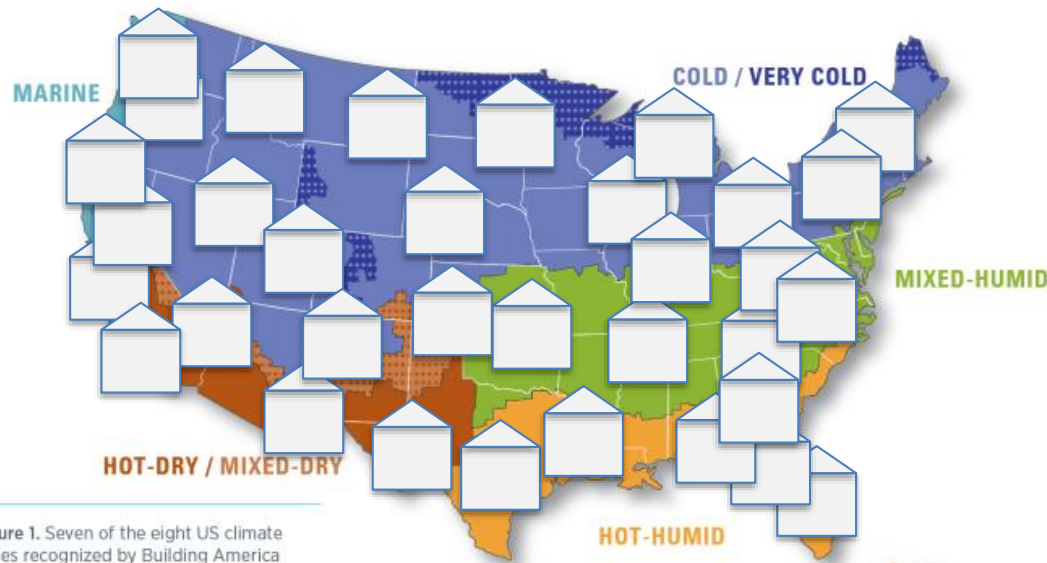


Figure 1. Seven of the eight US climate zones recognized by Building America occur in the continental United States. The sub-arctic US climate zone does not.

- Cold/Very Cold
- Marine savings
- Mixed Humid
- Hot Dry/Mixed Dry
- Hot Humid savings
- Weighted average National savings
- Statistical information: deciles, standard error of the mean, etc.



## Advantages of ENERGY STAR approach

- Not HOW energy savings are achieved, just WHETHER they are
- Accommodates wide variety of products
- Can credit savings achieved through services
- Wide scope for innovation, including behavioral