Adjusting to a Carbon Constrained World: Rating the Carbon Foot Print of Buildings

February 19, 2008

The Focus of This Presentation

- Cradle to Grave
  - Constructing a Home
  - Using a Home
  - Deconstructing a Home
- My Focus: The Carbon Created While “Using a Home”
- Specifically How the HERS Methodology Might Need to Change to Capture This

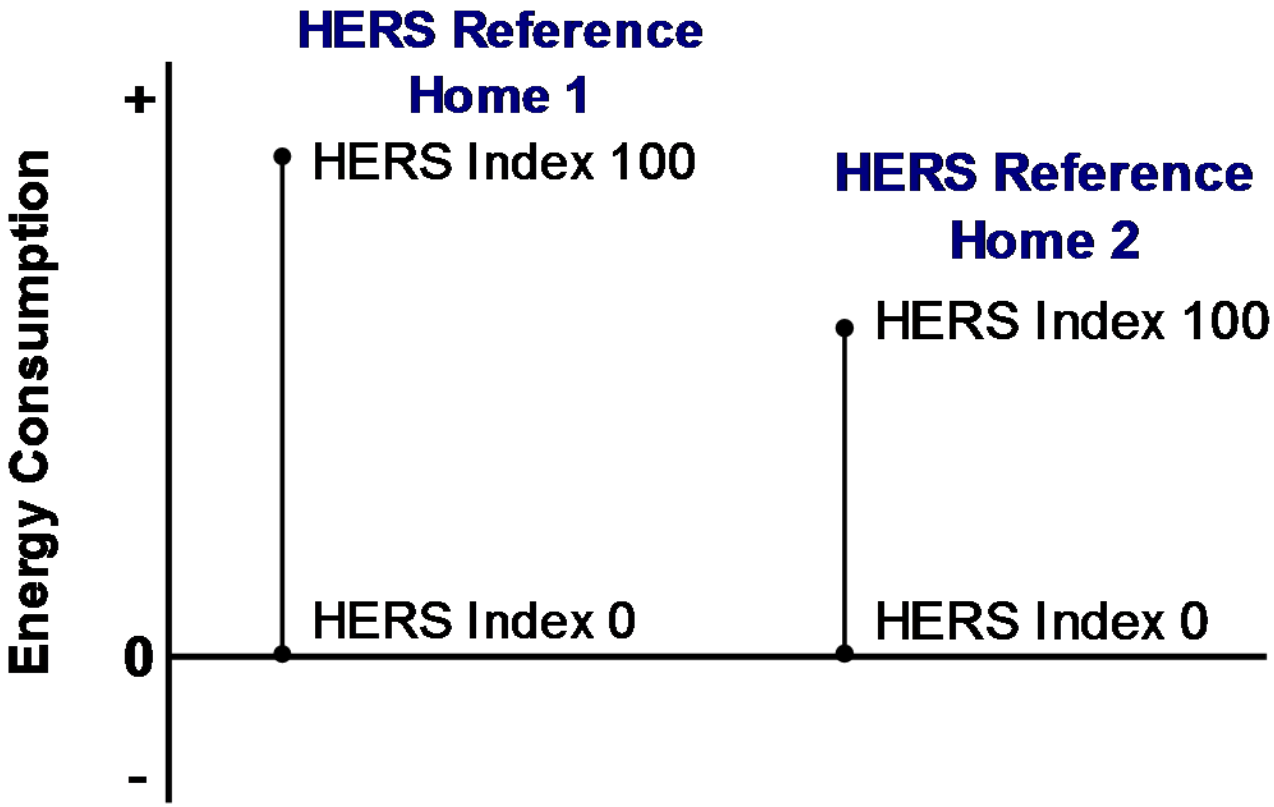
Relative vs Absolute Performance

Which is More Relevant for:

- Designing a New Home?
- Communicating to a Home Owner?
- Assessing the Performance of an Existing Home?
- Monitoring and Verification?
- Carbon Trading?

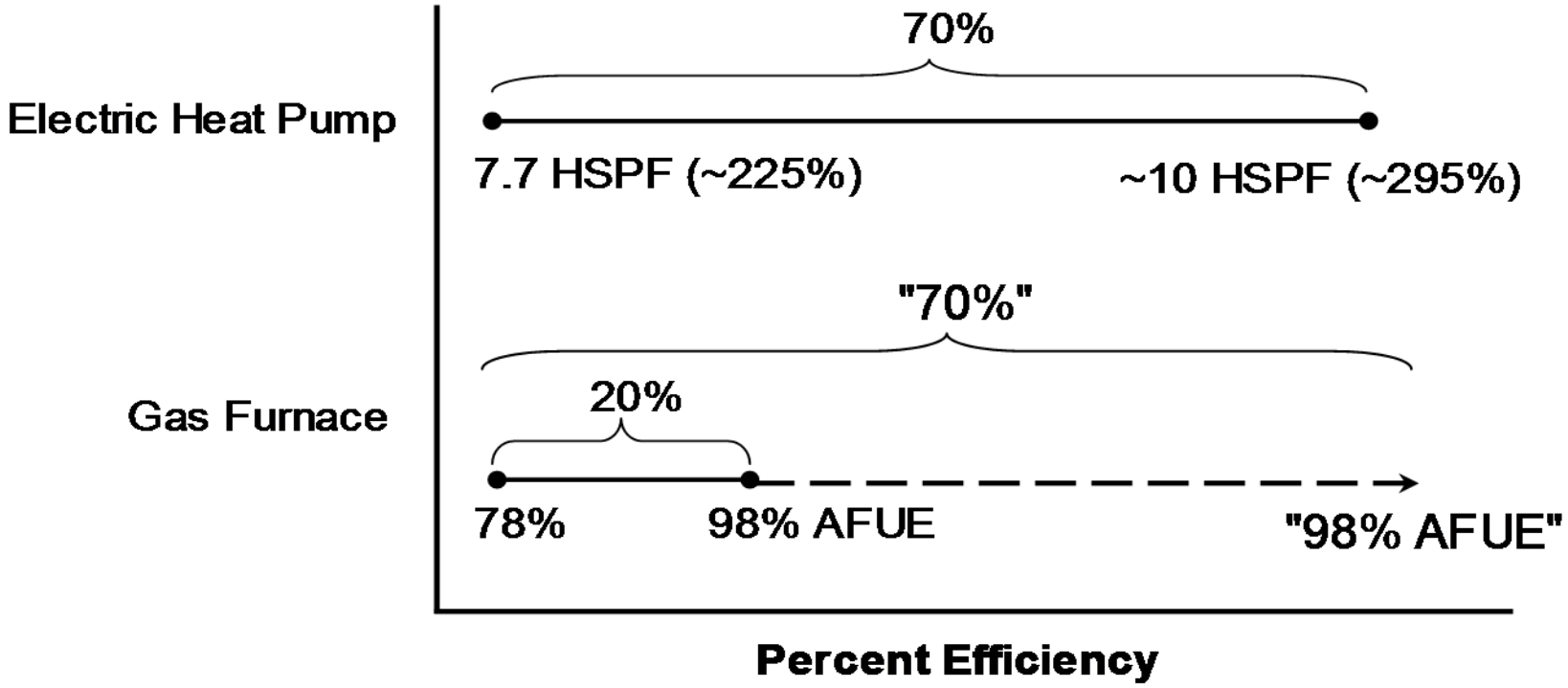
How Do We Do It Now?

- HERS Index?



How Do We Do It Now?

- Normalized Modified End Use Loads (nMEUL)



What Do We Need?

- Absolute Measurement
- 1) Metric – Carbon
- 2) Modeling Methodology – HERS
    - With Modifications to Equal the Rated Home
- 3) Reference Home – Variable (2006 code, 2020 code, etc)
- 4) Feedback Loop – M&V to Improve Modeling

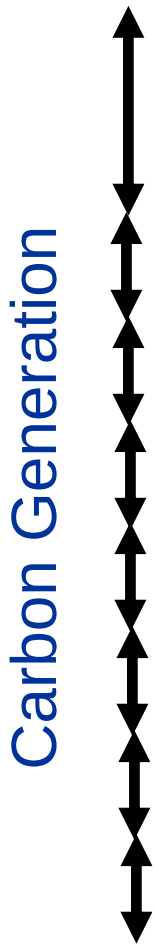
What Do We Need?

What Do We Measure?

- 1) HVAC
- 2) DHW
- 3) Lighting
- 4) Appliances
- 5) On Site Generation
- 6) Occupant Driven Consumption
    - Plug Loads
    - Cooking

So What Do We End Up With?

Occupant Behavior
Other Plug Loads
Home Electronics
On Site Generation
Appliances
Lighting
DHW
HVAC
House Characteristics



Meters, Occupant Behavior

Standards, ENERGY STAR

Codes

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