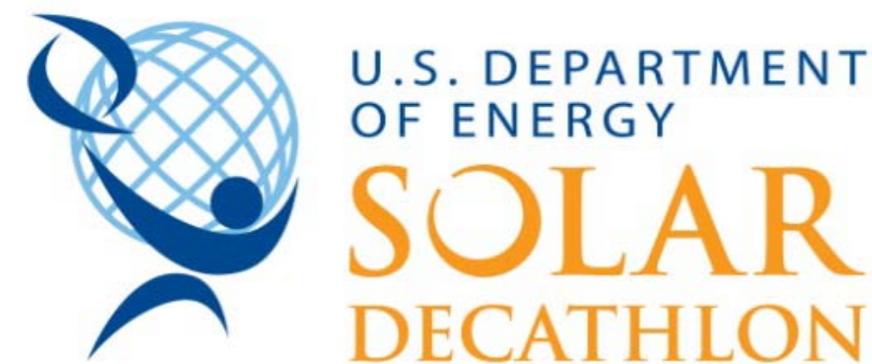


The New Class of Affordable Solar Housing

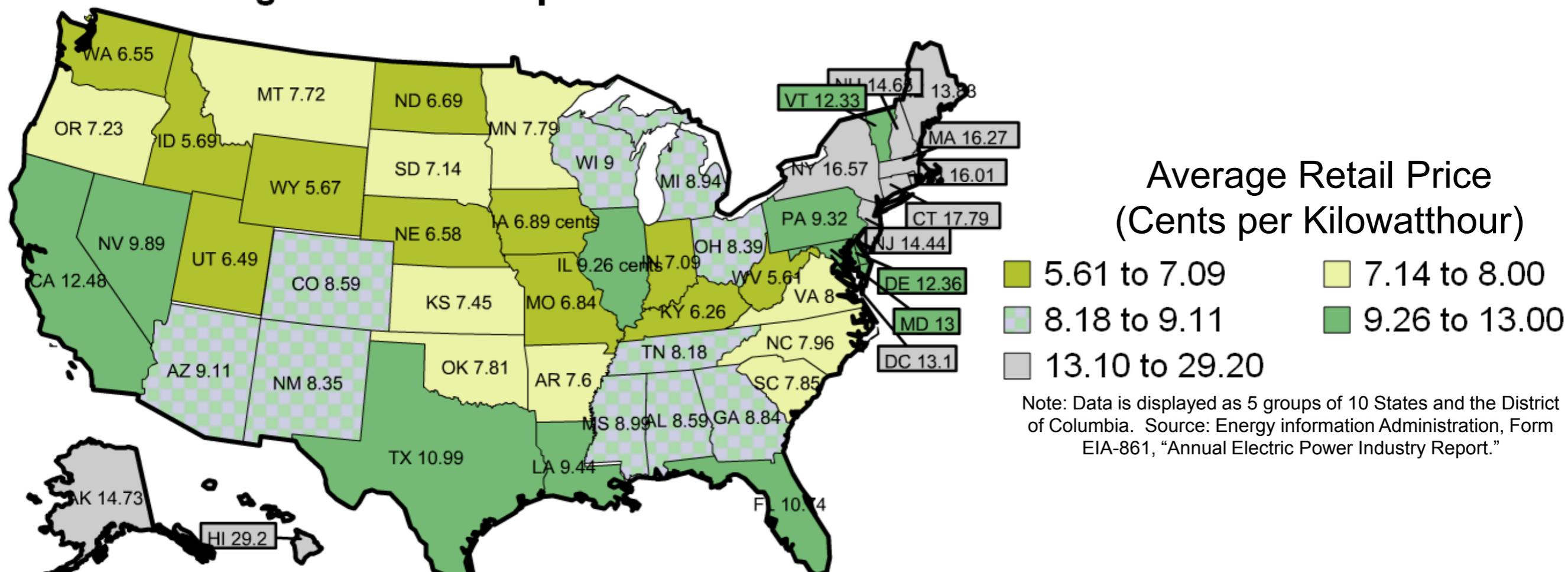
PURDUE
UNIVERSITY



Indiana is known for:

2008 State Electricity Profiles

U. S. Average Retail Price per Kilowatthour is 9.74 Cents



7.09 Cents per Kilowatthour



INhome Guiding Principles

1. Minimize the energy needs of the home without sacrificing modern comforts.
2. Maximize the energy efficiency of those modern comforts.
3. Keep the project cost within budget.

Minimizing the INhome Energy Needs

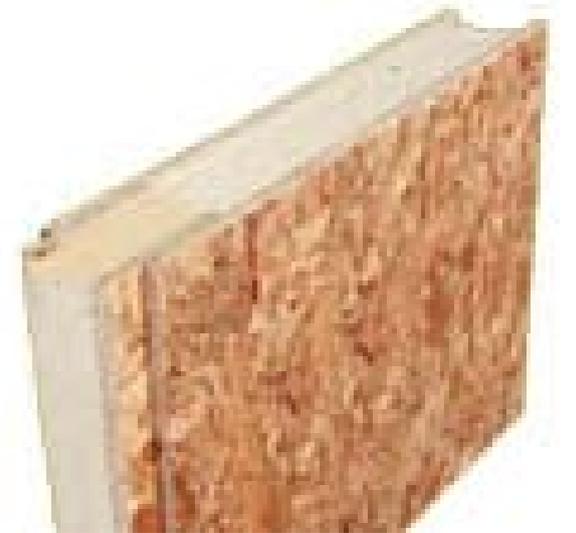


Minimizing the INhome Energy Needs



Minimizing the INhome Energy Needs

- High Performance Thermal Envelope
 - Structural Insulated Panel (SIPS)
 - Airtight Building Envelope
 - High Performance Windows & Doors
 - Low E with $<.28$ Solar Heat Coefficient
 - Solar Shading

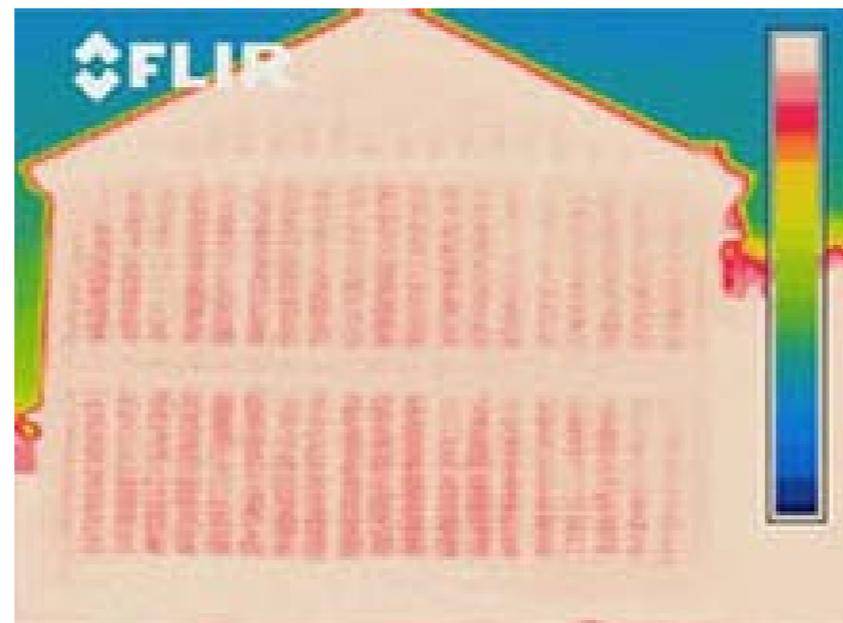


Minimizing the INhome Energy Needs

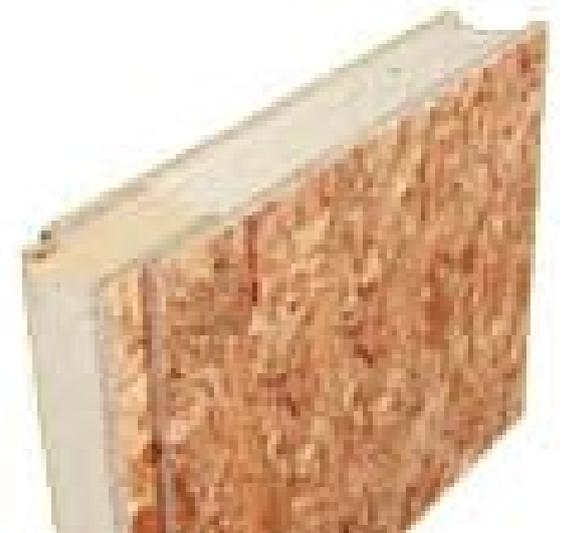


SIPS Built

vs



Stick Built



Maximize the INhome Energy Efficiency

- High Efficiency INhome Systems

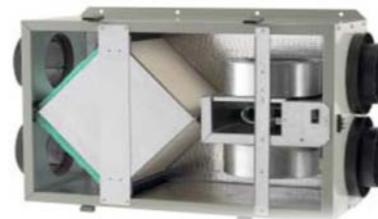


Trane XL20i 2-ton Heat Pump



FreshEffects™ Energy Recovery Ventilator

TERVR100A9P00A
TERVR200A9P00A
TERVR300A9P00A



Trane Energy Recovery Ventilator



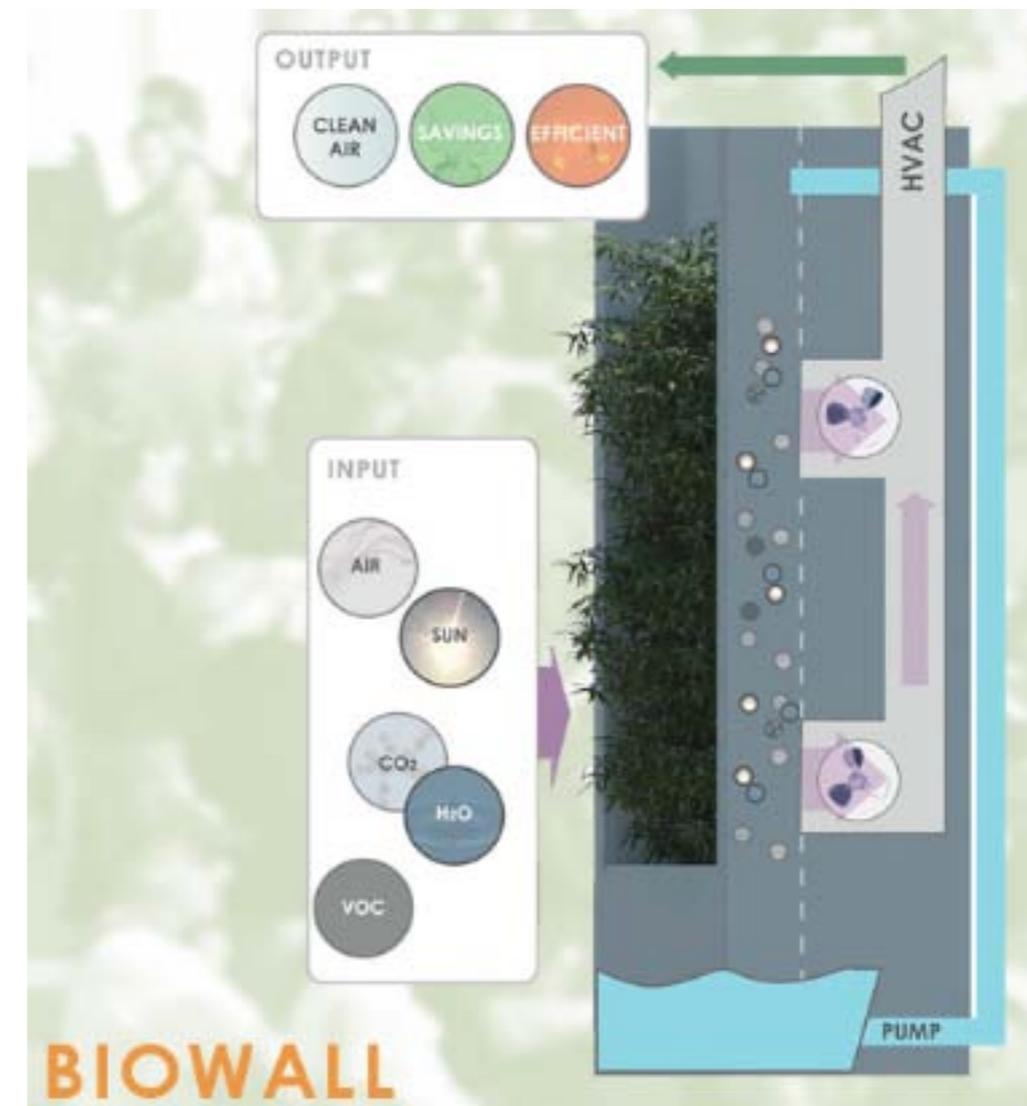
Heat Pump Water Heater



Energy Star Appliances

Maximize the INhome Energy Efficiency

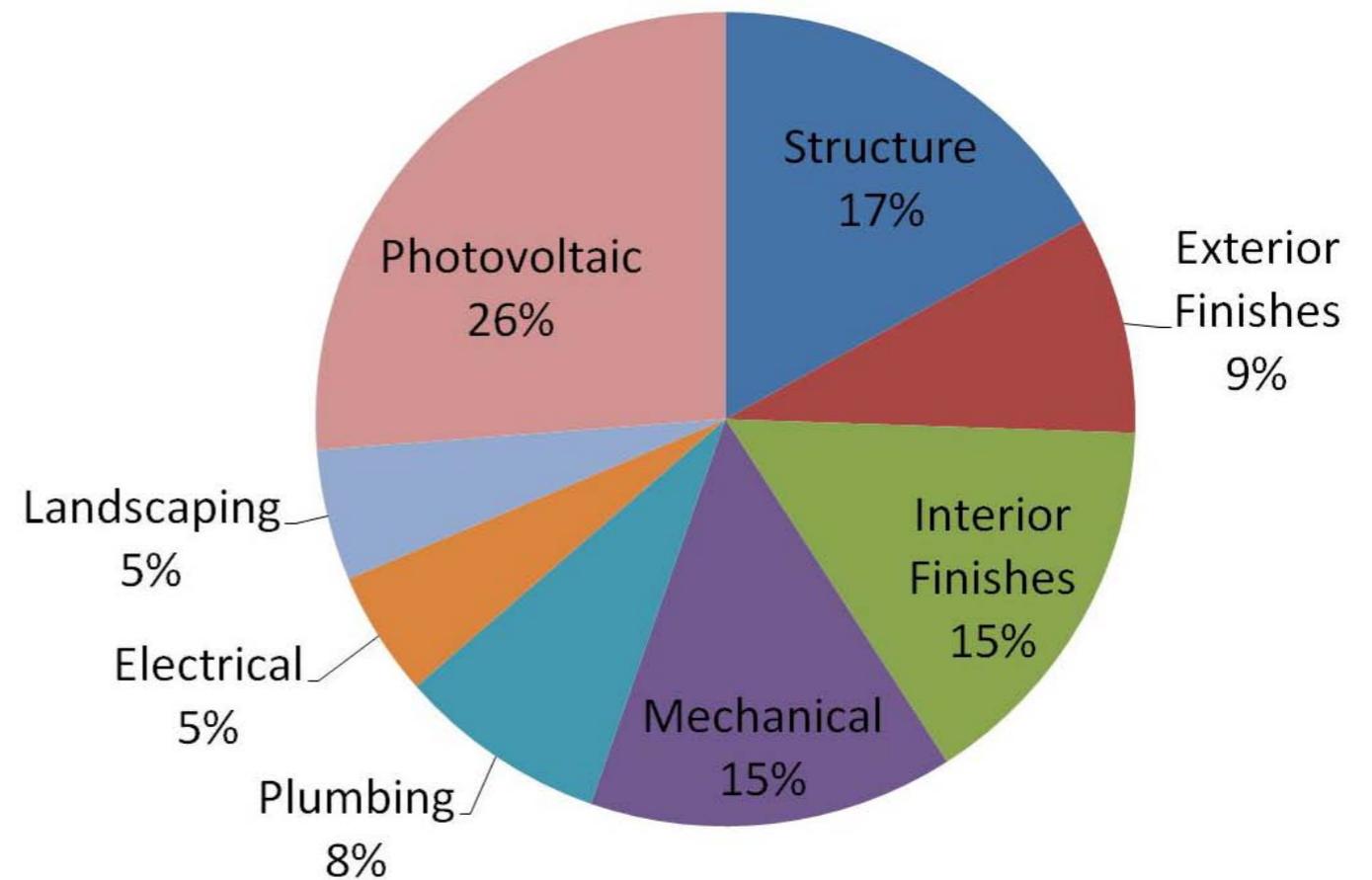
- **Bio Filtration System**
 - Living Plant Wall Provides Natural Indoor Filtration
 - Connected to the HVAC returns
 - Reduction of Mechanical Ventilation Required due to Air Tight Home
 - Improves Indoor Air Quality
 - Situated Centrally INhome



Maximize to Minimize the INhome Photovoltaic

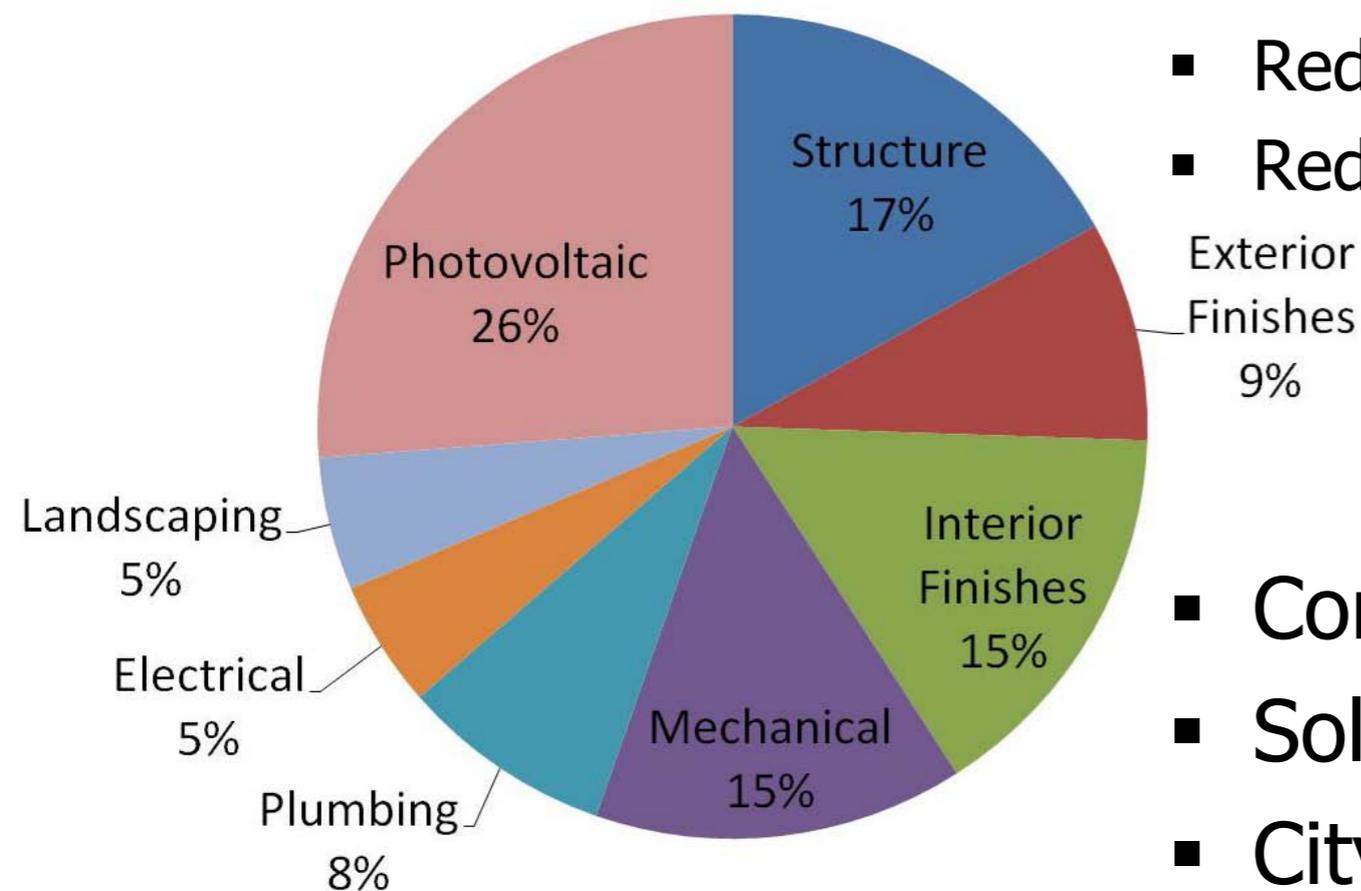


■ Minimize Electric Loads



INhome = Cost Savings

- Continued Team Challenge
 - Reduce Initial INhome Construction Cost
 - Reduce INhome Energy Operational Cost



INhome Future

- Continued Student Team Planning
- Solar Decathlon 2011
- City of Lafayette 2012 INhome Study

Thank You!

For more information, please contact

Eric Holt

Construction Manager

Purdue INhome

765-404-3441

eaholt@purdue.edu

www.purdue.edu/inhome