

# Assessment of Alternative Technologies for Sustainable Housing Developments PI: W. Travis Horton

## Objective:

- Analyze energy options for Indiana Housing & Community Dev. Authority (IHCDA) → case study towards general tools/processes

## Background/Motivation

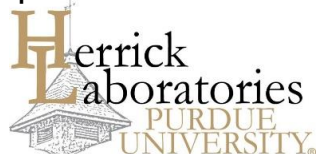
- IHCDA engaging community developers to construct energy efficient housing
- IHCDA wants to collaborate with Purdue to create systems-level process that can be applied elsewhere

## Expected Results / Impact:

- Build general tools and processes for assessing sustainable housing community developments that can be applied anywhere
- Provide specific results and guidance for cost effective, energy efficient housing communities for the Indiana climate and utility rates

## Approach:

- Define targets for energy & economic performance through interactions with key stakeholders
- Define alternative concepts for energy efficiency and delivery services to be considered
- Develop energy models using OpenStudio to assess alternatives
- Evaluate energy and economic performance
- Provide recommended solutions based on performance relative to targets



## Schedule:

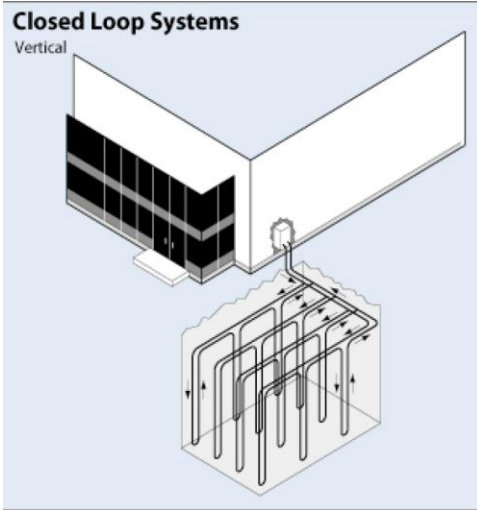
Months:	1-4	5-8	9-12
Define targets	■		
Define alternative concepts		■	
Develop energy models		■	■
Evaluate performance			■
Provide recommendations			■



# Assessment of Alternative Technologies for Sustainable Housing Developments

Closed Loop Systems

Vertical



**Grey water  
heat recovery**



**Community Power Corporation  
Biomax 100**



**PV Street  
Lighting**



**Biomass Feedstock**