



# Building Sustainable Homes: *Next Level*

2025 Habitat for Humanity Midwest Regional Conference

# Today's Panel

**John Dakarian**

*Program Manager, Nicor Gas* Energy Efficiency Program

**Kelly Scocchera**

Project Manager, Twin Cities Habitat

**Sam Friesen**

Managing Director of Buildings, Fresh Energy

**Jamie Mjolsness**

Executive Director, Itasca County Habitat



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# Building Partnerships Between Habitat Affiliates and Utilities: A Utility's Perspective

**John Dakarian**

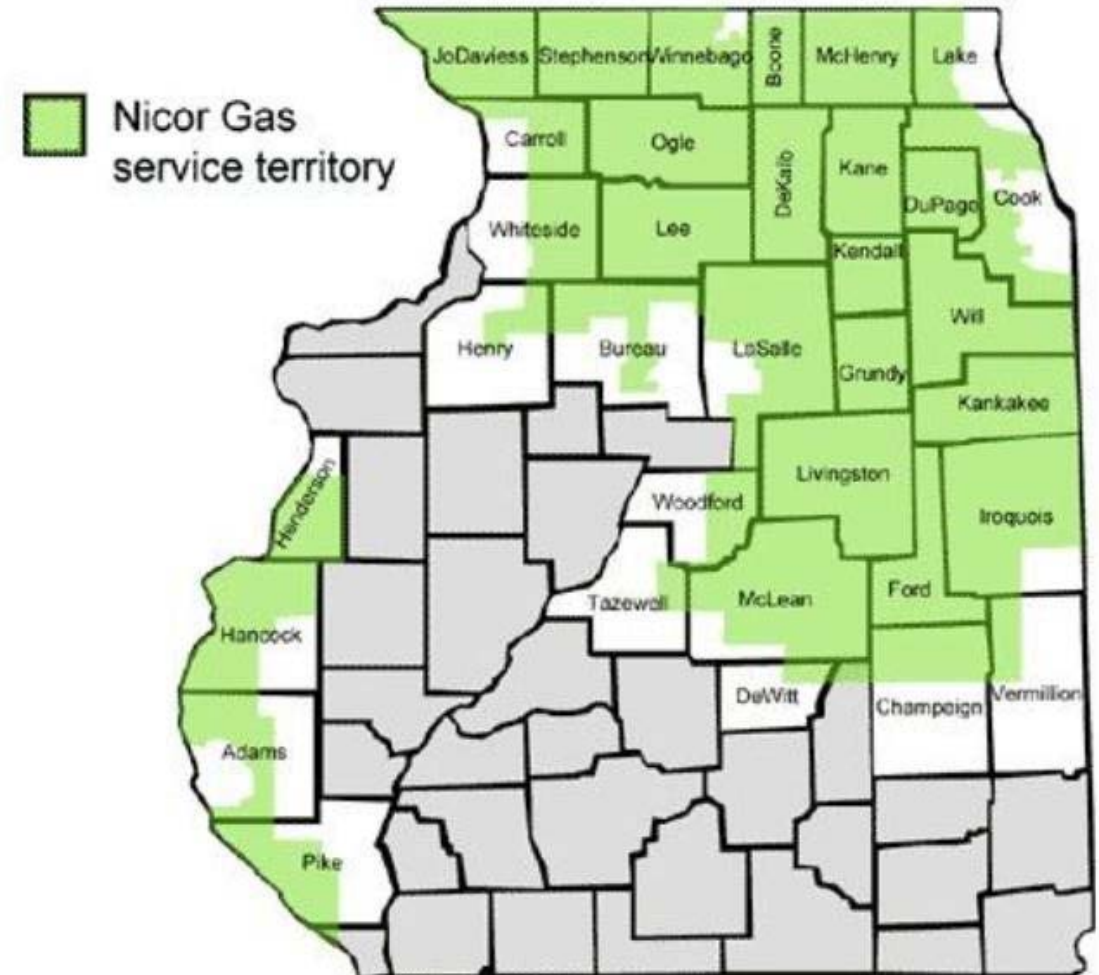
*Program Manager, Nicor Gas*



Energy  
Efficiency  
Program

# About Nicor Gas

- Largest distributor of natural gas in Illinois
- Over 2.3 million residential, public sector and business customers
- Serve 650+ communities
- We invest in the communities where our 2,000+ employees live and work



# EEP Portfolio Budget and Stipulations

**Total Budget: \$45.7M per year (\$182.8M cycle)**

**Therm Goal: 14.14M net therms/year (56.51M net therms-cycle)**

## **Stipulations**

- Total income-eligible spend of an average of \$13M/year
- Weatherization spend of an average of \$11.9M/year
- Income-eligible multi-family spend of at least 30% (\$3.9M Annually)
- Maximum spend of \$1.5M on health and safety
- Complete at least 1,850 air sealing and insulation projects annually
- Minimum of 10% of portfolio spend within the public sector

# Income-Eligible Key Statistics



Around **800,000 income-eligible customers** in our service territory (~40% of all residential customers)



Spent over **\$41M** since 2022 (\$13.7M annually)



Assisted over **57,000** income-eligible customers



Saved income-eligible customers over **8.3M therms** of natural gas



Saved 144 therms per customer, around **\$80** of bill savings annually

# Income-Eligible Offerings

## Free Home Assessments

Customers can complete a free home assessment to receive free energy-saving products and recommendations to help save money and energy at home.

## Free Weatherization Improvements

Customers may qualify to receive additional **free weatherization improvements** through the Home Energy Savings (HES) Retrofits offering or the Illinois Home Weatherization Assistance Program (IHWAP).

- Services may include air sealing and insulation, HVAC equipment repairs and replacement, energy- saving products and health and safety improvements
- Eligibility can be determined by completing a free home assessment or contacting your local Community Action Agency

## Healthy Homes Offering

This unique offering addressed energy affordability and health equity by combining the resources of the Nicor Gas Energy Efficiency Program with support from local healthcare industry partners and public health experts.

- Combines free energy-efficient upgrades with health, safety and indoor air quality improvements

## Free Energy-Saving Kits

We partner with ComEd to provide **free energy-saving kits** to our income eligible customers.

- Kits include free products such as high-efficiency showerheads and aerators, weatherstripping window insulation kits door sweeps and more
- Kits can be requested by reaching out to your local Community Action Agency [Community Action Agencies \(energysavingkits.org\)](https://energysavingkits.org)



# Smart Neighborhood Builder Program

Nicor Gas is committed to driving sustainable, efficient and innovative new construction initiatives. The **Smart Neighborhood Builder Program** offers incentives to builders who construct homes using energy-efficient practices and smart energy product solutions.

- The offering is designed to help save money and lower the carbon footprint
- Four tiers are available to builders, each with its own financial incentives





# Partnership Benefits

# Benefits of Utility and Habitat for Humanity Partnership

## Shared mission, vision and values

- Key priorities include assisting our communities with the greatest need, keeping customers in their homes and providing affordable and reliable energy options that allow residents to thrive in homeownership



## Ability to stretch our collective dollars

- Together we can improve accessibility, health and safety, and energy efficiency allowing us to serve customers more comprehensively
- Utilities can help with projects that exceed Habitat for Humanity funding



# Benefits of Utility and Habitat for Humanity Partnership (cont'd)



## Proven track record and flexibility

- We offer energy efficiency and weatherization expertise with experienced implementers and installers that focus on maximizing savings and health and safety benefits
- Mature energy efficiency programs are easy to partner with and flexible



## Innovation and future growth

- Smart Neighborhoods
- Healthy Homes

# Initiating and Maintaining Partnerships

# Getting Started

## Partnership Process Framework

- Schedule an introductory call with your team and local utility
- Discuss available partnership opportunities for various utility-led offerings
- Review and sign participation agreement
- Onboarding and Training
- Begin partnership, stack incentives and get paid for referrals



# Nicor Gas Energy Efficiency Program Contacts



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**Mike King**

*Director, Energy Efficiency  
Program*



**Meena Beyers**

*Vice President, Business  
and Community  
Development*

# Thank you!



Energy  
Efficiency  
Program



# ZERH v2

## Department of Energy Zero Energy Ready Home version 2

**Kelly Scocchera**

Project Manager, Twin Cities Habitat



# Step one – Find an Energy Rater Partner

Search the “Partner Locator” tool on  
[Partner Central | Department of Energy](#)



# Co-requisite certifications build on each other

**ENERGY STAR**  
(SF & MF) increases  
efficiency & integrates  
building science,  
water management



**Indoor airPLUS**  
integrates indoor air  
quality measures

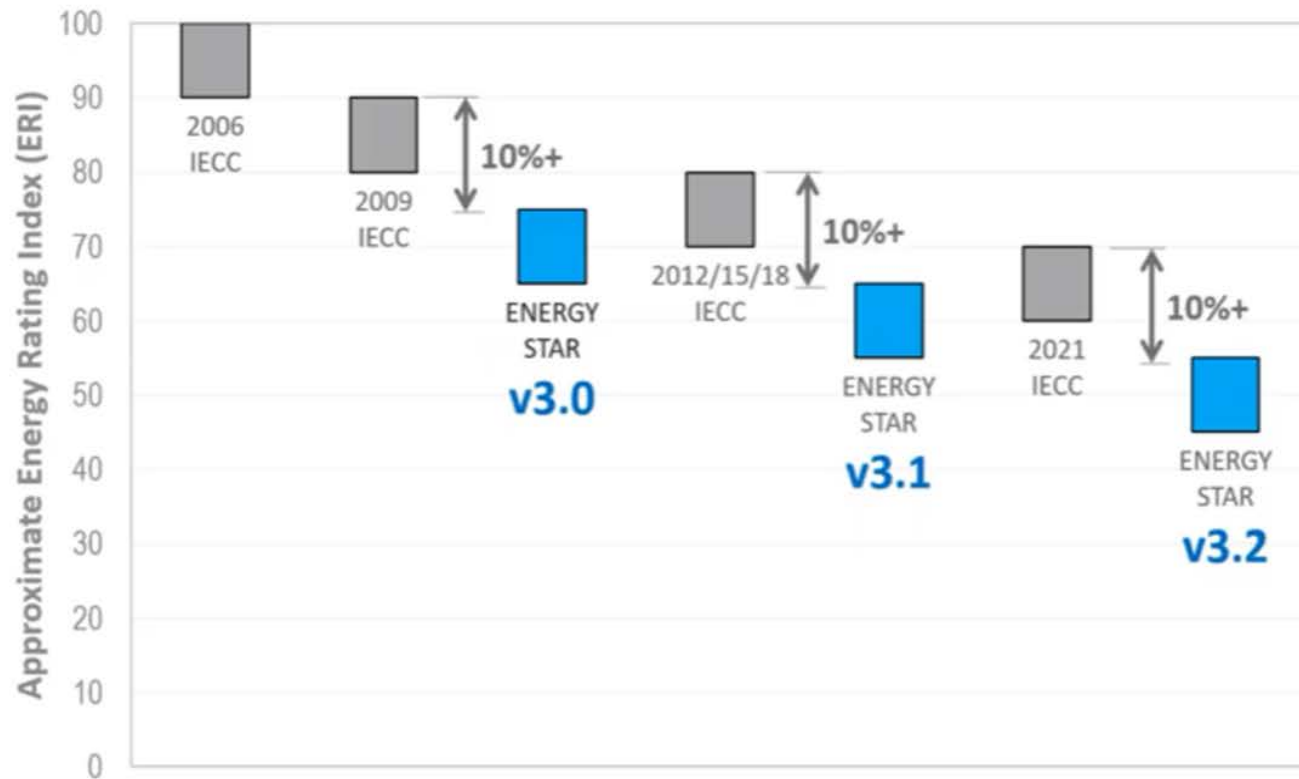


**DOE's Zero Energy  
Ready Home Program**  
establishes the highest  
energy efficiency levels of  
federal programs to  
advance the housing  
industry.



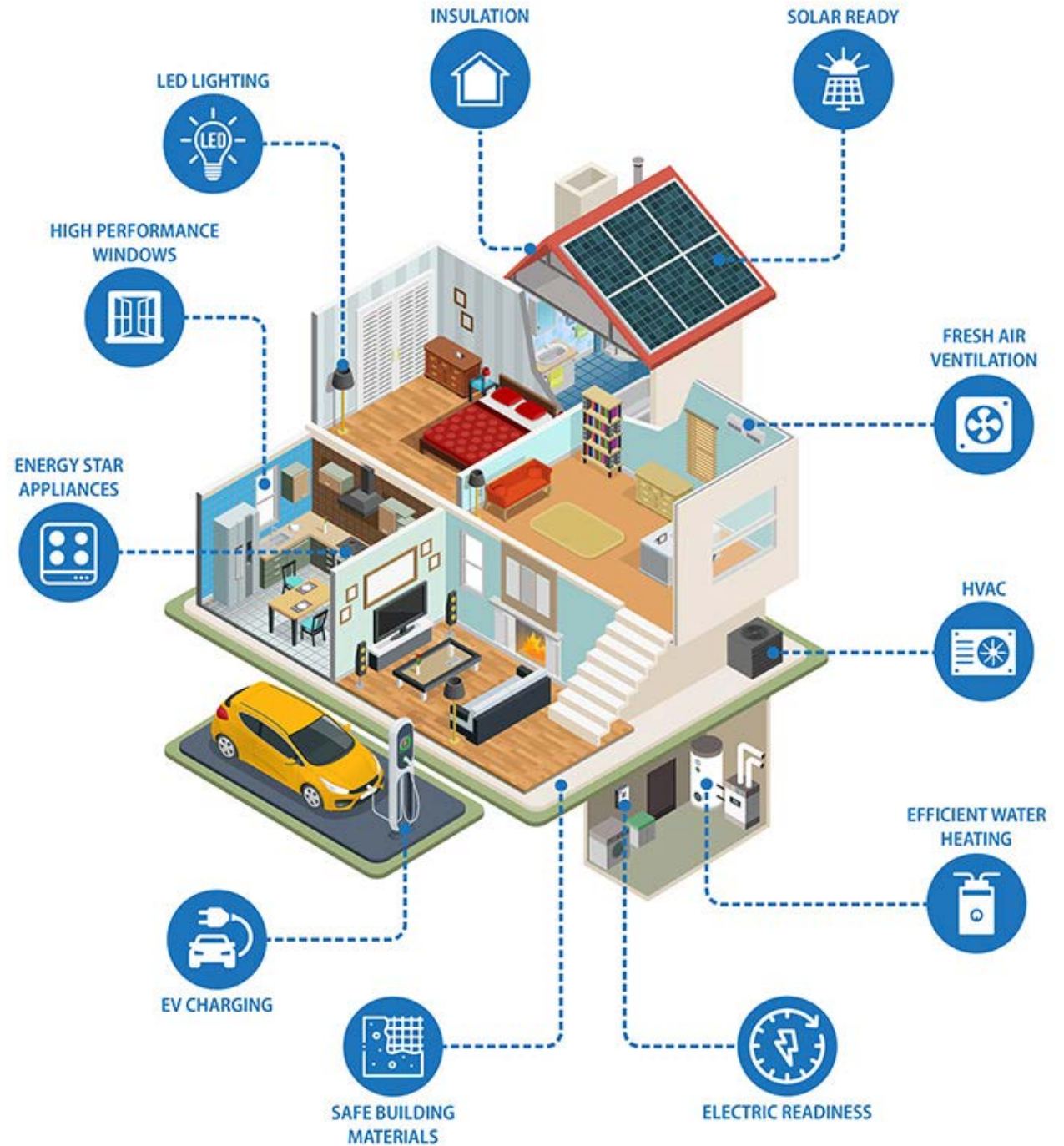
## Requirement 1 of 2

## Meet Performance Criteria



## Requirement 2 of 2

## Meet Mandatory Requirements



# Critical Items and new updates to ZERH v2

- Building envelope
- High performance windows
- Future Ready provisions
  - Renewable Ready
  - Electric Vehicle Ready
  - Heat Pump Water Heater Ready
  - Heat Pump Space Heating Ready



# Thank you!





# Systems Transformation

**Sam Friesen**

Managing Director of Buildings, Fresh Energy



# What is Systems Transformation ?

Traditional  
Leaky  
2x4 walls



+



+



+



2006  
Decent  
Insulation  
Air Sealed  
Poor  
Windows



+



+



+



P

Excellent  
Insulation  
Air Sealed  
Great  
Windows

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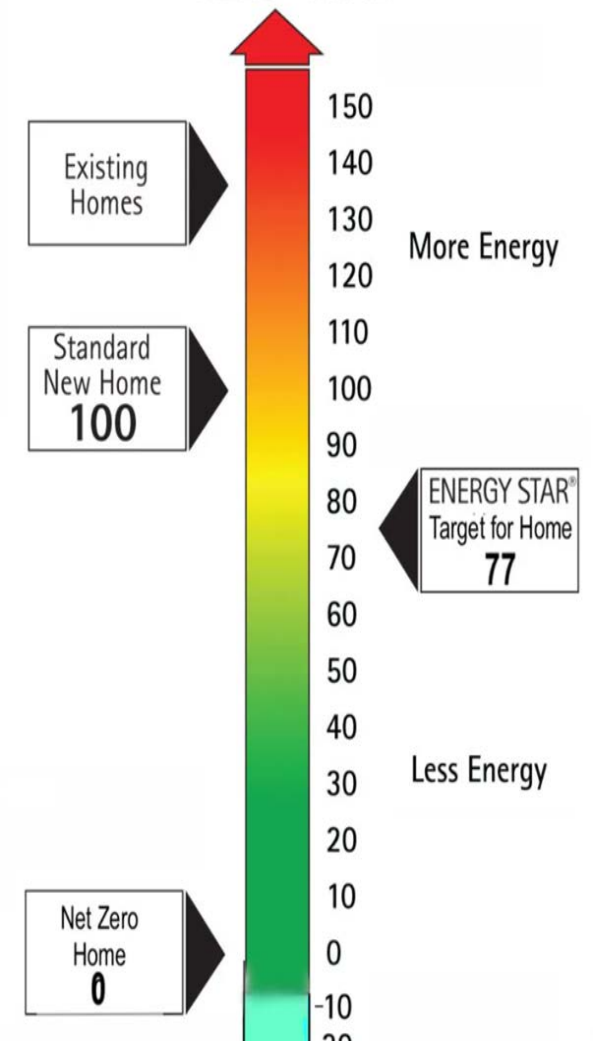
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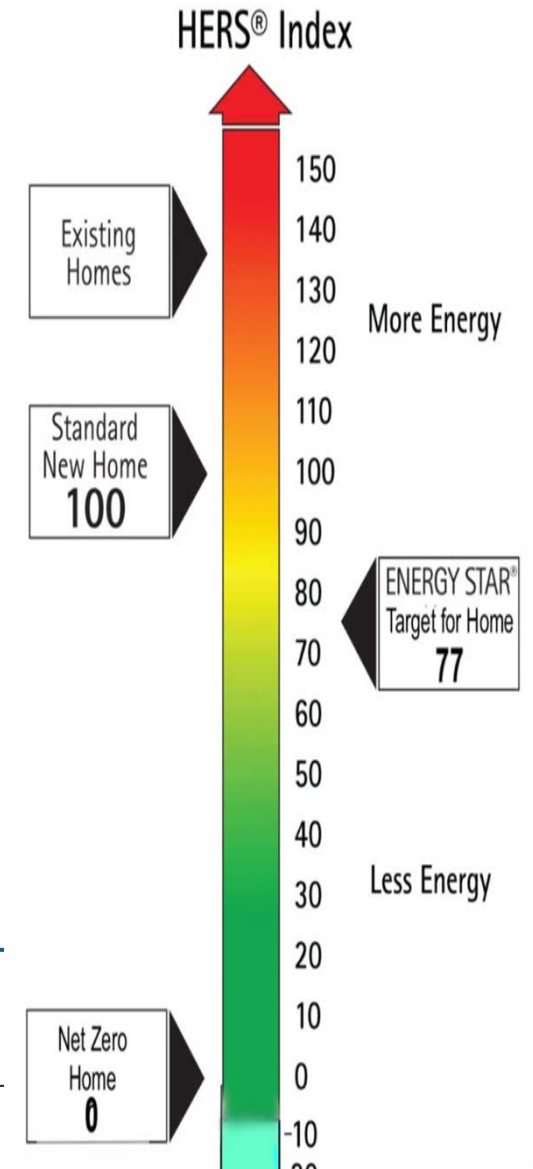
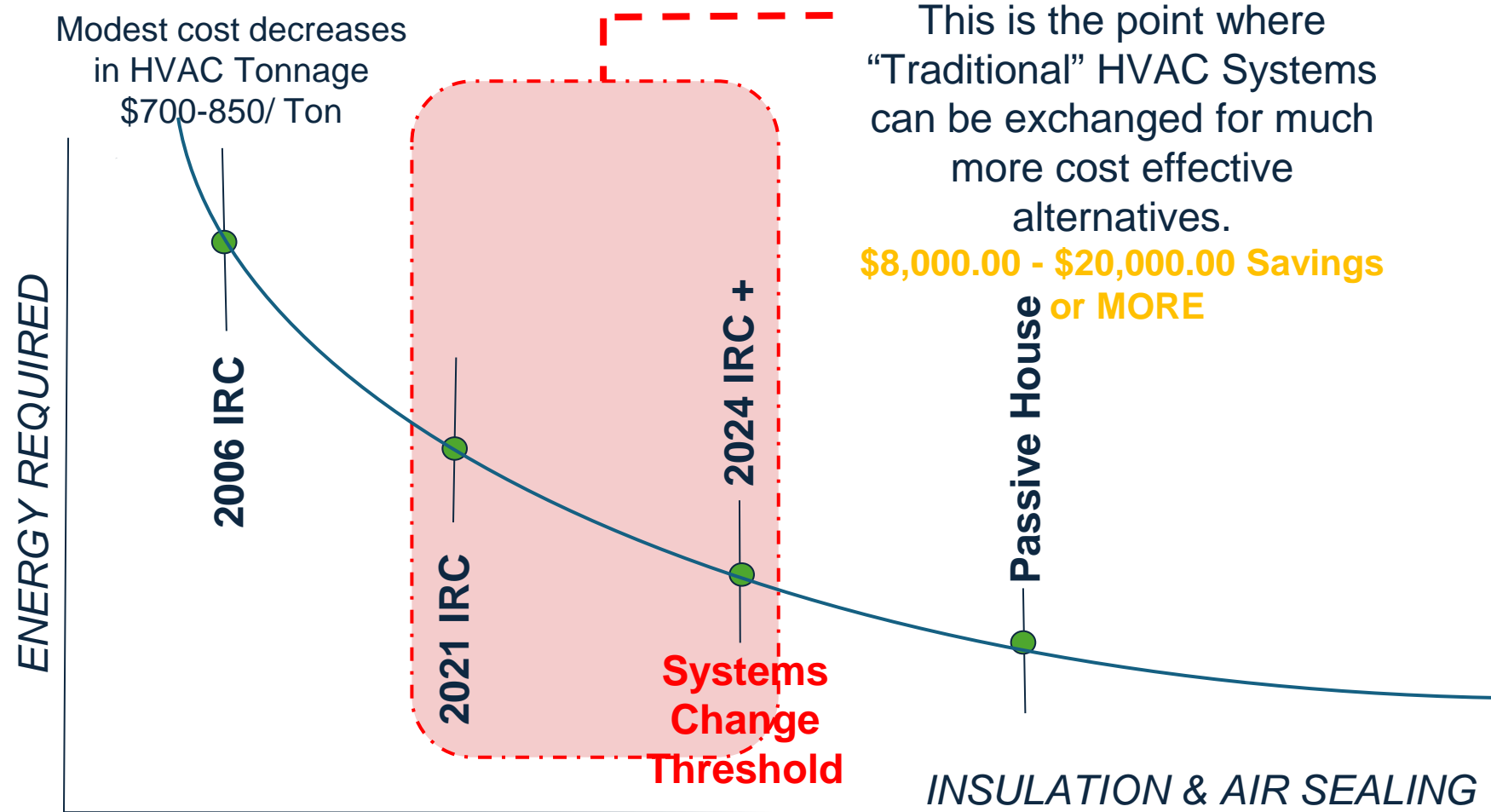
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# Systems Transformation in Housing





# Why a Wide Wall Assembly?

## Embodied Carbon

Every Wall Built With EPS/XPS is equal to 5 walls built with Fiberglass even more with Cellulose or Wood Fiber

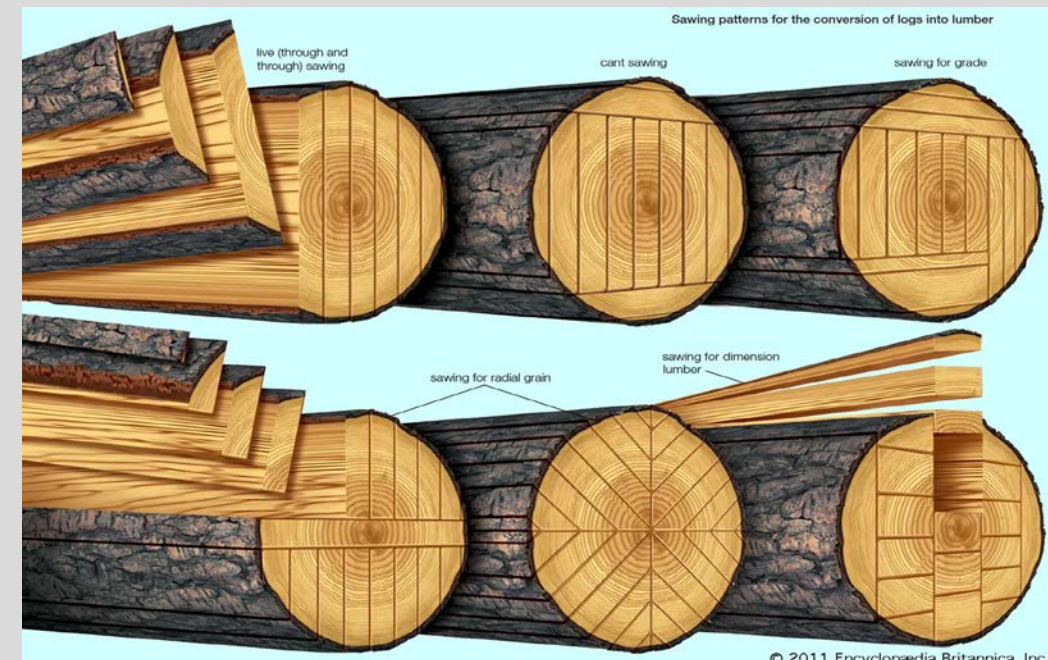
## The STRUCTURE is 30% More Efficient

Uses lumber in its most effective structural orientation.

Why are we stacking up 4 studs for wind, roof and floor loads? - Very labor intensive. This is silly.

## Timber Production:

Minnesota's forests can produce 2x10's in large volume. All of Minnesota's Studs Start as 2"x10" and we rip cut them in half to a 2x4 and a 2x6



# By the Numbers

## Design Data

Reference City: Hibbing, Minnesota  
 Building Orientation: Front door faces South  
 Daily Temperature Range: Medium  
 Latitude: 47 Degrees  
 Elevation: 1352 ft.  
 Altitude Factor: 0.952

	Outdoor Dry Bulb	Outdoor Wet Bulb	Outdoor Rel.Hum	Indoor Rel.Hum	Indoor Dry Bulb	Grains Difference
Winter:	-20	-20	n/a	n/a	70	n/a
Summer:	83	73	63%	50%	75	44

## Check Figures

Total Building Supply CFM:	299	CFM Per Square ft.:	0.298
Square ft. of Room Area:	1,006	Square ft. Per Ton:	1,186
Volume (ft³):	9,055		

## Building Loads

Total Heating Required Including Ventilation Air:	8,282 Btuh	8.282 MBH
Total Sensible Gain:	7,040 Btuh	69 %
Total Latent Gain:	3,134 Btuh	31 %
Total Cooling Required Including Ventilation Air:	10,174 Btuh	0.85 Tons (Based On Sensible + Latent)



## Building Loads

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# Costs Overview

**R45** Walls +\$2,350.00

**R70** Roof +\$1,706.00

**R20** Sub Slab +\$1600.00

**TriPane WINDOWS** +\$900.00

Add **LOW-COST HVAC System** + \$10,000.00

+ Design for Passive **SOLAR** Orientation + free

Remove Forced Air System / Large Furnace / Return  
Ductwork / ASHP COOLING / HRV / ETC... **-\$20,500.00**

**83% Reduction of Energy Use**

**NET COST: \$-3,944.00**



# Thank you!

