

Front Range Roundtable Workshop Heating with Biomass

Heating With Biomass Overview

or

Where Wood Works

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Presentation Topics

- 1. Woody Biomass – It's Place in the BIG Picture**
- 2. Where Wood Works**
- 3. How Supply Affects the Decision Process**
- 4. Planning for the Future – Flexible Community Concept**



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Fossil Fuel vs. Woody Biomass

Natural Gas Prices

Propane Fuel Costs

Peak Oil

Details debated but...

Global Warming

Details debated but....

Wood IS Carbon Neutral

And it's "cheap" but....



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BUT...

System Costs are High (including backup)

Supply must be Reliable, Sustainable & Economical

Size Matters – Total sq. ft. heated can make/break it

Options

Pellet Furnace

Plan for Future – When you're ready, it should be ready



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The Bottom Line Is Your Building...

More than 100,000 square feet?

- If other decision items are favorable = may have a winner
- If a hospital, prison/dorm, etc. = may have a winner
- Replacing propane = may have a winner

Less than 10,000 square feet?

- Pellet furnace may be an option
- If replacing propane, this would likely be a good option

“The Messy Middle”

- 10,000 – 100,000 square feet
- Other factors come into play
- Look at the Flexible Energy Communities Initiative



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**Take Home Message:
One Size Does NOT Fit All**

FACTORS RELATED TO THE DECISION PROCESS

NO GO Decision Factors

- Long Payback
- Uncertainty of Supply
- Little/No Annual Savings
- Technology Questions
- Scale of Project
- Location (Near Supply?)

**THE
"GO / NO GO"
Tipping Point**

"GO" Decision Factors

Primary Factors

- Short Payback
- Certainty of Supply
- Significant Annual Savings

Secondary Factors

- Use of Alternative Energy
- Community Protection
- Forest/Watershed Health



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What IS Flexi?

Flexible Energy Communities Initiative

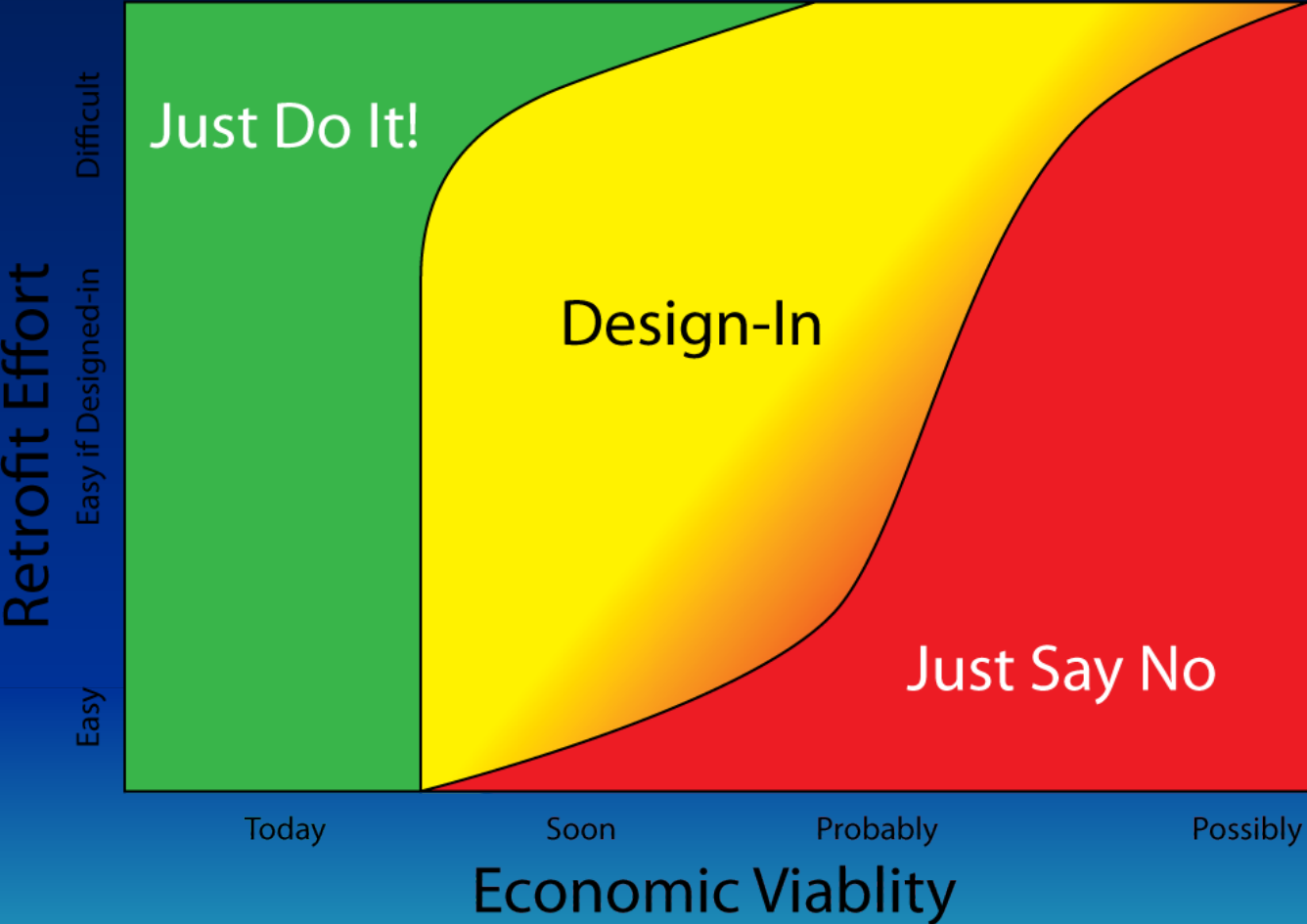
Key Principles:

1. Energy cost are rising; Your community will be paying the bill for the next 100 years; Design it right – NOW!
2. New energy technology will make a significant difference; Some are ready now, some to be ready soon; Making correct decision is critical
3. New energy systems have a smaller environmental footprint but may have a larger physical footprint

You must make a 100 year decision - TODAY



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Opportunities and Issues

Air Quality: Will be addressed later; Always needs to be considered; Can be mitigated; Wildfire vs. controlled

Supply Availability & Quality: Will be addressed later; Long-term, reliable, economical; Transportation costs = local is best; Must have contingencies

Carbon-Neutral: CO₂ emitted when wood is burned but captured/absorbed when trees grow; When used to offset fossil fuels, net effect is lower carbon emissions; Will help emerging carbon-credit market



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What to do Now?

Look for the right opportunities

Use the Flexi model while in planning stage

Put together a broad-based team – top to bottom

Visit other projects

Utilize your local experts and resources

Political will and long-term commitment is essential

Have a champion; As personnel changes, projects
must

have someone to maintain the commitment

