

# Montana Fuels for Schools

*... and beyond!*

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# Montana Fuels for Schools

- ❖ The Beginning
- ❖ Our Progress
- ❖ How We Did It
- ❖ Where We're Headed

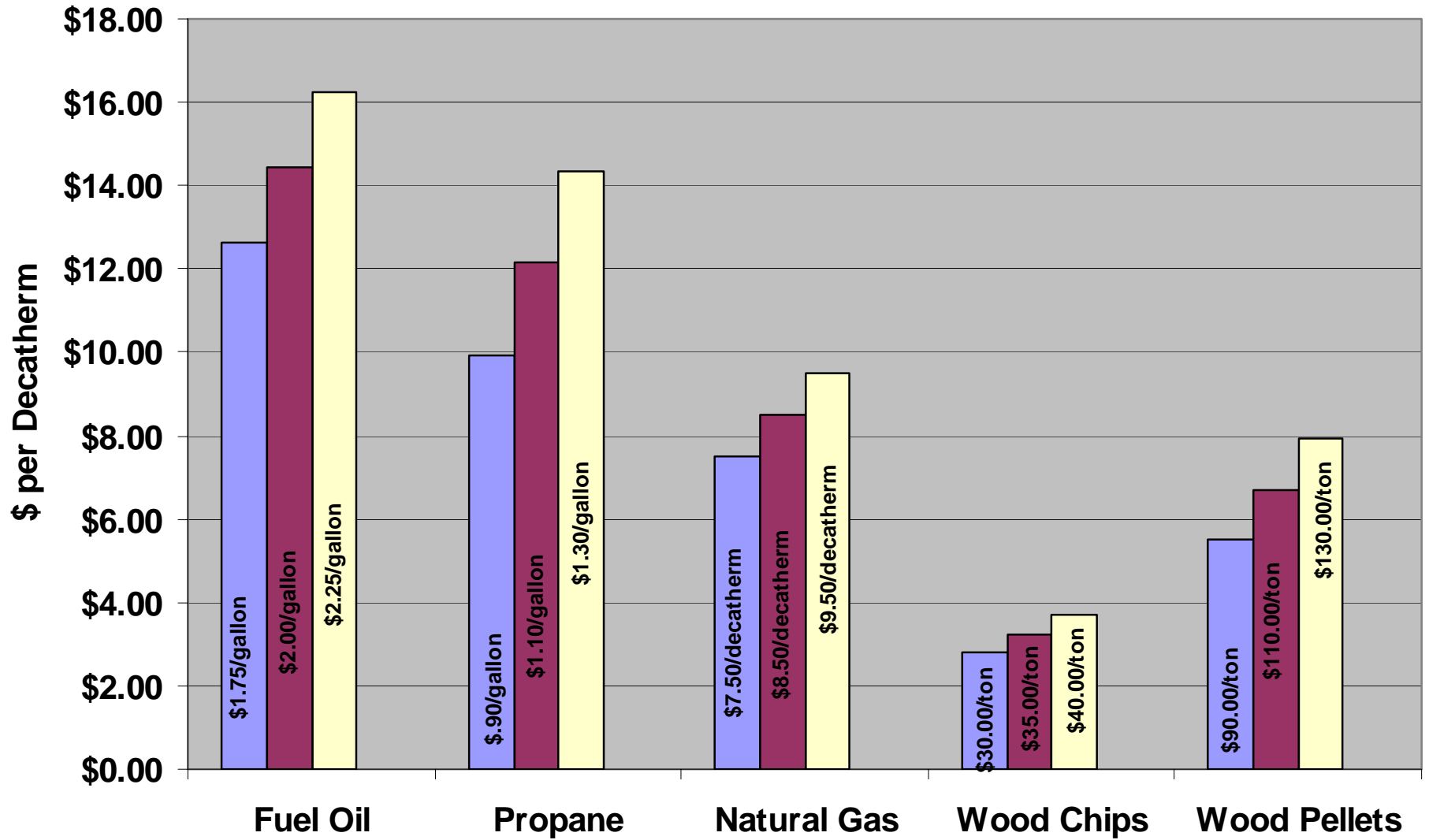


# The Beginning



**Darby, MT**

# BTU Cost Comparison

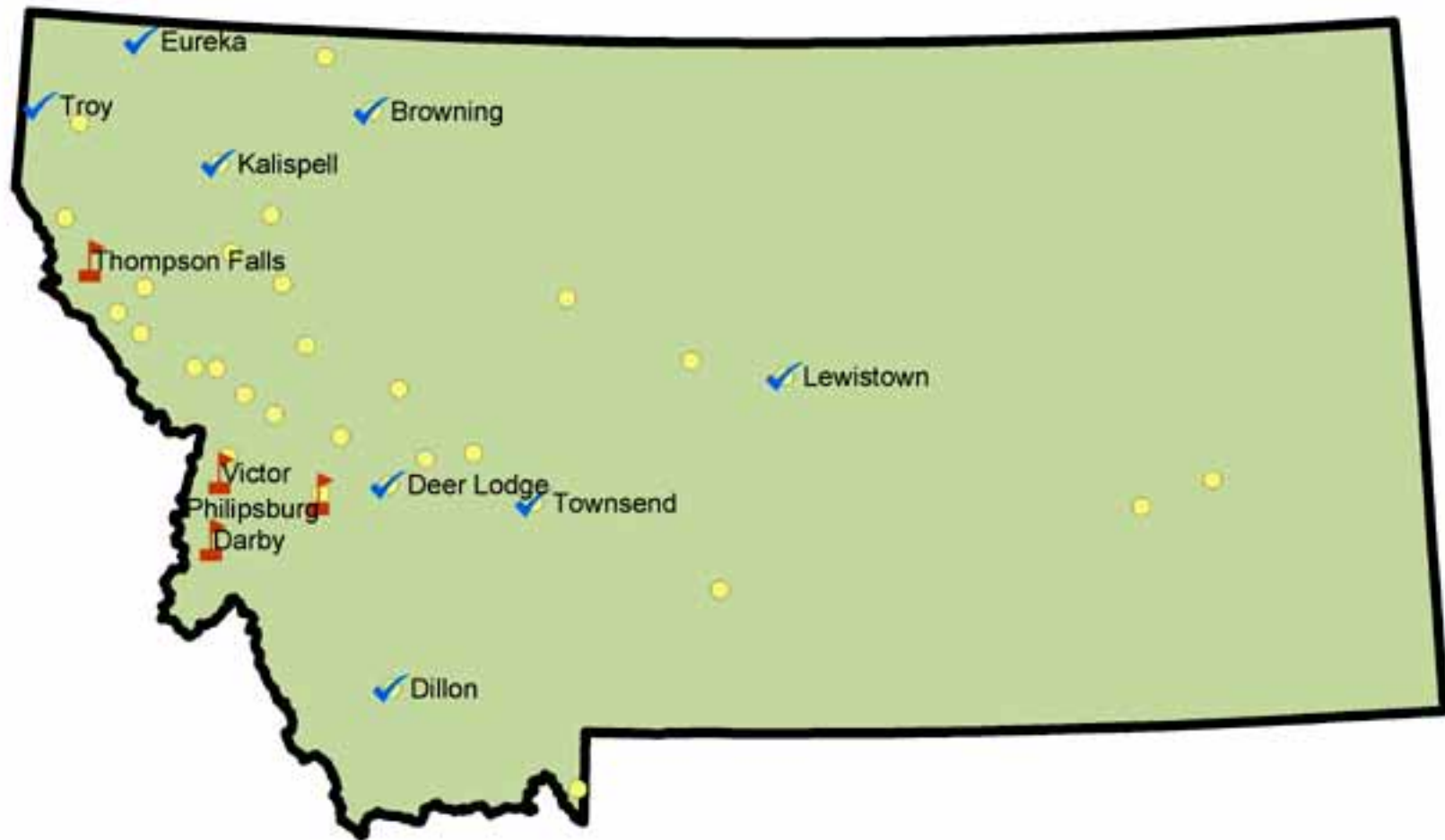


# The Beginning

- ❖ Rural schools-suffering budgets
- ❖ Secure, independent, low cost energy
- ❖ Reduced net CO<sub>2</sub> release
- ❖ Sustainable local fuel
- ❖ RHYMES WITH "FUELS"!!



# Montana's Progress



# Montana's Progress

## Three Scales of Project

- Fully Automated
- Surge Bin
- Pellet

## Options

- Cooling
- Heat & Power



# Fully Automated





# Surge Bin



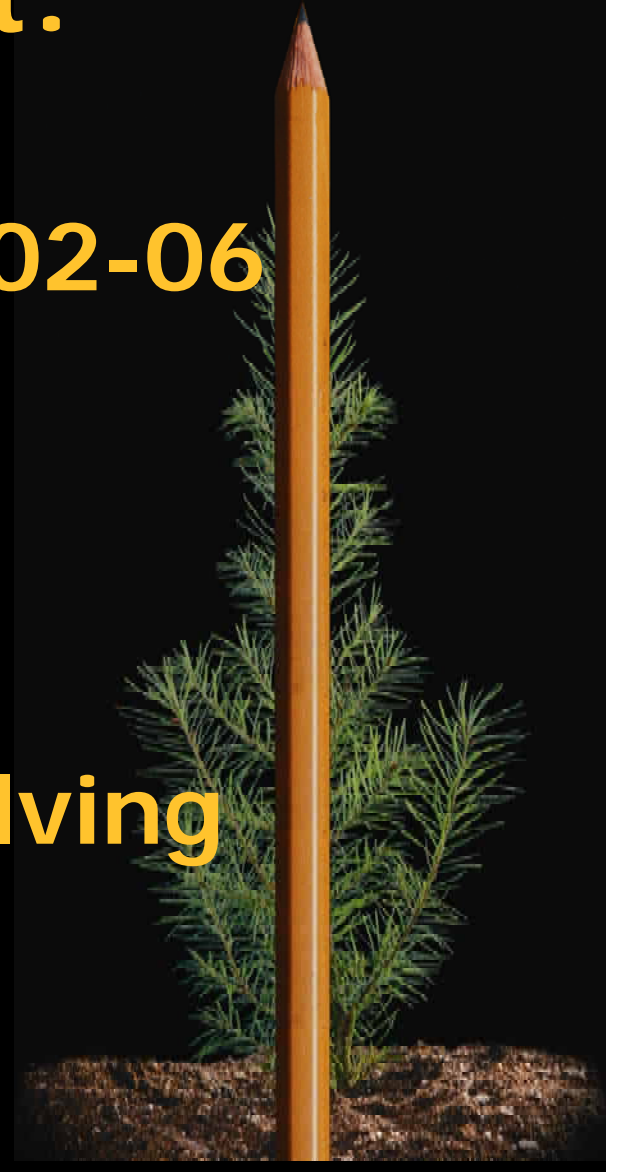
# Pellet Systems



170 k btu system

# How we did it:

- ❖ **Money - \$5 million FY 02-06**
- ❖ **Strategy**
- ❖ **Partnerships**
- ❖ **Diversity**
- ❖ **Flexibility/Problem Solving**



# Our Strategy

**Phase I.          Demonstration**

**Phase II.        Expansion**

**Phase III.      Privatization**



# Partners!

- ❖ **Regional & State Foresters**
- ❖ **Private Businesses**
- ❖ **Nonprofits, Coops**
- ❖ **Resource Conservation & Development Areas**
- ❖ **Local agency foresters**



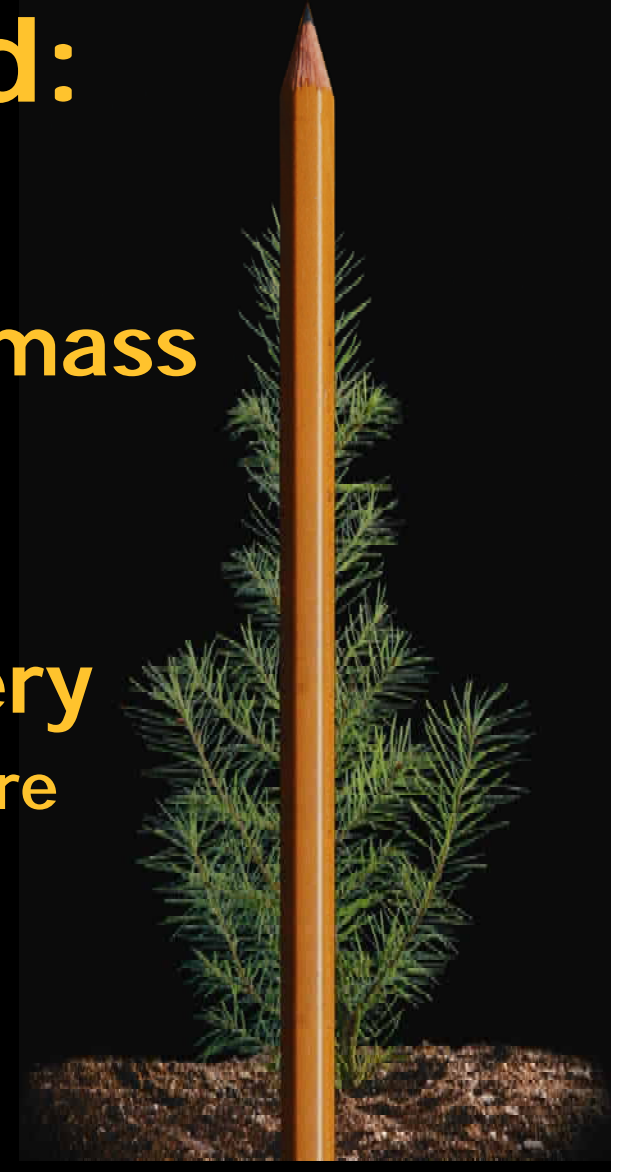
# What the partners do:

- ❖ **Fund/conduct assessments**
- ❖ **Grants for conversion**
- ❖ **Identify/seek other funding**
  - e.g. REDLG program
- ❖ **Technical Assistance**
  - Grant administration
  - Supply
  - Monitoring
- ❖ **Work on Big Picture!**



# The Big Picture/Where We're Headed:

- ❖ **Market Potential for Biomass Heat in Montana**
- ❖ **Fuel Processing & Delivery**
  - Efficiency and Infrastructure



# Market Potential

## ❖ Phase 1 - December 2004

- 7300 boilers
- 2500 < 15 year payback
- 367 > 30 years old

## ❖ Phase 2 - Summer 2006

- ID best conversion opportunities
- Potential for new construction
- Survey Boiler Manufacturers and potential customers





# Fuel Issues

- ❖ Sources - focus on "slash"
- ❖ Quality
  - Moisture
  - Size
  - Composition
- ❖ Processing/Delivery



# Fuel Processing & Delivery

- ❖ High initial cost equipment
- ❖ What infrastructure is already available?
- ❖ Scale of use is important
- ❖ Clustering projects helps



# Fuel Processing & Delivery

Whole tree processing at landing  
Minimizes handling costs  
Less Move-in cost for grinder



# Thank You!

[www.fuelsforschools.org](http://www.fuelsforschools.org)

[http://dnrc.mt.gov/Forestry/  
Assistance/Biomass/default.asp](http://dnrc.mt.gov/Forestry/Assistance/Biomass/default.asp)

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