

Intermountain Western Bioenergy Forum



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confluenceenergy **Corporate Overview**

- Confluence Energy (CE) is a new renewable energy wood utilization company located in Kremmling Colorado
- CE will be processing 140,000 tons of dead and dying beetle kill material in 2010
- CE expects to process and utilize 250,000+ tons of harvesting residue and whole log material in 2011



Overview Cont.

CE:

- Produces wood pellets, dry chips and green chips. We sort and sell house logs and saw logs to our partners
- Operates our own in-woods grinding, hauling
- Operates a portion of our whole log hauling
- Currently ship by truck and rail
- Ships both bulk and bagged product
 - Currently ship 90%+ via bagged product
 - We have agreements in place to ship and deliver 50% of our product in bulk by 2011



confluence|energy Forest Health Issues

- Local MPB epidemic that is quickly deteriorating the health of our forests
- At Risk
 - Homes - Lives - Power lines - Watersheds - Ski areas - Wildlife
- Limited federal funds to clean up the problems.
- **We expect less funds will be available in the future due to federal budgetary constraints**
- Current federal regulation does not allow access to the vast majority of the dead and dying material
- The federal lands that are potential biomass energy feed stock are steeped in federal bureaucracy



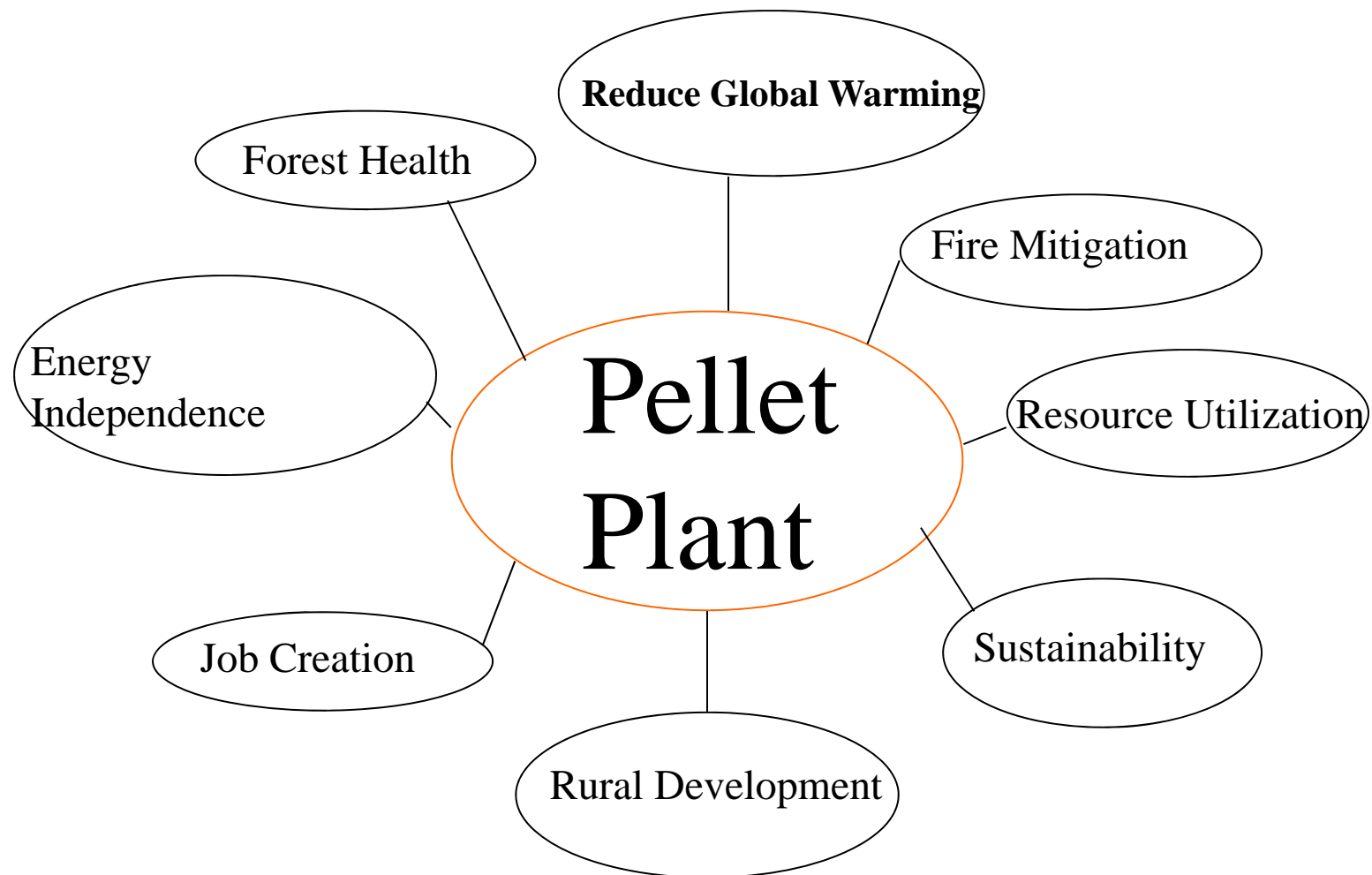
Forest Health Issues Cont.

- There are limited high value industries that can utilize the material (one saw mill). Pellet or biomass plants can not afford the cost of buying timber sales or salvage sales
- The cost of taking the material from stump to truck to plant gate is somewhat cost prohibitive for biomass plants without some sort of subsidization.
- Lack of agreement from stakeholder on what action needs to be taken (There is not clear consensus)
 - Clear cut?
 - Selective cutting to what prescription?
- The consequence for taking no action are catastrophic
 - Blow down and jack straw / Sterilizing ground fire





Benefits



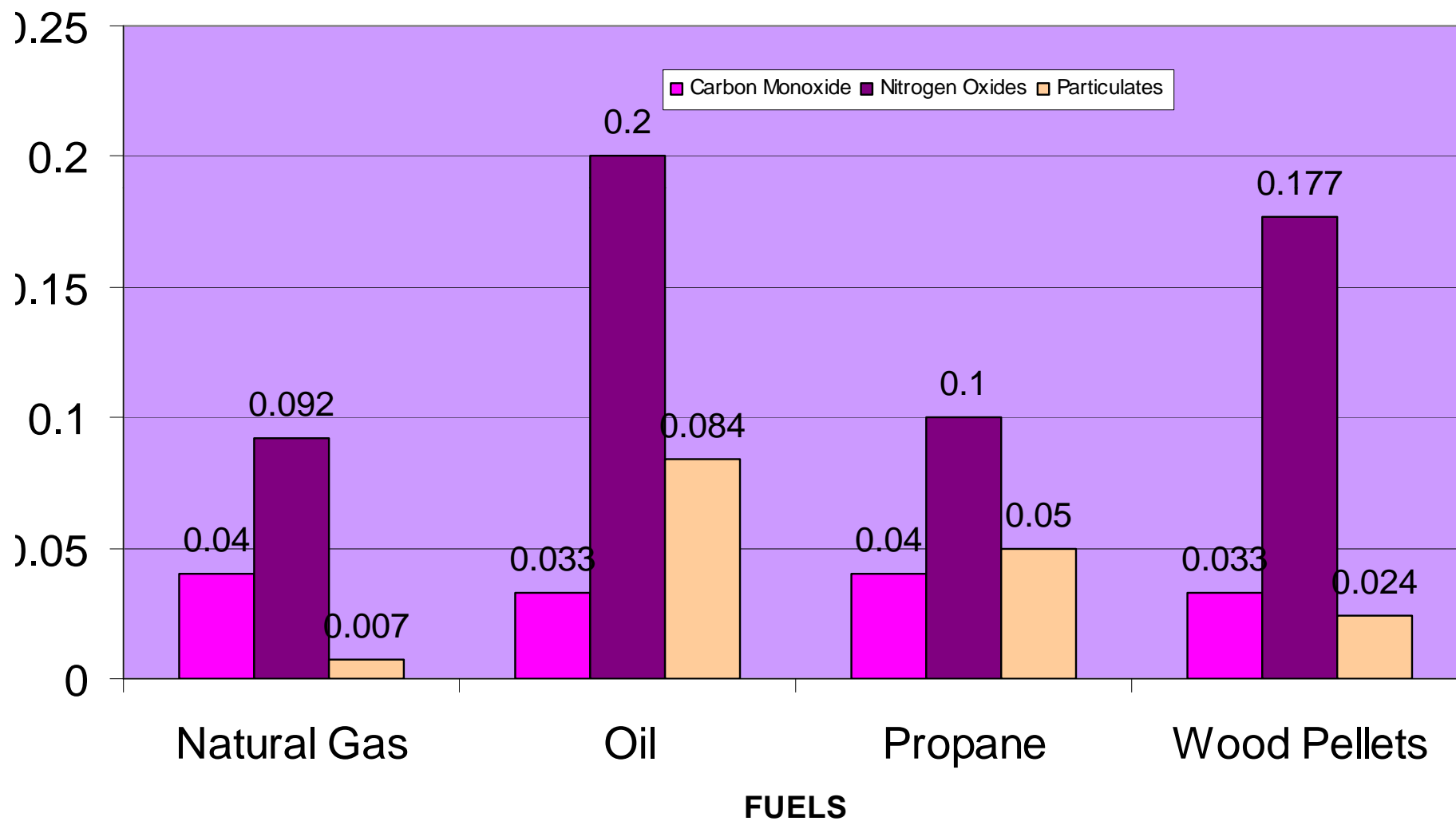


Densified Fuel Benefits

- Central processing of the material
- CE plant also acts as sorting yard where other partners utilize high value material (i.e. house logs – saw logs)
- Once densified the biomass can be shipped at 1/3 to 1/4 of the cost of green chips.
- Densified fuel is easier to handle in commercial appliances. It can be conveyed, augured or pneumatically handle with dramatically less capital cost
- Densified fuel has consistently low moisture content which allowing for more affordable less robust biomass appliances.
- The consistent size and moisture allow for a consistent clean burn resulting in less particulates or potential environmental issues.



Emissions - # / mmBtu



Turn Key Systems





Fuel Cost Comparison

	Enter Current Annual Fuel Usage (use only 1 row)	Enter Fuel Cost / Unit	Applian ce Efficien cy	Calculated Cost (per Mmbtu)	Calculated Fuel Needed	Calculated Total Yearly Cost
Wood Pellets (Ton) bulk		\$ 135.0000	86.0%	\$ 8.3333	2,907	\$ 392,441.86
Wood Pellets (Ton) bagged		\$ 210.0000	86.0%	\$ 12.9630	2,907	\$ 610,465.12
Corn (Bushel)		\$ 3.5000	85.0%	\$ 9.1912	125,124	\$ 437,932.53
Dry Chips		\$ 90.0000	80.0%	\$ 4.5000	2,531	\$ 227,812.50
Electric (kWh)		\$ 0.0850	100.0%	\$ 24.9121	11,869,871	\$ 1,008,939.04
No 2 Fuel Oil (Gal)		\$ 2.5000	85.0%	\$ 18.1159	345,269	\$ 863,171.36
LP/Propane (Gal)		\$ 1.6000	85.0%	\$ 17.7778	529,412	\$ 847,058.82
Natural Gas (Therm)	450,000	\$ 1.0000	90.0%	\$ 10.0000	450,000	\$ 450,000.00



Pay Back

Recovery Analysis:

If you spend

\$1,001,000

for conversion to wood pellet appliance, then your recovery period in years is:

From:

Electric Appliance

1.6

Fuel Oil Appliance

2.1

LP/Propane Appliance

2.2

Natural Gas Appliance

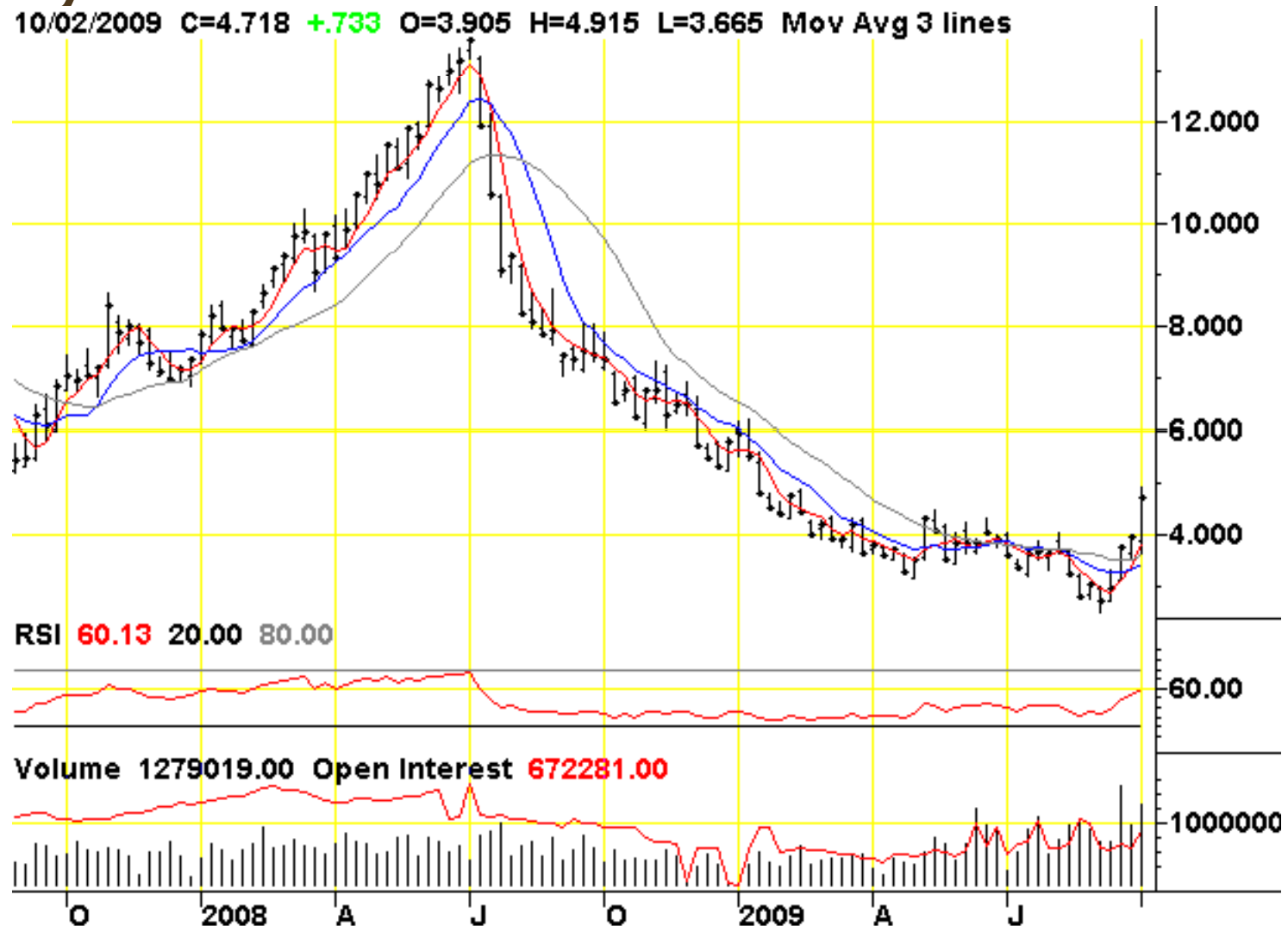
17.4

20 million BTU
application

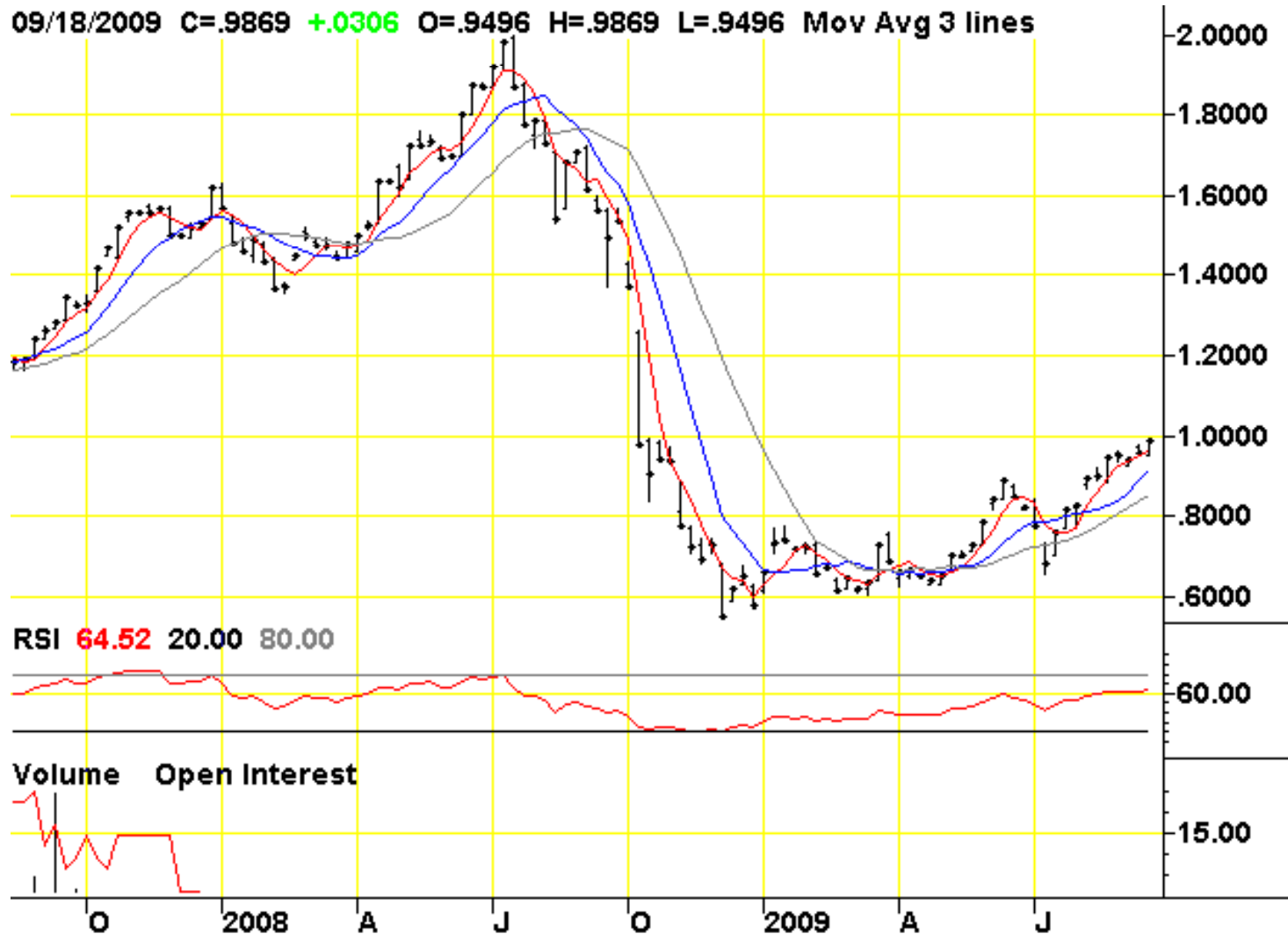


Day Chart Natural Gas

10/02/2009 C=4.718 +.733 O=3.905 H=4.915 L=3.665 Mov Avg 3 lines



Propane Gas Chart





Accessing Capital for Biomass Projects

Accessing capital for biomass projects require:

- Sustainable accessible material for the length of the project finance period (solid assurance you can get material)
- A proven market for your product
- Viable technology
- A solid business plan / Proven track record
- A community that is behind the project
- Private equity is expecting at least a 20% ROI
- Government grants are funding project that are non-sustainable



Integrated Harvesting Efforts

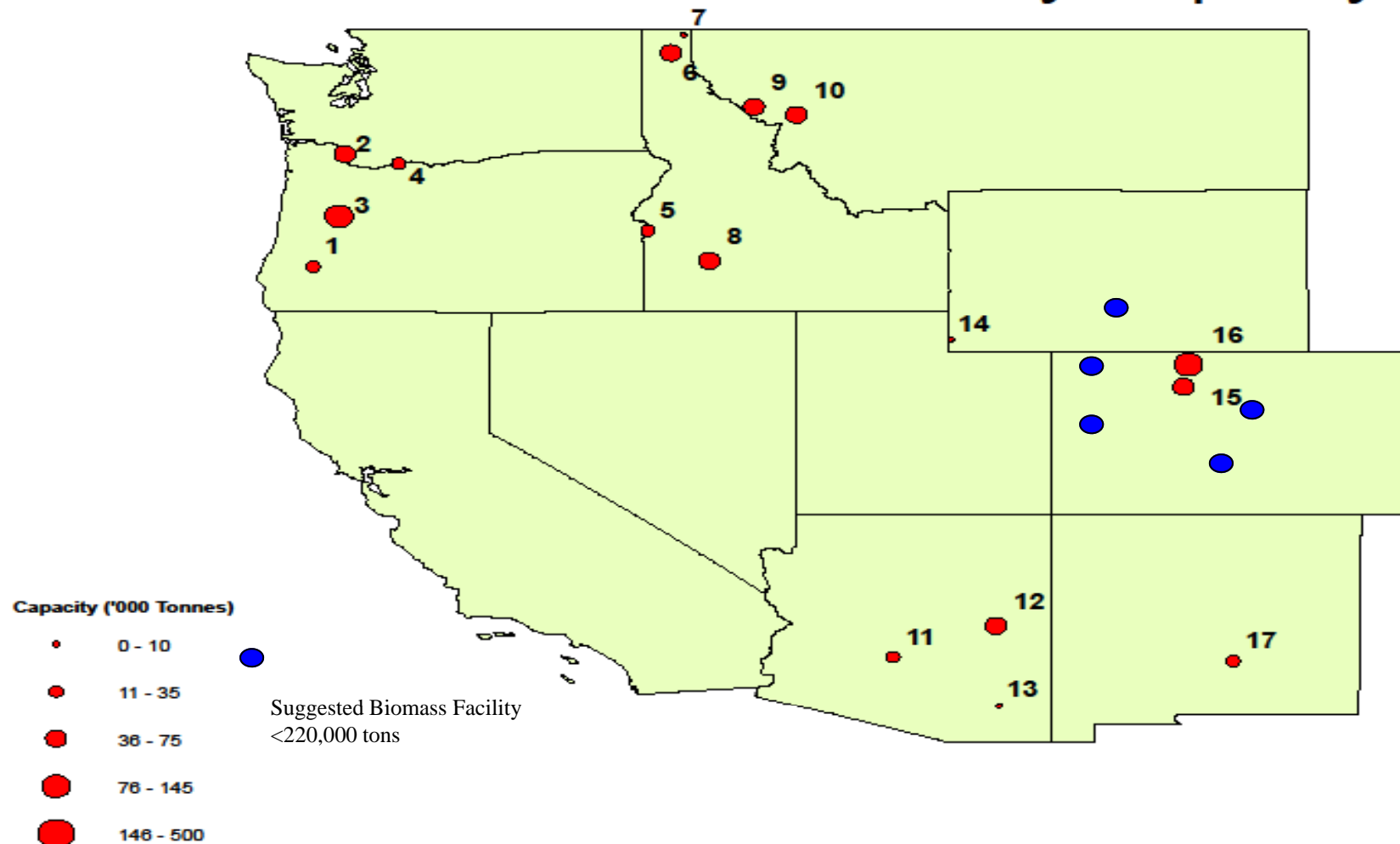
- The existing saw mill industry considers biomass as a threat to their current business
- The material we have in the woods is quickly deteriorating to a level that very little is viable saw log material
- Approx 20% to 35% of the material coming from our existing projects are saw log quality material
- Saw mill business does **NOT** want long term stewardship projects



Supply and Demand of Wood Pellets

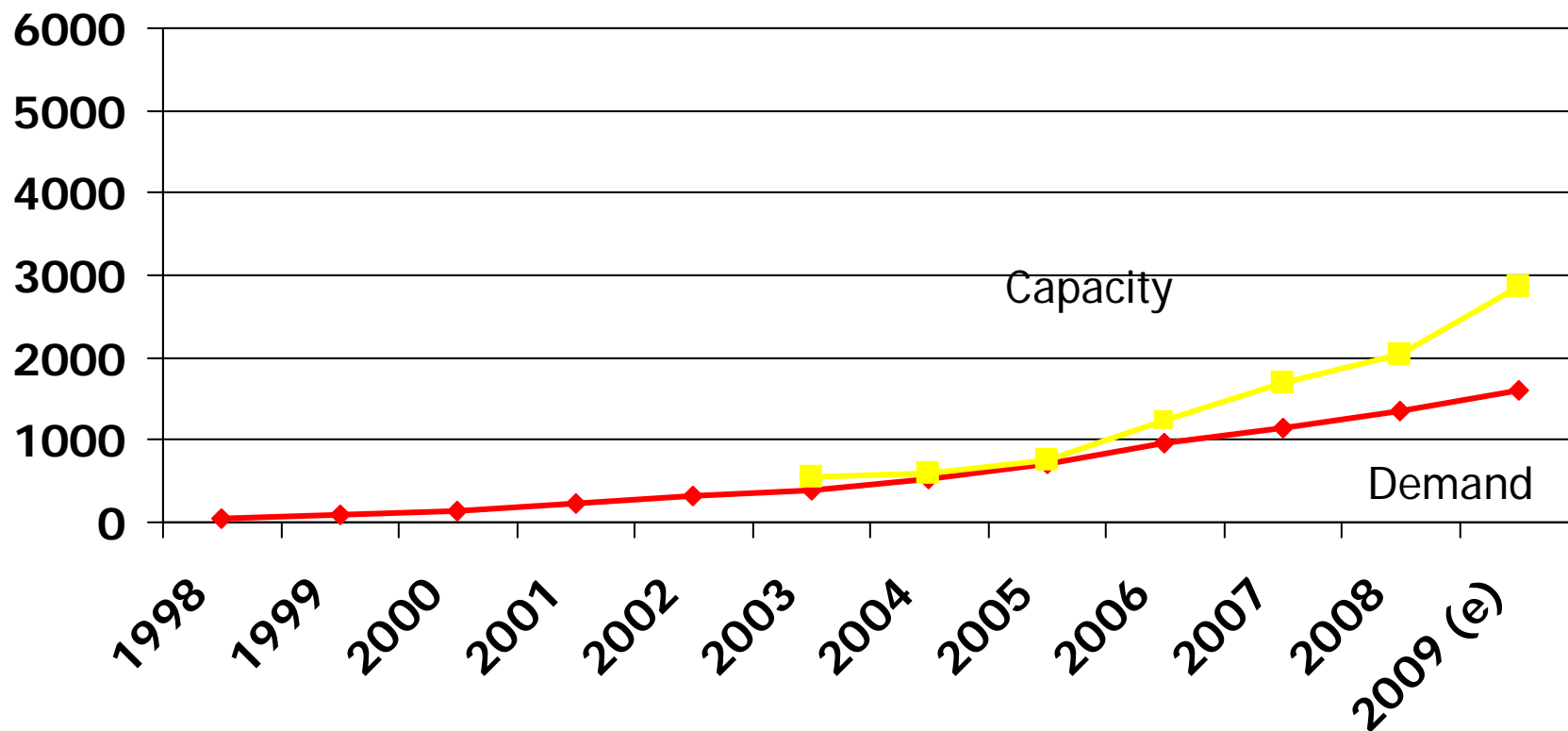
- The industry has been boom – bust cycles from the beginning.
- The industry is made up of mom and pop producers
- The industry (PFI / BTEC) lacks agreement on what the future looks like and how to get there (common goals)
- The industry is rooted in residential bagged product
- A substantial amount of US production go the over seas!

Western U.S. Pellet Mills by Capacity



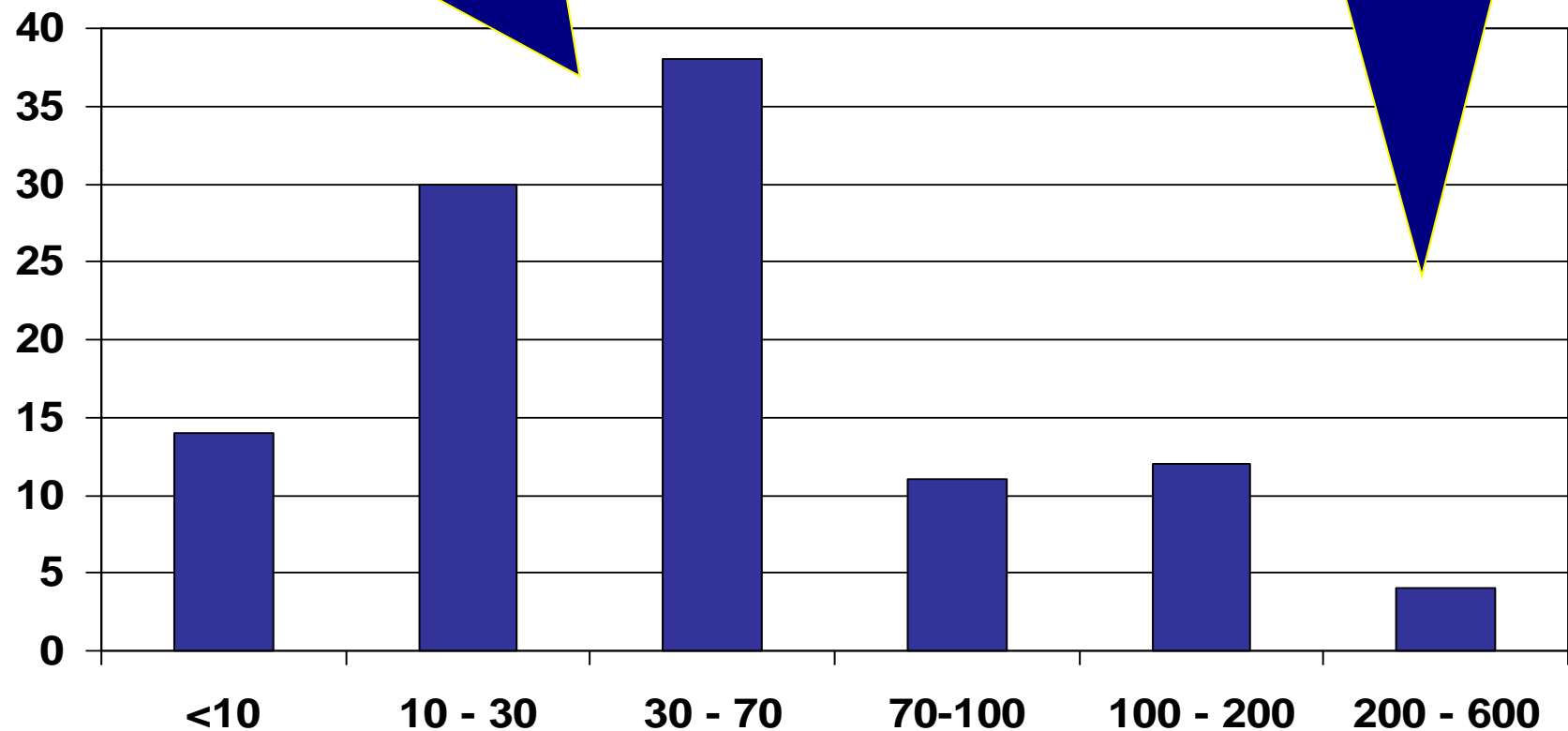
Supply Demand of Wood pellets

- Production is outpacing demand for pellets



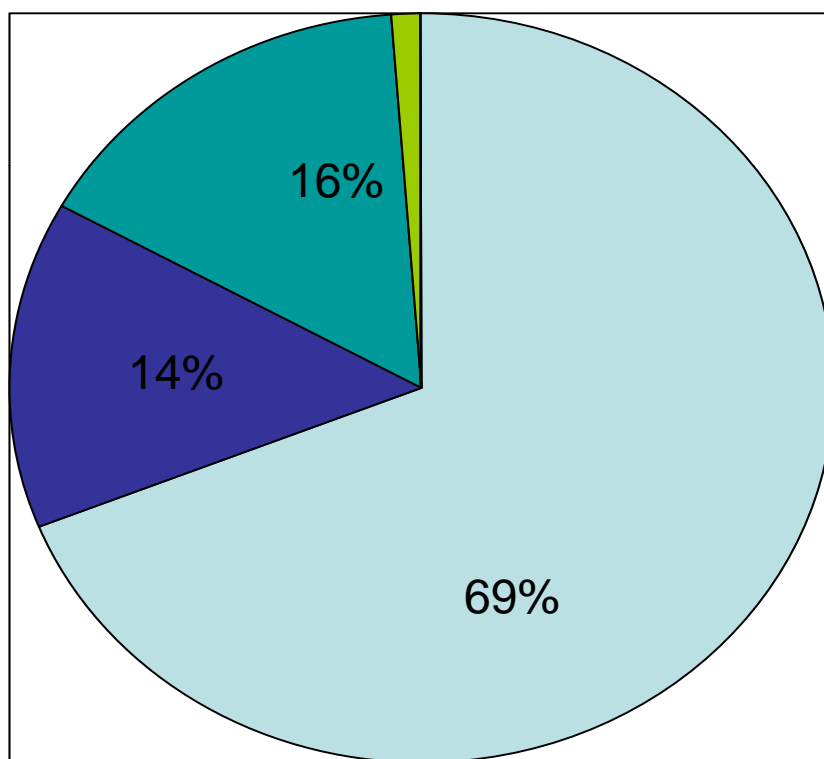
Smaller operations tend to focus on domestic sales, ship pellets bagged

Larger operations tend to focus on exports, ship pellets in bulk








Plants by capacity and size 2008

Fiber Types Used in the production of wood pellets, 2008



Woodworking plant leftovers are the main source (83%) of fiber

-  Sawmill res
-  Other residue
-  Chips/Rndwd
-  Salvage wood
-  Round wood



CE's Current Issues

Lack of existing feed stock

- Limited harvesting residue
- Current economic climate has reduced private land owners from treating there property

Lack of product demand in the region

- A significant reduction in fossil fuel prices have reduced interest in utilizing renewable products

Lack of clarity on what material may be available in the next 20 years.



Project Size in the Intermountain Area

- Project can not be the large <220,000 tons
- The curved slow roads in the mountains do not allow for quick haul (The time of haul is more important than the actual distance)
- Our current maximum haul radius is 1hr 15 min. (cost of \$200 per haul)
- Each project needs to be scaled on a local level taking into consideration several local factors
- Projects too close together will create economic hardship on both projects

- The political climate seems to be moving toward supporting many different kinds of biomass projects in
- The intermountain area is dependant on USFS effort to open more federal land to access material
- The impacts of taking no action to correct our forest health issues could be catastrophic
- There is a sustainable biomass available in the intermountain west and facilities have to be sized appropriately
- Federal funds will be limited in coming years due to federal budgetary constraints
- The fossil fuel prices will have to be higher to justify investment by private industry into biomass projects

Thank You

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