

SBC FIREMASTER GROUP OF COMPANIES

The PelletMaster Modular Pellet Plant



FIREMASTER

ECOLOGY, ECONOMY, EMPLOYMENT.

In the beginning:



➤ 25 years later:

Over 1 million bundles of firewood annually

Over 125,000 bundles of kindling annually

Over 1,500,000 bags of pellet fuel annually

Additional product lines include:

Pellet Bedding

Baled Shavings

Pellet Cat Litter

Fire Starter

Pellet Stoves

Portable Campfires

Roasting Sticks

Insect Deterrents



FIREMASTER

ECOLOGY, ECONOMY, EMPLOYMENT.

SBC
FIREMASTER
INTERNATIONAL

Hearth Related Products

PROVIDING GREEN SOLUTIONS THROUGH BIOENERGY

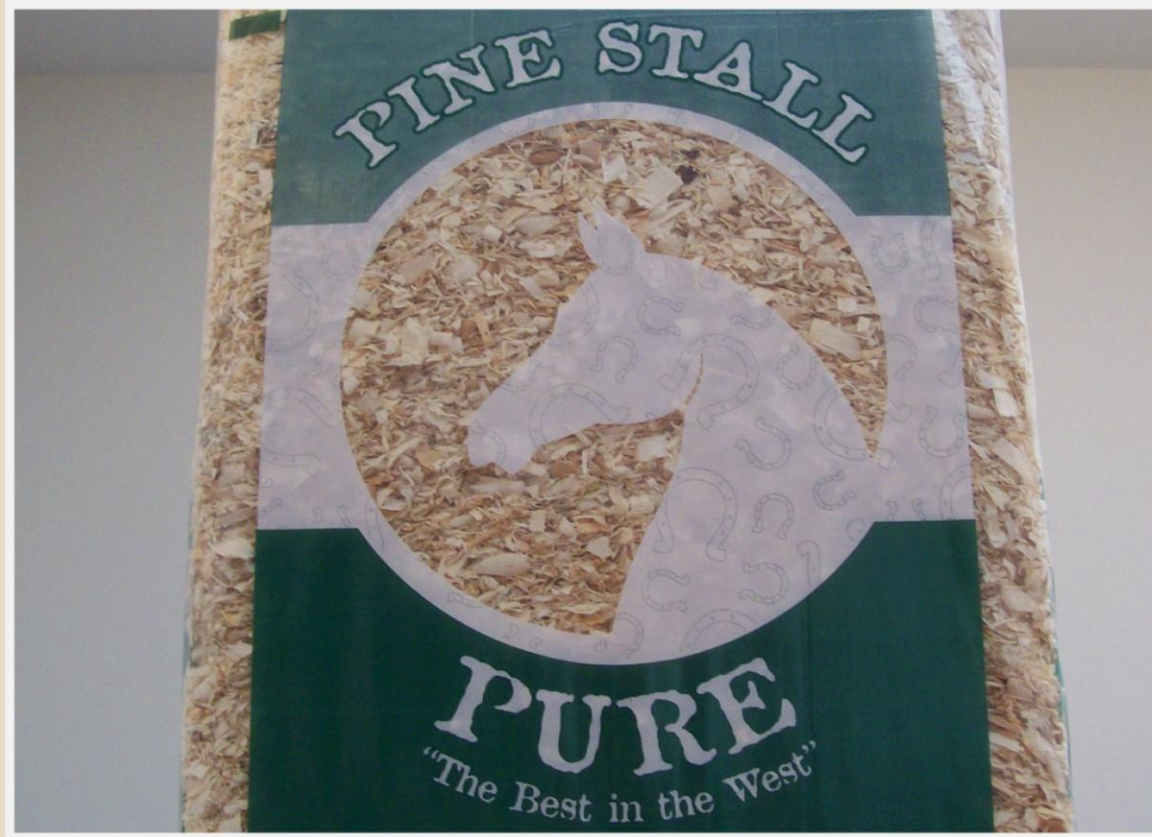


FIREMASTER ECOLOGY, ECONOMY, EMPLOYMENT.

SBC
FIREMASTER
INTERNATIONAL

Baled Shavings

PROVIDING GREEN SOLUTIONS THROUGH BIOENERGY



FIREMASTER

ECOLOGY, ECONOMY, EMPLOYMENT.

Horse Bedding

PROVIDING GREEN SOLUTIONS THROUGH BIOENERGY



SBC
FIREMASTER
INTERNATIONAL

Cat Litter

PROVIDING GREEN SOLUTIONS THROUGH BIOENERGY



FIREMASTER ECOLOGY, ECONOMY, EMPLOYMENT.

SBC
FIREMASTER
INTERNATIONAL

The Pelletech Pellet Stove

PROVIDING GREEN SOLUTIONS THROUGH BIOENERGY



FIREMASTER

ECOLOGY, ECONOMY, EMPLOYMENT.

Primary Markets

PROVIDING GREEN SOLUTIONS THROUGH BIOENERGY

- Majority of products are sold in the Western US and Canada
- Expanding markets in Eastern North America, Europe and Asia



1994 SBC Firemaster became a 50% partner in
Princeton Cogeneration Corporation

Traditional Pellet Manufacturing Facility

Later sold shares and purchased pellet fuel
through third parties

Problems with traditional pellet plants:

- Expensive to engineer and construct
- Requires long-term fibre contracts
- Expensive to maintain and service
- Permanent in nature
- Expensive to expand operations
- Reliant upon primary lumber production
- Requires high volume production for profit

The development

PROVIDING GREEN SOLUTIONS THROUGH BIOENERGY

Existing product development took the company to Asia

Requested to provide consulting to Asian bioenergy producers and power generation companies

Visited the majority of pellet manufacturing facilities in Asia

- Low volume production at most facilities
- Low quality equipment at most facilities
- Located in direct proximity to fibre supply
- Some modular designs to equipment
- Varied feed stocks
- Primarily grain and grass pellets
- Limited knowledge on pelletizing wood waste
- Poor emission standards

Best of Both Worlds

PROVIDING GREEN SOLUTIONS THROUGH BIOENERGY



The “Aha” Moment:

- Combine high quality pellet manufacturing equipment with modular plant designs
- Utilize North American wood pellet expertise
- Create a small footprint plant
- Provide an entire plant and not a ‘piece meal’ approach
- Built to North American standards
- Allow for plant relocation
- Allow for affordable expansion of production



The PelletMaster Modular Pellet Plant



FIREMASTER

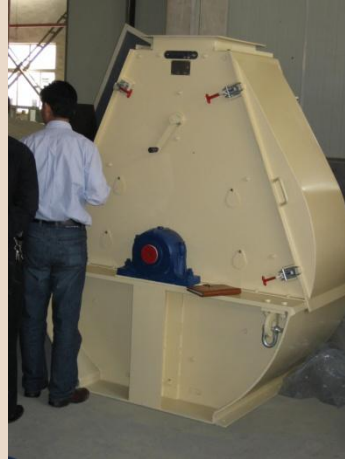
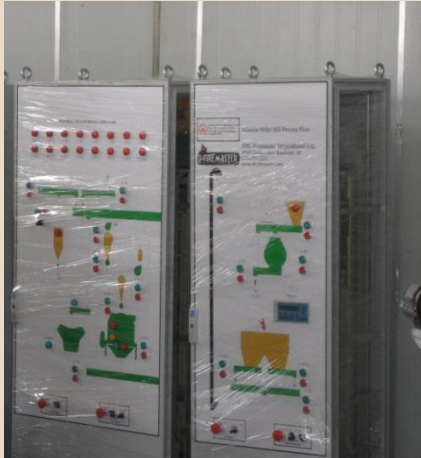
ECOLOGY, ECONOMY, EMPLOYMENT.

SBC FIREMASTER INTERNATIONAL

PROVIDING **GREEN** SOLUTIONS THROUGH **BIOENERGY**



FIREMASTER **ECOLOGY, ECONOMY, EMPLOYMENT.**



The Benefits

PROVIDING GREEN SOLUTIONS THROUGH BIOENERGY

- 150 Days from order to full operation
- Low infrastructure requirements
- Customized to individual site situation
- Typically 1/2 the cost of traditional pellet plants
- Profitable producing as little as 10,000 MT
- Makes whole log utilization practical
- Service provided through single entity
- Low emissions, meets the toughest emission standards



Benefits continued..

PROVIDING GREEN SOLUTIONS THROUGH BIOENERGY

- Shipped in regular 20 foot and 40 foot containers
- All inclusive design
- Add modules to increase production at any time
- Relocate if fibre source dries up
- Provide low volume production for local isolated markets (the 100 Mile Diet for Energy)
- Spread out production to maximize fibre resources



FIREMASTER

ECOLOGY, ECONOMY, EMPLOYMENT.

Need to grow, add a module

B a g g e r	Pellet Press, Cooler, Cyclones
	Pellet Press, Cooler, Cyclones

**30,000
MT
Capacity**

B a g g e r	Pellet Press, Cooler, Cyclones
	Pellet Press, Cooler, Cyclones
B a g g e r	Pellet Press, Cooler, Cyclones
	Pellet Press, Cooler, Cyclones

**60,000
MT
Capacity**



This article was recently published in the Biomass Magazine March 2009:

Small pelletizing operations might be more feasible than large ones, according to Alan Doering, associate scientist of coproducts at the Agricultural Utilizations Research Institute office in Waseca, Minn. "We've worked with some engineering firms to do the feasibility and economic of a biomass pellet plant," Doering says, "and what that report showed is [that] actually smaller is possibly better. We live in era where bigger is better – economics of scale – but for certain situations, it may be more cost-competitive to put two- or four-ton-per-hour pellet mills in throughout the country – 50 miles apart – rather than building a 10- or 14-ton-per-hour mill in one central location, but then having to truck the raw material in from greater distances just to keep it busy."



Whole Log Utilization

PROVIDING GREEN SOLUTIONS THROUGH BIOENERGY

Based on a 50km radius of viable fibre utilization
Case #1 Traditional Pellet Plant 120,000MT

**Traditional Pellet Plant
120,00 MT Capacity.
Viable for 5 years
utilizing round logs
within 50km of the
plant**



FIREMASTER

ECOLOGY, ECONOMY, EMPLOYMENT.

Modular Pellet Plant
30,00 MT Capacity.
Viable for 20 years
utilizing round logs
within 50km of the
plant

Modular Pellet Plant
30,00 MT Capacity.
Viable for 20 years
utilizing round logs
within 50km of the
plant

Modular Pellet Plant
30,00 MT Capacity.
Viable for 20 years
utilizing round logs
within 50km of the
plant

Modular Pellet Plant
30,00 MT Capacity.
Viable for 20 years
utilizing round logs
within 50km of the
plant



Cost Comparison

PROVIDING GREEN SOLUTIONS THROUGH BIOENERGY

TRADITIONAL 30MT PELLET PLANT

- 30,000 Tonne Plant
cost: \$4,358,200
- Annual Operating
cost: \$3,510,000
- Finished Tonne
cost: \$117.00

PELLETMASTER 30MT PELLET PLANT

- 30,000 Tonne Plant
cost: \$2,200,000
- Annual Operating
cost: \$3,300,000
- Finished Tonne
cost: \$110.00

The Government of British Columbia

- Innovative Clean Energy Fund (ICE)
- The most progressive government on environmental policy in North America

Farm Credit Canada

- Provided traditional financing
- Offers funding assistance to future customers in Canada



Contact

Paul Adams

General Manager

SBC Firemaster

Paul@SBCFiremaster.com

BC Canada 250-295-1219

