
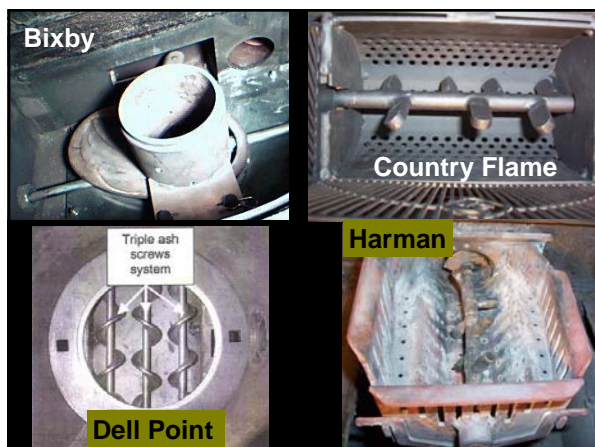


Boilers that can work with pucks.



Goliath boiler imported from Poland

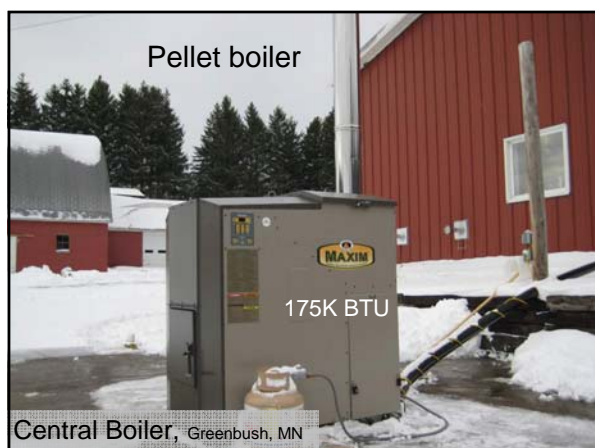
Advanced Climate Technologies, LLC
ACTbioenergy.com
 Saratoga Springs, NY
 Biomass boilers for 10K to 100K sq. ft.
 Imported from Europe.




QuadraFire insert
60,000 BTU

Endurance furnace
50,000 BTU

Residential pellet appliances





Dual purpose
heat exchangers.

Collect particulates

Only appliance in
N. America to be
fully tested for
emissions, burning
grass pellets.



Irish Gerkros
Woodpecker
Indoor boiler

Self Cleaning:
Burner
Heat exchanger
Auto de-ash

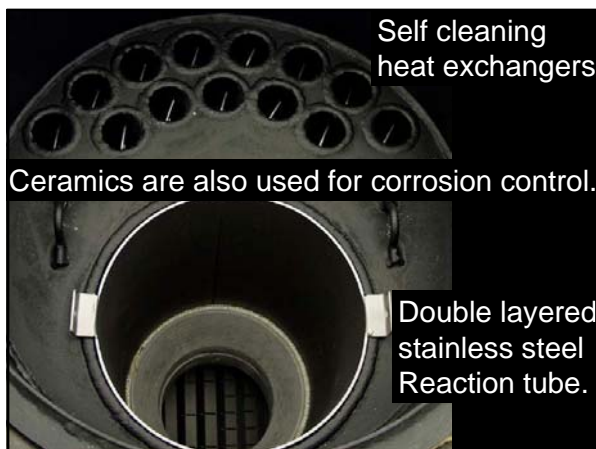
Burns
Miscanthus
pellets in
Europe



**Guntamatic
Powercorn system**
(example of
European technology)



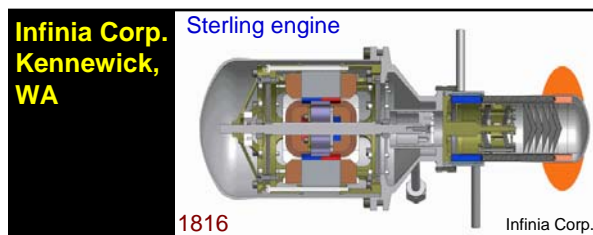
Cast iron frame – moving step grate with self cleaning



Self cleaning
heat exchangers

Ceramics are also used for corrosion control.

Double layered
stainless steel
Reaction tube.



Infinia Corp.
Kennewick,
WA

Sterling engine

1816

Infinia Corp.

The very near future....



KWB - Austria



NYSERDA-sponsored stove and boiler testing.

Evaluate functionality and emissions for stoves and boilers burning grass pellets.



If grass pelleting is going to work residentially....

We need a variety of heating appliances that work with grass.



Woodmaster pellet burner

Cornell "Big Red Barn" meeting/dining facility



Summary

Grass can be burned successfully either undensified, or as a densified product.

Appliances with an ash management system can successfully burn grass pellets.

Corrosion is an issue to deal with, but not an insurmountable one.

There is plenty of room for improvements with plenty of examples from Europe.