

# Wood Pellet Fuel Basics



Lumber residuals and agricultural bi-products



Pellet fuels from sustainable resources



Wood pellet appliance: stove, insert, furnace, or boiler

More than 95% of the US biomass thermal market today buys bagged pellet fuel to manually feed freestanding appliances in a central living area of the home. Though bags have historically been more cost-effective to deliver, there are inherent shortcomings in distributing palletized fuel:

- Manually loading appliances is cumbersome and, for some, impractical
- Storage space can be a deterrent
- Quality issues (due to storage and handling) can be more prevalent

# Bulk Wood Pellet Fuel: the Alternative to Bags

What are bulk pellets?

Bulk wood pellets are loose, “bagless” pellets that can be blown into a storage bin, in a process similar to an oil or natural gas delivery. The storage system, then, can be configured to for manual, semi-automatic, or automatic feed to a biomass appliance.

Applications:

Residential – Commercial – Agricultural



# The Advantage of Bulk

## *Highly Customizable Heating Systems:*

- account for a consumer's specific heating needs, from the size and location of storage options to semi-automatic or automatic conveyance systems.
- allow a consumer to take advantage of various rebates and tax credits, depending upon the system installed.



## *Bulk Pellets:*

- eliminate bags, therefore producing less waste.
- have the potential to reduce the costs that are tied up in packaging.



# Residential Bulk Systems (not an exhaustive list)



Harman Pellet Boiler & Furnace



Froling Pellet Boiler



Ökofen wood pellet boiler



# Bulk Delivery of Fuels (Residential)



A bulk delivery truck equipped with pneumatic hosing...



... blows pellets to an indoor flexible bag silo which can store 1- 10 tons...



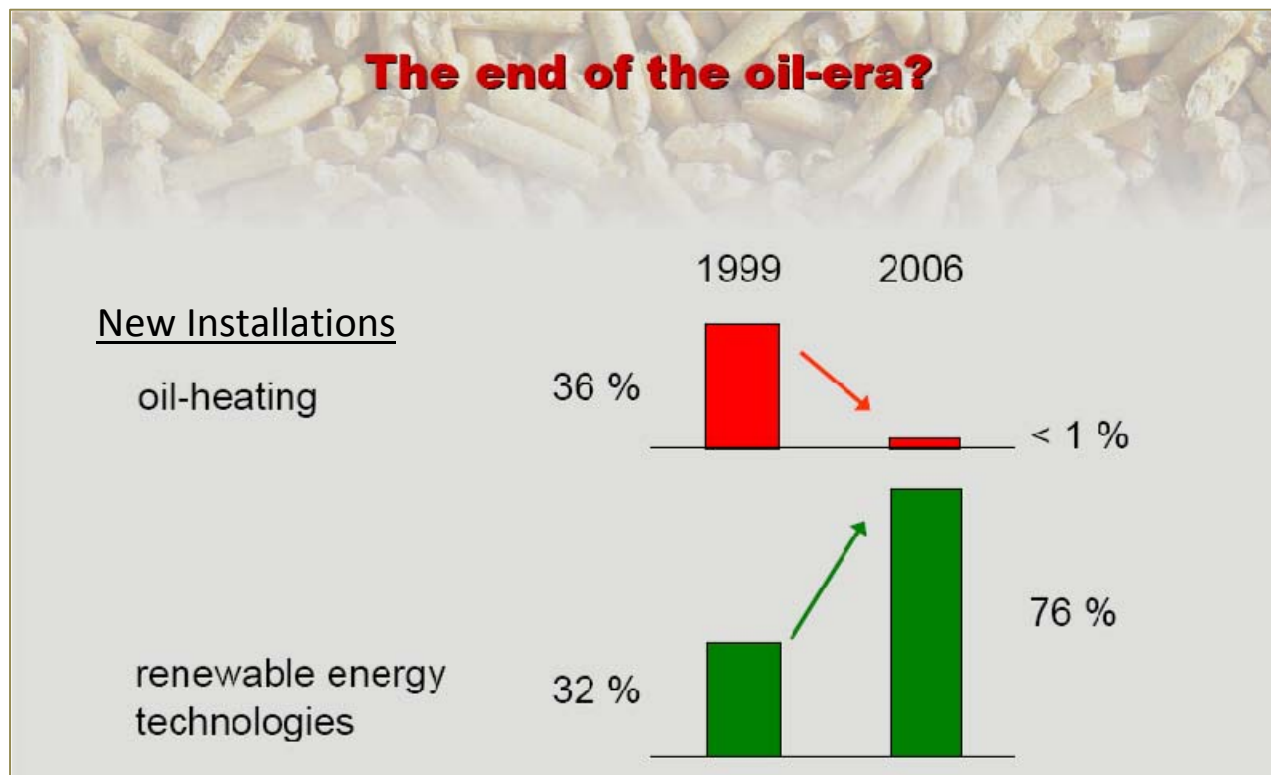
...and can feed pellets seamlessly to an automated boiler or furnace.

# The Challenges of Bulk Biomass Distribution

- Managing product quality
- Movement from plant to consumer
- Handling/storage/safety of pellets in the home

Europe has proven these challenges can be met  
(but the American market is different)

With widespread adoption and careful logistics planning, renewable heating has displaced oil in upper Austria.



Source: C. Egger, O.O. Energiesparverband, Austria, "Challenges and Opportunities in a Rapidly Growing Market" March, 2007.

## Stoves Remain US Mainstay

### Can we feed a stove with bulk?

- The pail at right is actually a bulk system
- Pellets are pneumatically conveyed through a floor mounted register system
- Ideal retrofit for existing stoves

