

# The Economics of Exporting Pellets to European Heating Markets

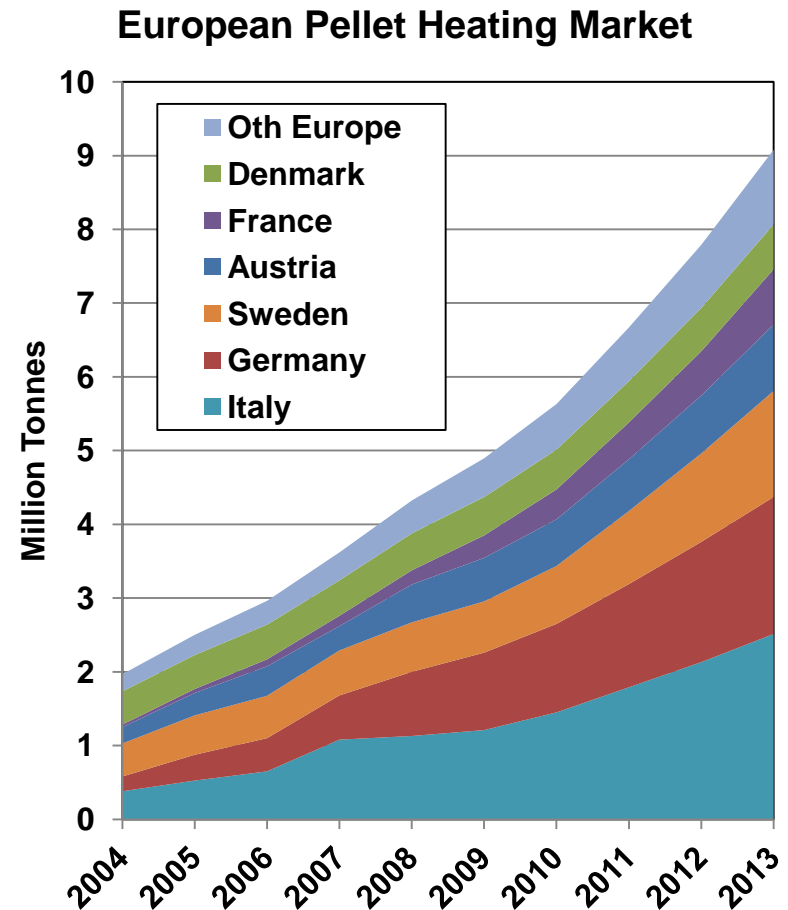
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# European Heating Market Overview

- 9 million tonnes in 2013
  - Up 16.6% from 2012
  - 462% increase over 10 years
- 6 Countries account for ~90% of the market:
  - Italy – 2.5 million tonnes
  - Germany – 1.9 million tonnes
  - Sweden – 1.4 million tonnes
  - Austria – 900,000 tonnes
  - France – 750,000 tonnes
  - Denmark – 600,000 tonnes

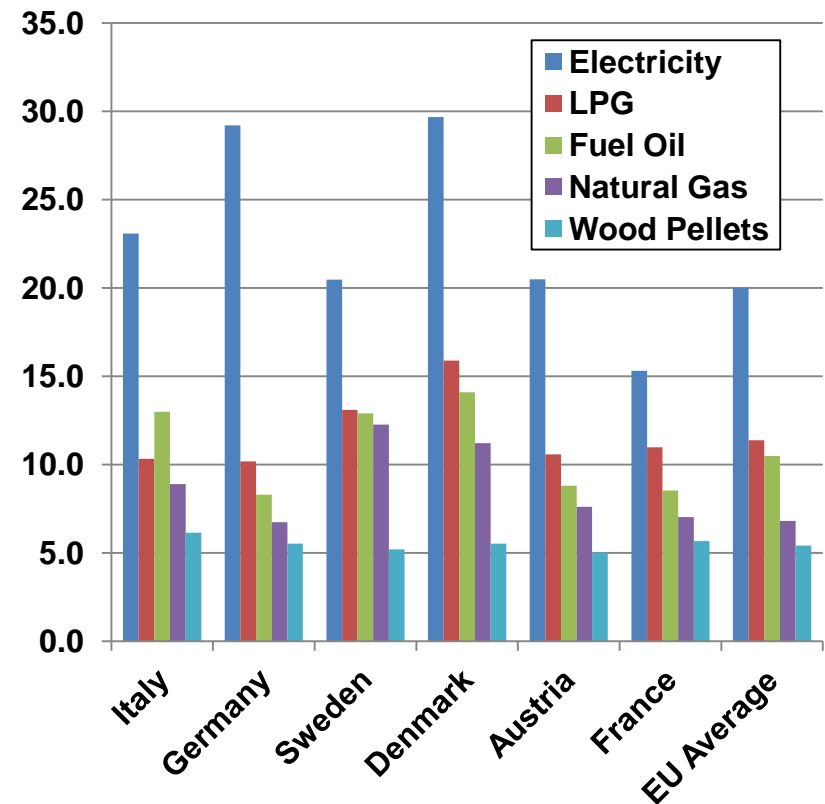


Source: AEBIOM, EPC, EIA, RISI

# Pellet Heating Market Based on Economics

- Primary reason for growth:
  - relative cost vs other forms of space heating
- Pellets average ~260€/t across Europe
  - About 5.4 €/kWh
  - Nat Gas 2<sup>nd</sup> - 6.8€/kWh ~26% more expensive
  - Wood chips and logs are cheaper (where available) but pellets have convenience advantage

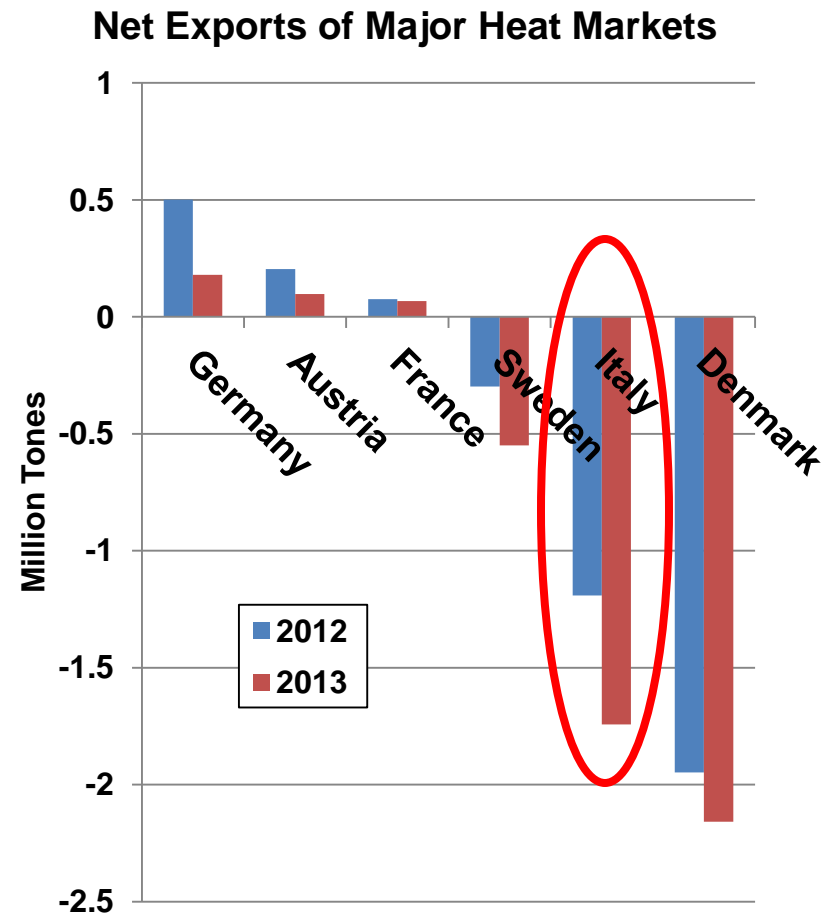
Space Heating Cost per kWh  
By Country and Fuel Type



Source: Eurostat, EPC, mylpg.eu, ProPellets Austria, DEPV/DEPI, RISI

# Opportunities for Exports from North America

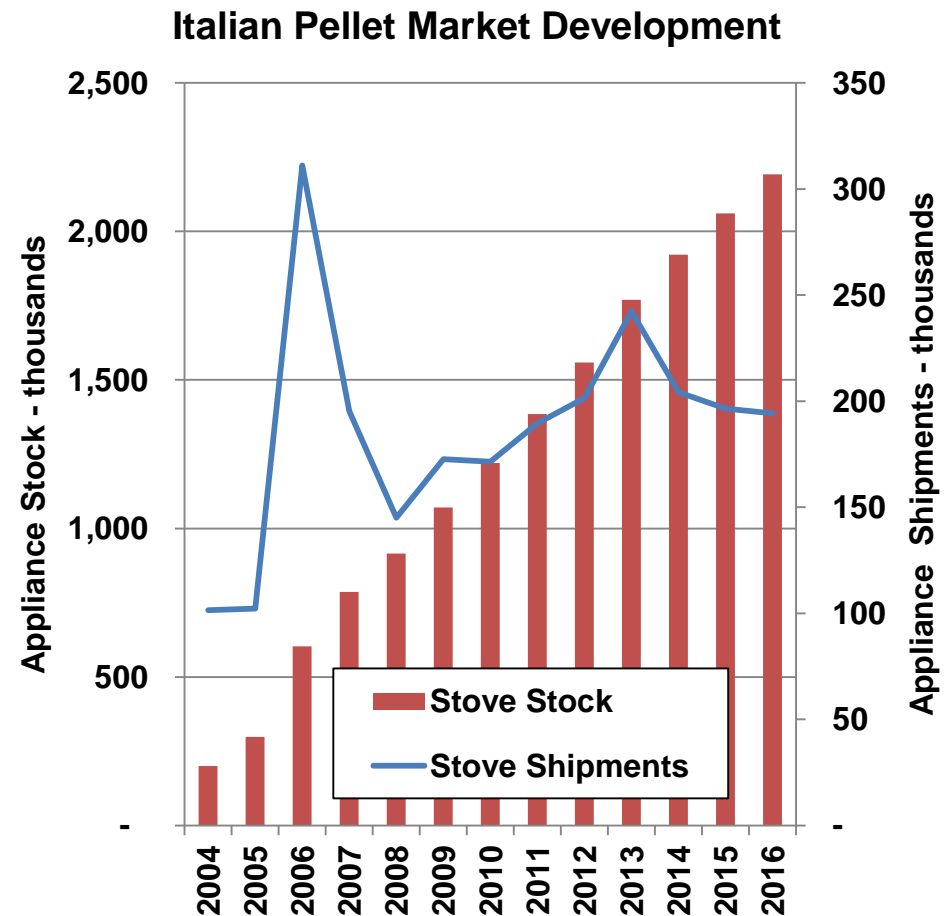
- Some big markets are net exporters
  - Germany
  - Austria
  - France
- Sweden
  - Imports mainly from Russia, Estonia, Latvia
  - Bulk, Industrial
- Denmark
  - Industrial market is by far the biggest player
  - Russia and Baltics biggest source
- Italy
  - Diverse mix of sources
  - Austria-20%, Canada-11%, Croatia-7%, USA-7%
  - 12 countries – over 50,000 tonnes



Source: GTA, RISI

# Italian Pellet Market

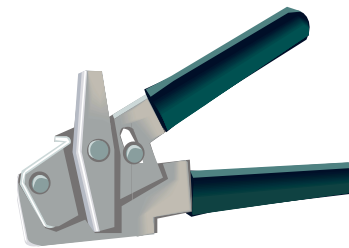
- Stock of pellet stoves in 2013
  - 1.77 million
- Demand in 2013
  - 2.5 million tonnes
- 5-year average stove installations
  - 195,000 units
- Forecast: 2016
  - Stock 2.19 million units
  - Demand 3.1 million tonnes
- Forecast: 2024
  - Have to get our study ;-)



# North American Exports to Italy: Current Situation

- Logistics: vast majority of market is bagged
  - AIEL: less than 20,000 tonnes of bulk delivery in 2013
- Bulk Shipments
  - Bagging operations set up at the ports of Napoli, Gaeta, Livorno, Civitavecchia, Savona, and Ravenna
  - Significant volumes from Vancouver (over 150,000 tonnes in 2013)
  - At least 3 shipments from USA – Savannah and Port Arthur
- Containerized Shipments
  - Norfolk, VA
  - Smaller spot shipments from other ports

# Economics



- How attractive is the Italian pellet heating market for North American exporters?
  - On the surface: ~260-295 €/tonne = 350-400 \$/tonne
- We will analyze 3 different supply chains from North America
  - Bulk vessels
  - Containerized
    - Bulk
    - Bagged on pallets
- Lets try to figure out:
  - Retail price in Italy -> Mill realization price in USA
- My warning: Assume a can opener
  - “There is a story that has been going around about a physicist, a chemist, and an economist who were stranded on a desert island with no implements and a can of food. The physicist and the chemist each devised an ingenious mechanism for getting the can open; the economist merely said, "Assume we have a can opener!"”
  - Boulding – *Economics as a Science* 1970

# Starting from the Top





	Bulk Vessel	Bulk Container	Bagged Container
Bagged, in container, ready to go	\$248	\$248	\$248
Bagging at Port	\$20	\$20	N/A
Handling and Storage	\$15	\$5	N/A
<b>Unit Price, CIF Italian Port</b>	<b>\$213</b>	<b>\$223</b>	<b>\$248</b>
Shipping Cost	20,000+ tonne vessel <b>\$35</b>	40-foot container: \$2000 23 tonnes/container (typical road limit) <b>\$87</b>	40-foot container: \$2000 22 pallets/container (22 tonnes) <b>\$91</b>
Handling and Stevedoring	\$15	N/A	N/A
Haul to Port	\$10	\$10	\$10
Mill Realization Price	\$153	\$126	\$147
<b>Revenue (incl \$18/tonne bagging)</b>	<b>\$153</b>	<b>\$126</b>	<b>\$129</b>

# Take-aways

- Shipping costs make the economics of small-scale container shipments relatively unattractive at the moment
- Price of \$147/tonne (\$134/short ton) is below what most producers expect in the domestic market
  - Significantly lower than Northeast, a little less than most of South
- Exchange rates play a key factor
  - Bagged container example:
    - 1.45 USD/Euro –\$172 mill realization price
    - 1.25 USD/Euro - \$122 mill realization price
- Opportunities for cost savings
  - Aggregation and bulk shipments
  - Penetrating distribution channels in Italy

# What is the outlook?

- Pellet prices have been steadily increasing
  - Limited by alternative fuel pricing
  - How much more can they increase before pellets are no longer attractive to consumers?
- Europe in general is going to become more dependent on imports

## RISI:

- Steady growth expected to continue in European heating markets
  - Germany will be a net importer within 5 years
    - » Already some shipments from German Pellets
      - Port Arthur and New Orleans
      - Possibly aggregated volume from smaller producers
  - Austria will be a net importer in 2-5 years

# Quick Plug

- Global Wood Pellet Demand Study
  - Wrapping up right now
  - 10 year outlook for:
    - European Industrial Markets
    - European Heating Markets
    - North American Heating Market
    - Asian Industrial Markets
- See me for a prospectus

RISI

Special Market  
Analysis Study

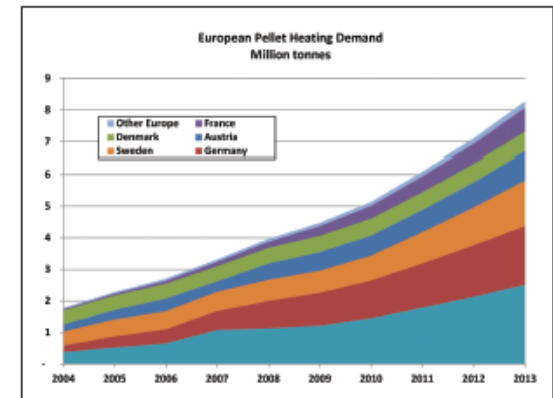
Global Pellet Demand Outlook

[www.risi.com/globalpelletdemand](http://www.risi.com/globalpelletdemand)

**NEW STUDY: A detailed analysis and 10-year forecast of growing wood pellet markets by region**

The global wood pellet market is in the midst of a period of rapid expansion. Wood pellet fuel, initially used as a niche alternative to oil heating, has become a mature and diverse market with applications ranging from home heating to displacing coal in some of the largest power plants in the world.

RISI's new study Global Pellet Demand Outlook analyzes and forecasts growing wood pellet markets through 2024 by region. This study specifically focuses on the European industrial market, European heating market, North American heating market, and Asian industrial market.



**Are you involved in the wood pellet market or financing renewable energy projects?**

The study identifies key insights to help you better understand the future of global pellet demand including:

- Regions where pellet consumption is expected to increase
- A review of pellet demand drivers by region
- 10-year forecasts for global pellet demand

# Thank You!

Happy to answer questions!

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