The Global wood pellet market

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Ekman is one of the world´s leading sales and marketing organizations, focusing on the global forest industry.

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Ekman at a glance

Pulp

Paper & Packaging

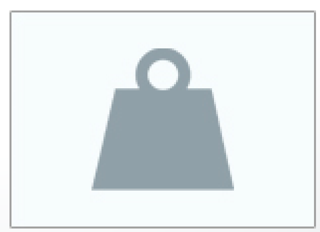
Recovered Materials

Bioenergy

Incorporated in 1802

277 employees
40 locations

Represented in 100 + countries



+ 4 800 000 tons/year

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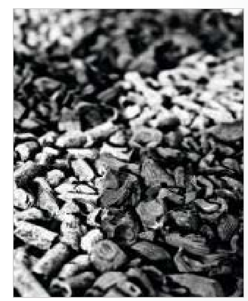
Main focus

”We are specialized in the sales and marketing of forest products. We have broad experience in creating solutions for related financial and logistical matters.”

Pulp

Paper & Packaging

Recovered Materials



Bioenergy

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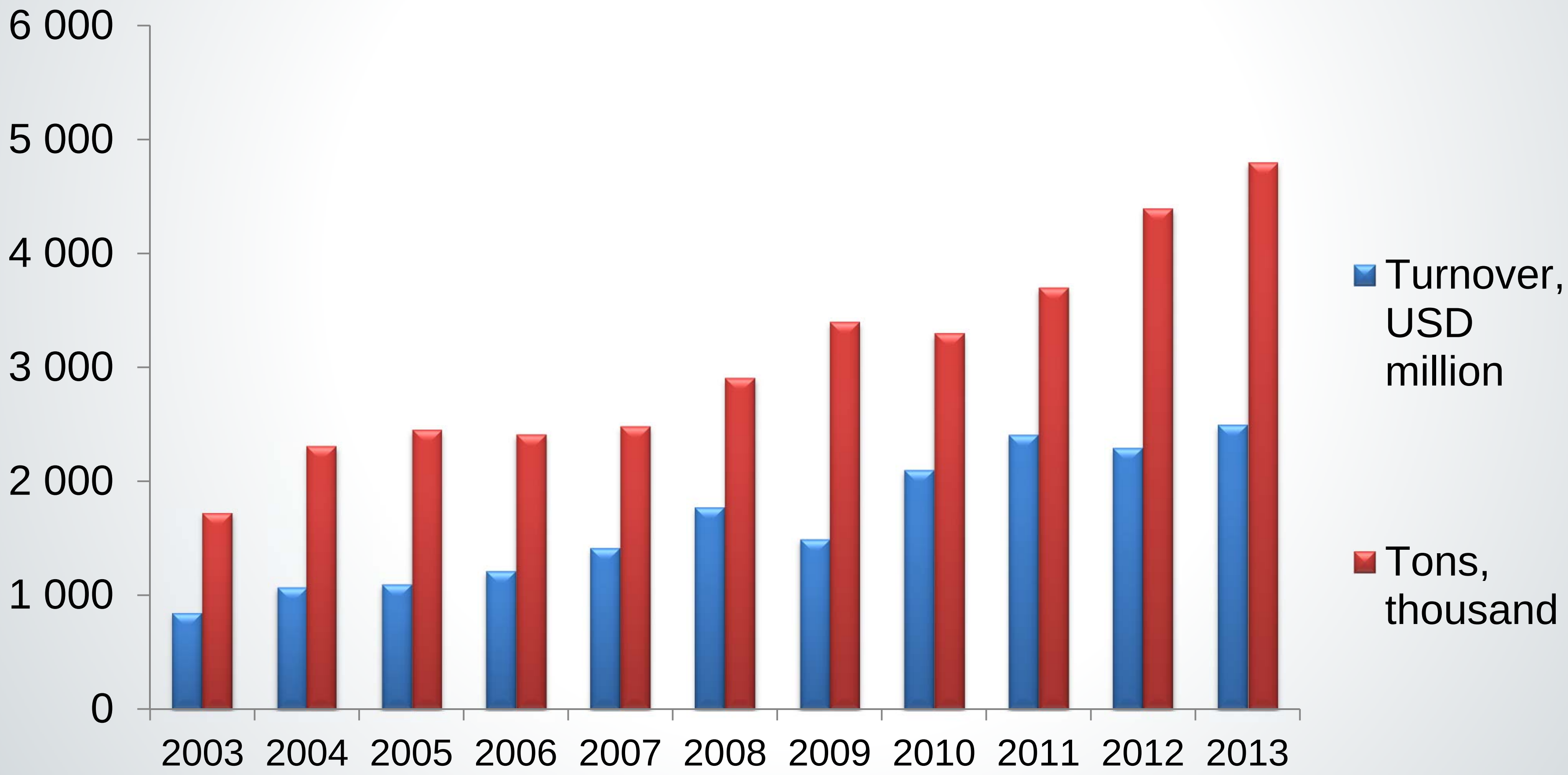
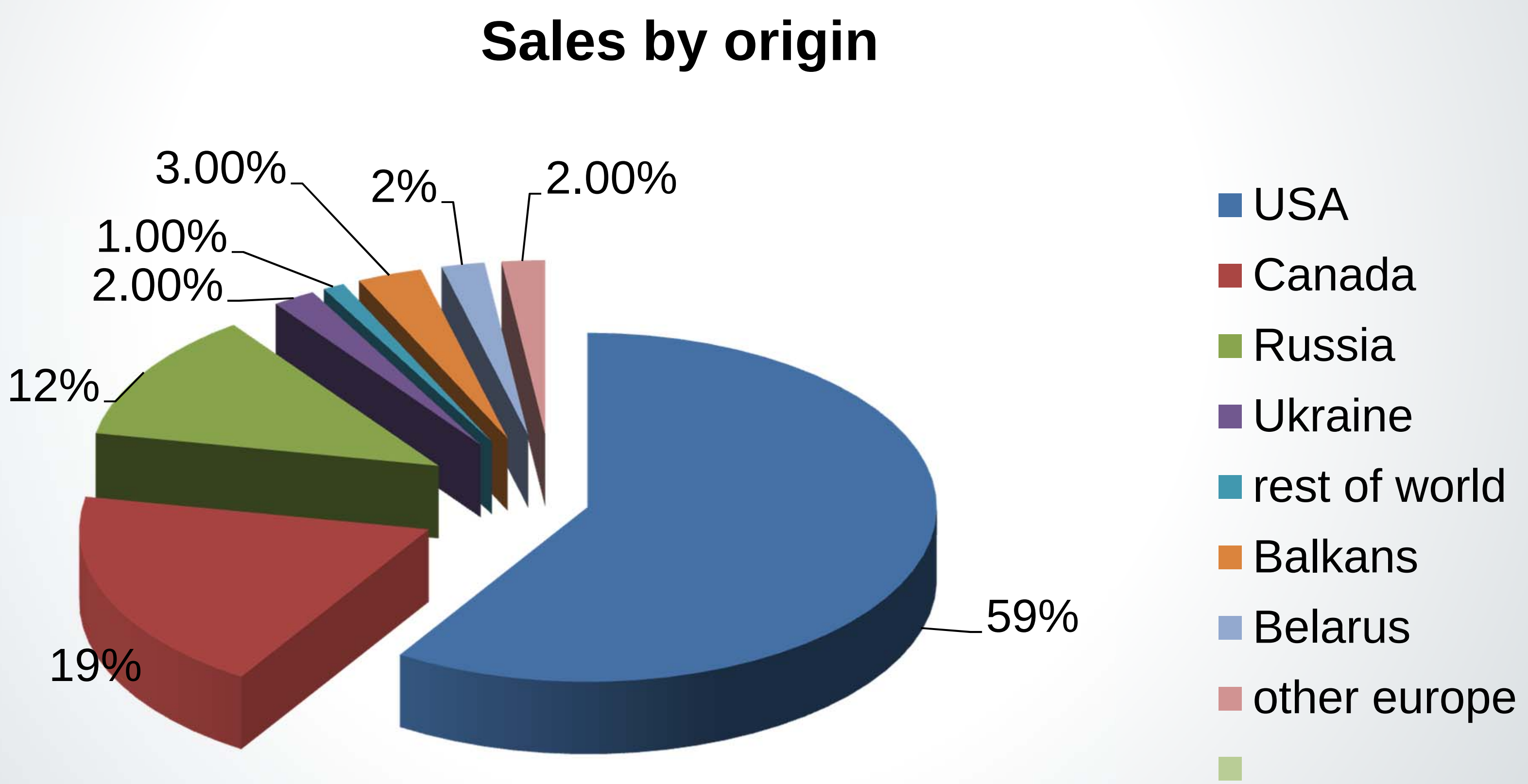
Ekman Group
Volume & Turnover 10 years



Bioenergy – at a glance

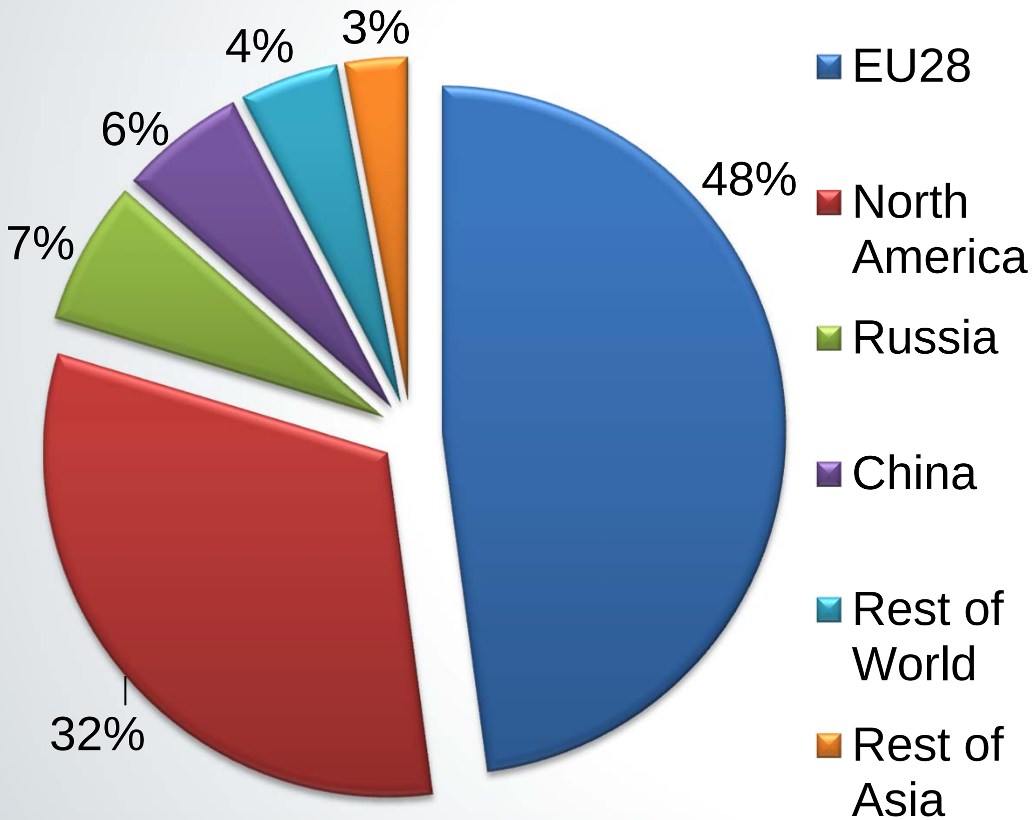
- Employees in Sweden, Denmark, Latvia and Italy
- Trading bioenergy products since 2008
- A leading biomass trader in Europe
- Exclusive agents for the wood pellet plants of VLK in Vyborg, Russia, and Scotia Atlantic Biomass in Halifax, Canada
- Delivering to the residential markets in Scandinavia, Germany and Italy

EU Imports of wood pellets from non EU countries during 2014 totaled about 5 million tons



World wood pellet production share in 2014 [in mill tons]

Source: IEA Bioenergy Task 40



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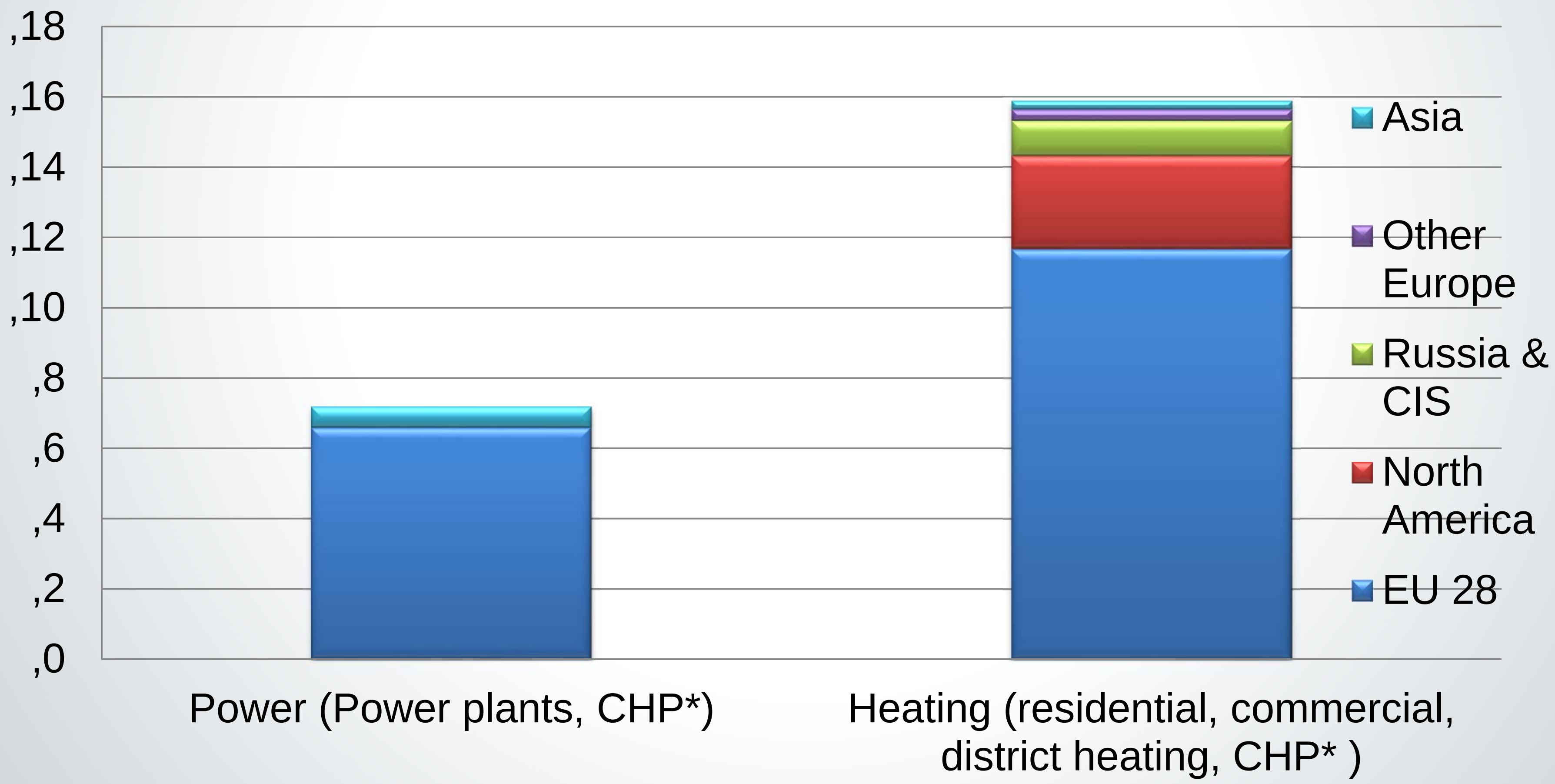
World wood pellet demand in 2013 - power versus heating [in million tonnes] Sources: Hawkins Wright, EPC Survey

*2/3 of the global pellet consumption of CHP is attributed to heating & 1/3 is attributed to power.



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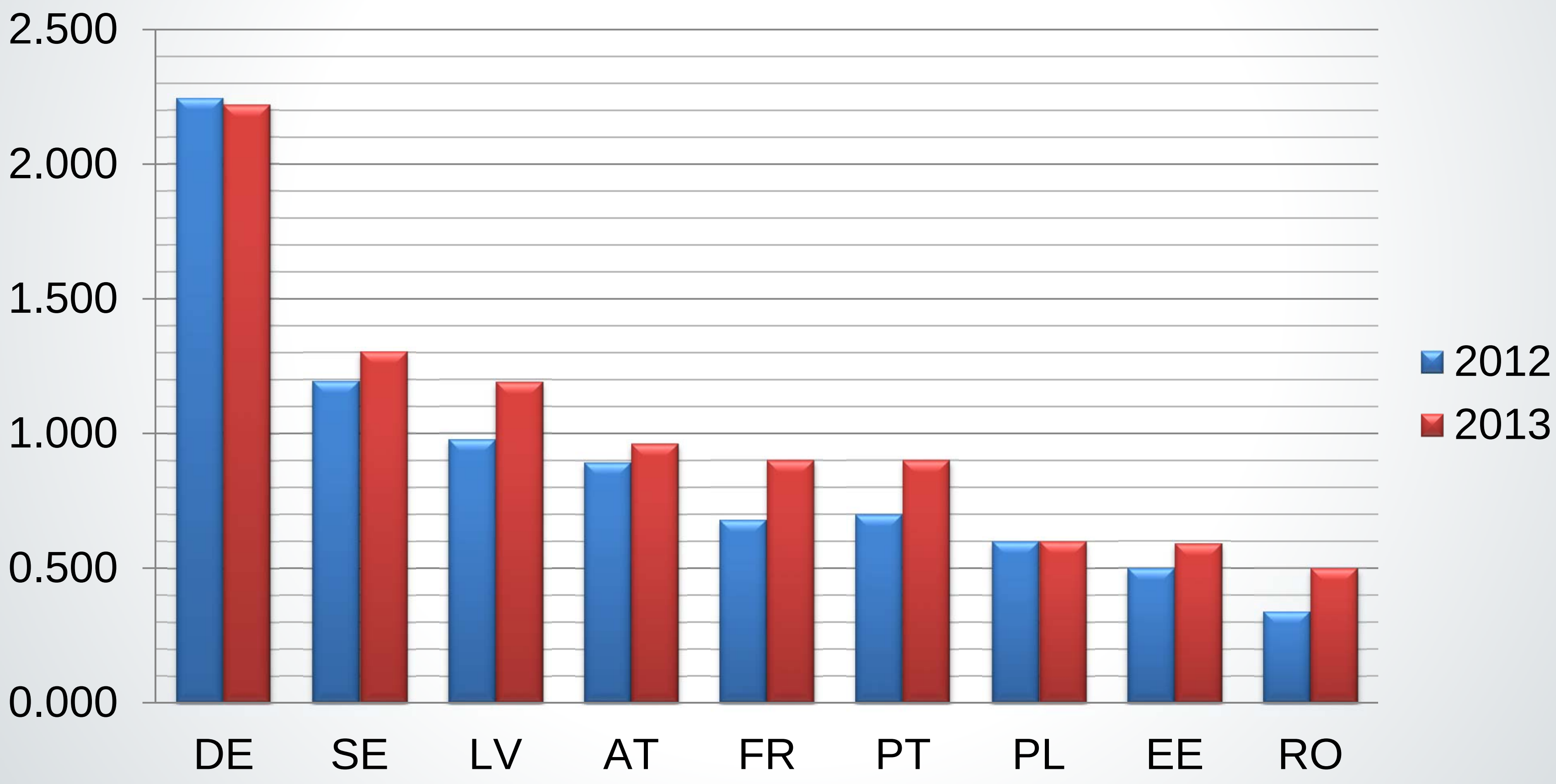
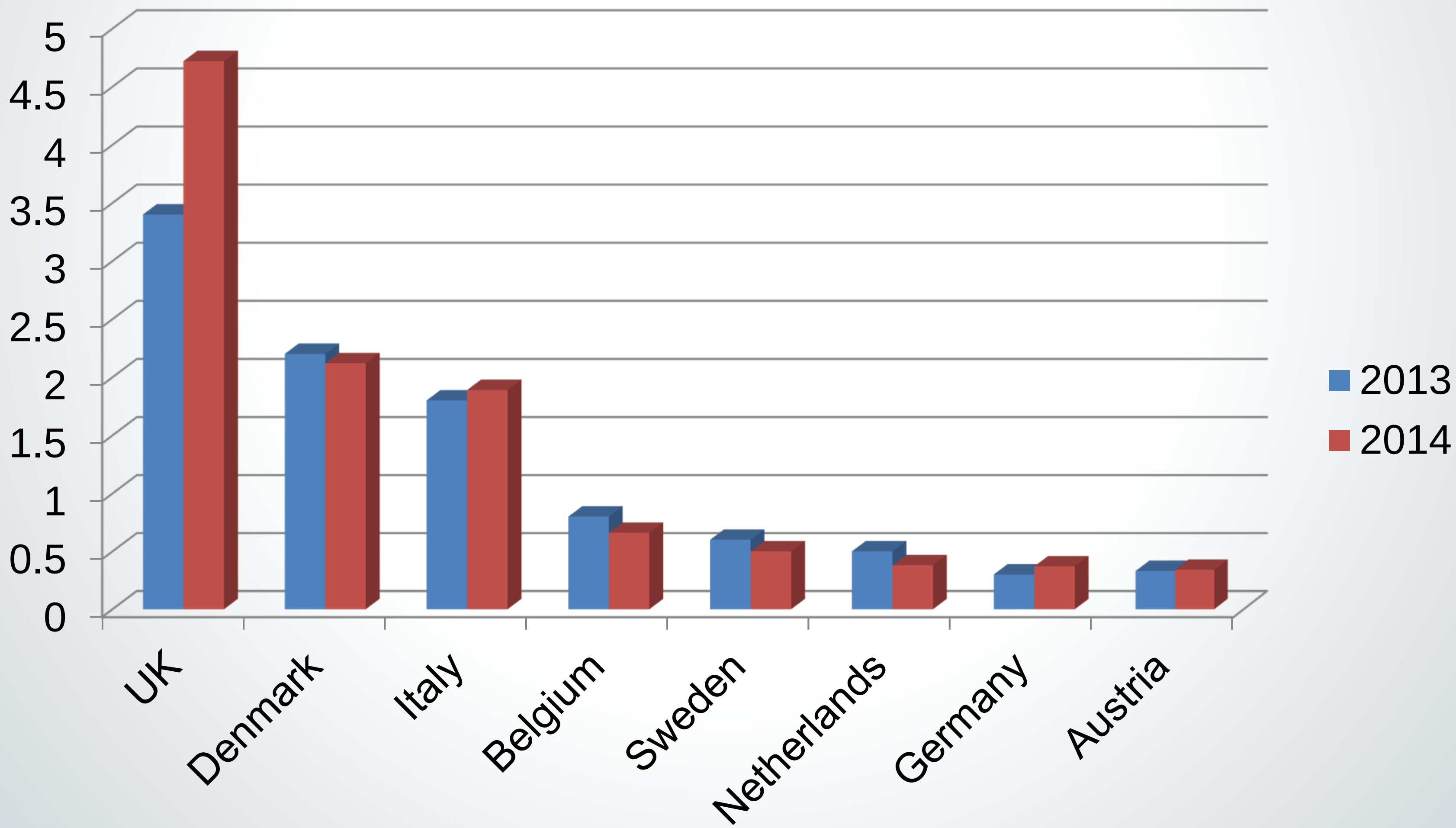
Main European wood pellet producer countries in 2013 compared with 2012 [in thousand tonnes]

Source: EPC



EU wood pellet imports by country, 2014 versus 2013

(Source: Hawkins Wright)



Top ten wood pellet consuming countries, by end-use in 2013 [in million tonnes] Sources: Hawkins Wright, EPC Survey

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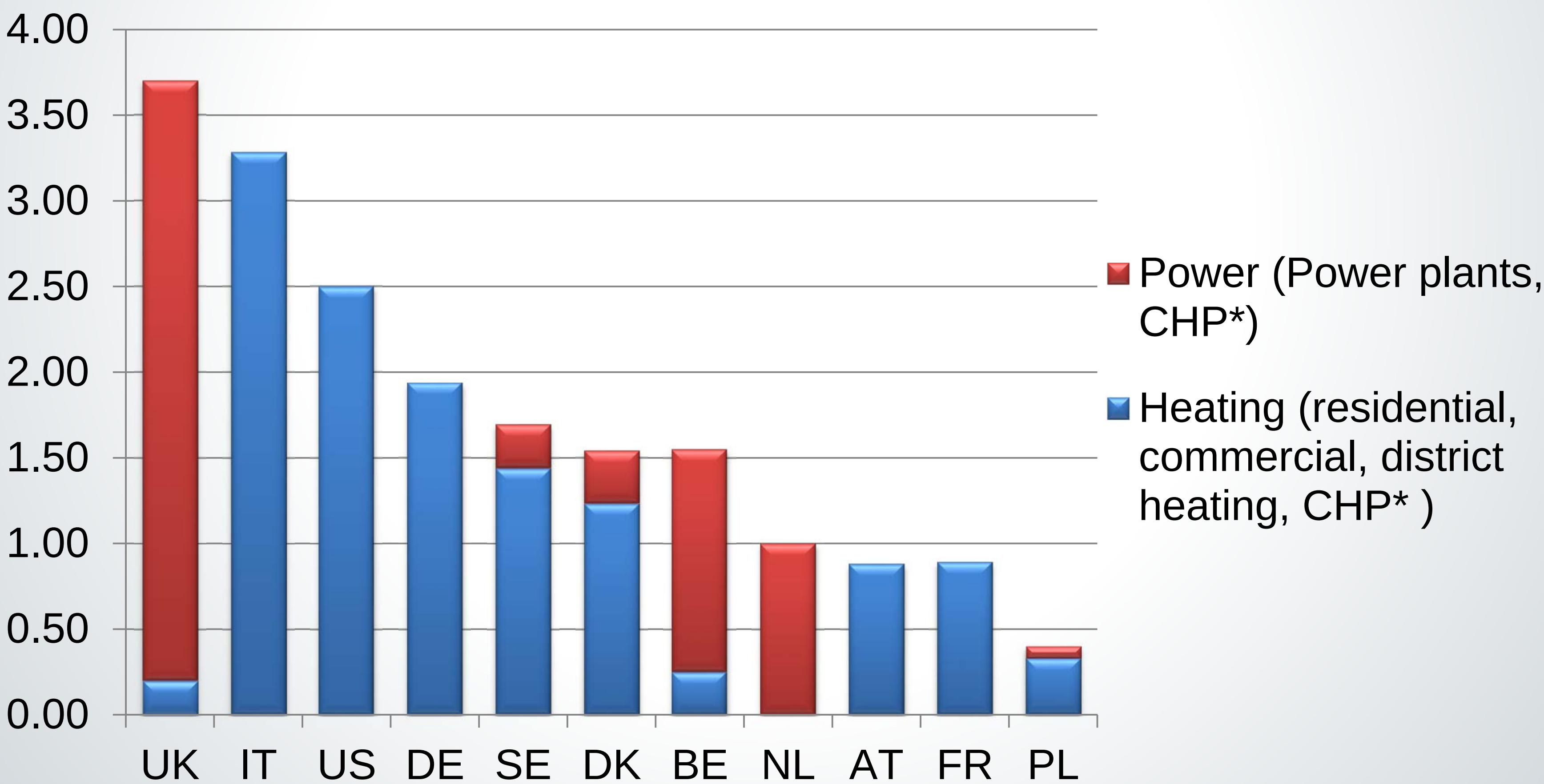

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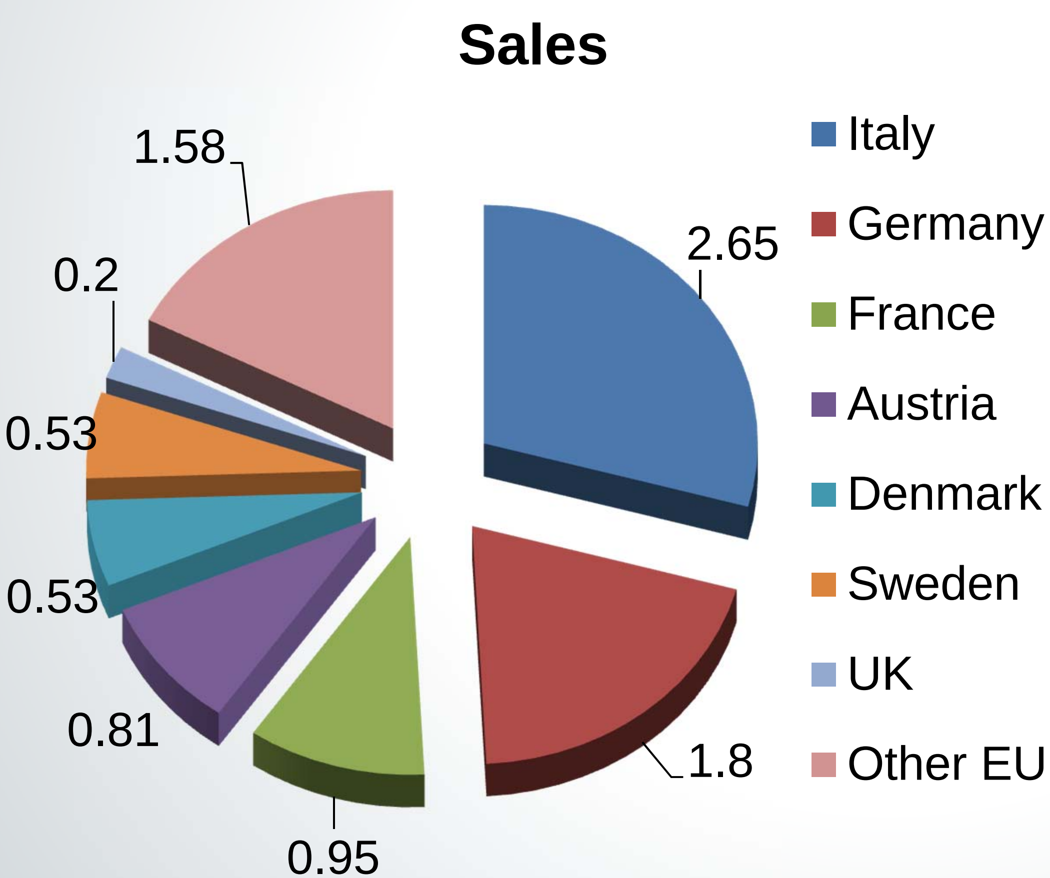
Main EU-28 wood pellet consumers for heating in 2014 [in million tonnes]

Source: EPC



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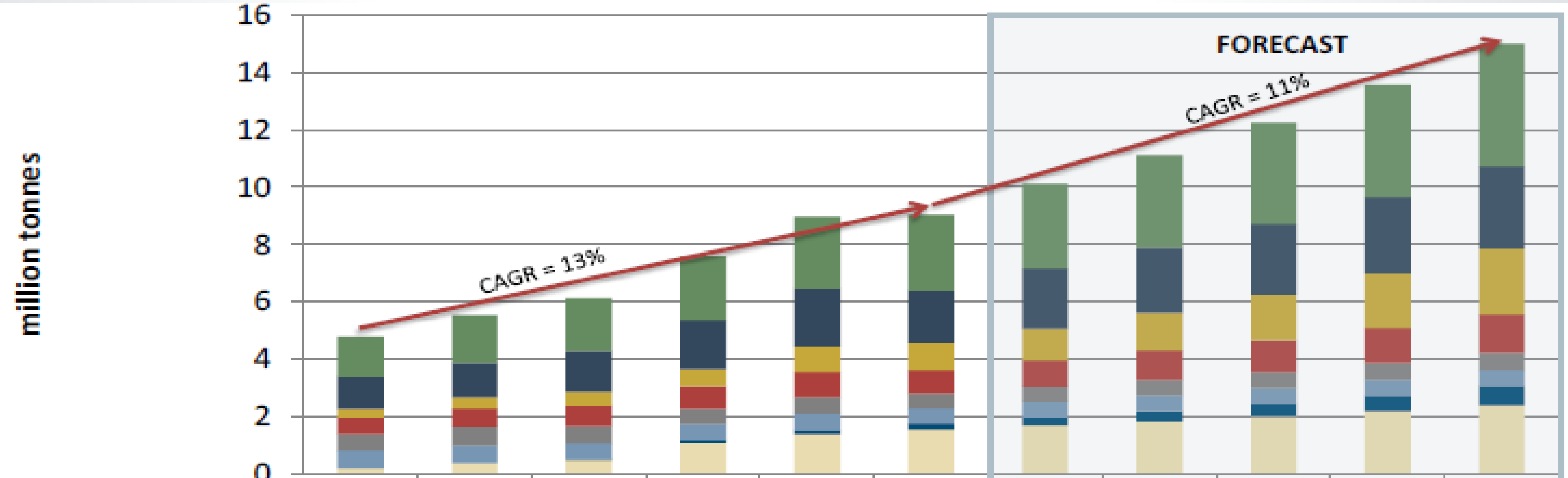
Five year forecast of EU heating pellet demand by country

(Source: Hawkins Wright)



	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
EU28 TOTAL	4.80	5.55	6.14	7.58	8.97	9.04	10.10	11.11	12.25	13.53	14.99
Italy	1.40	1.65	1.85	2.20	2.50	2.65	2.92	3.21	3.53	3.88	4.27
Germany	1.10	1.20	1.40	1.70	2.00	1.80	2.10	2.27	2.45	2.65	2.86
France	0.31	0.39	0.50	0.60	0.89	0.95	1.10	1.32	1.58	1.90	2.28
Austria	0.58	0.66	0.71	0.79	0.88	0.81	0.93	1.02	1.12	1.23	1.36
Denmark	0.57	0.62	0.57	0.54	0.57	0.53	0.54	0.55	0.56	0.57	0.58
Sweden	0.60	0.63	0.57	0.56	0.57	0.53	0.54	0.54	0.55	0.55	0.56
United Kingdom	0.00	0.00	0.04	0.07	0.15	0.20	0.28	0.34	0.43	0.54	0.67
Other EU28	0.24	0.41	0.51	1.12	1.41	1.58	1.71	1.86	2.03	2.21	2.42

Source: Hawkins Wright research

Japanese energy policy update

- **At end of February the Ministry of Economy, Trade and Industry (METI) released its new energy strategy**
  - Acknowledges severe concerns regarding energy security due to high level of dependence on imported fossil fuels
  - Reconfirms aim to reduce the role of nuclear and increase renewables, coal, natural gas and energy efficiency programmes
  - Securing sufficient and stable electricity supply is of paramount importance; a <u>complete overhaul of energy supply & demand is needed</u>
- **In March '14 METI confirmed new Feed in Tariff levels**
  - tariffs for solar PV were reduced but biomass remain the same:

	Forest residues	Other woody biomass (inc. imported pellets)	Wastes (exc. wood waste)	Recycled wood
20 year tariff (JPY/kWh)	33.6	25.2	17.85	13.65
(EUR/kWh)	0.24	0.18	0.13	0.10

Source: Hawkins Wright, *'The Outlook for Wood Pellets'*, April 2014

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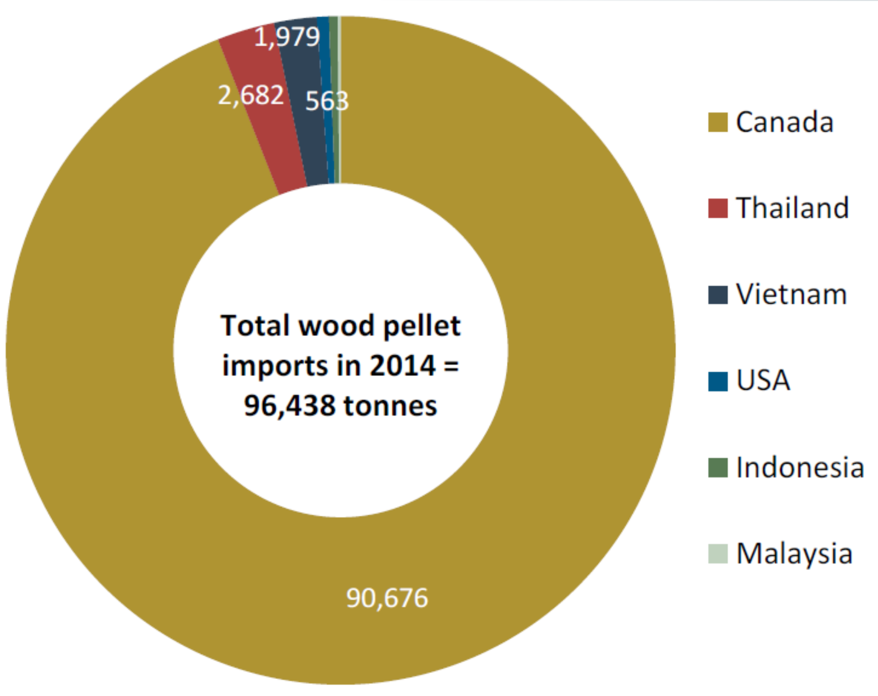
Japanese wood pellet market

- **The vast majority of FiT projects use local biomass**
- **Therefore wood pellet imports to Japan are still modest**
  - trade data shows imports of ~96kt (in 2014)
- **Total demand in 2014 is believed to have been around 185,000t**
  - 85kt in heating sector; 100kt in the industrial sector
- **Imported wood pellets will play a bigger role in future**



Source: Trade Statistics of Japan, Ministry of Finance and Tradeviews

Source: Hawkins Wright, *'The Outlook for Wood Pellets'*, Q1- 2015

Korea imported about 1.9 million tons of wood pellets in 2014

(Source: Hawkins Wright)

- Total wood pellet demand in Korea in 2014 was 2Mt, this is an increase of +375% since 2013 (when demand was ~0.5Mt).
- A small volume of heating pellets – less than 100kt in 2014 - are produced locally in Korea and sold into the heating market.
- The main supplier to the country was Vietnam (at 743kt), followed by Canada (344kt),China (289kt), Malaysia (168kt) and Thailand (111kt).
- Exports from Vietnam to Korea increased more than four-fold, from 157kt in 2013 to 743kt in 2014, accounting for 40% of total Korean imports
- The rapid rise of pellet demand in Korea, and the relative immaturity of the market, has led to inevitable lessons being learnt. The open tender system used by the Korean genco's to procure imported pellets has arguably placed too much emphasis on price, at the expense of quality.

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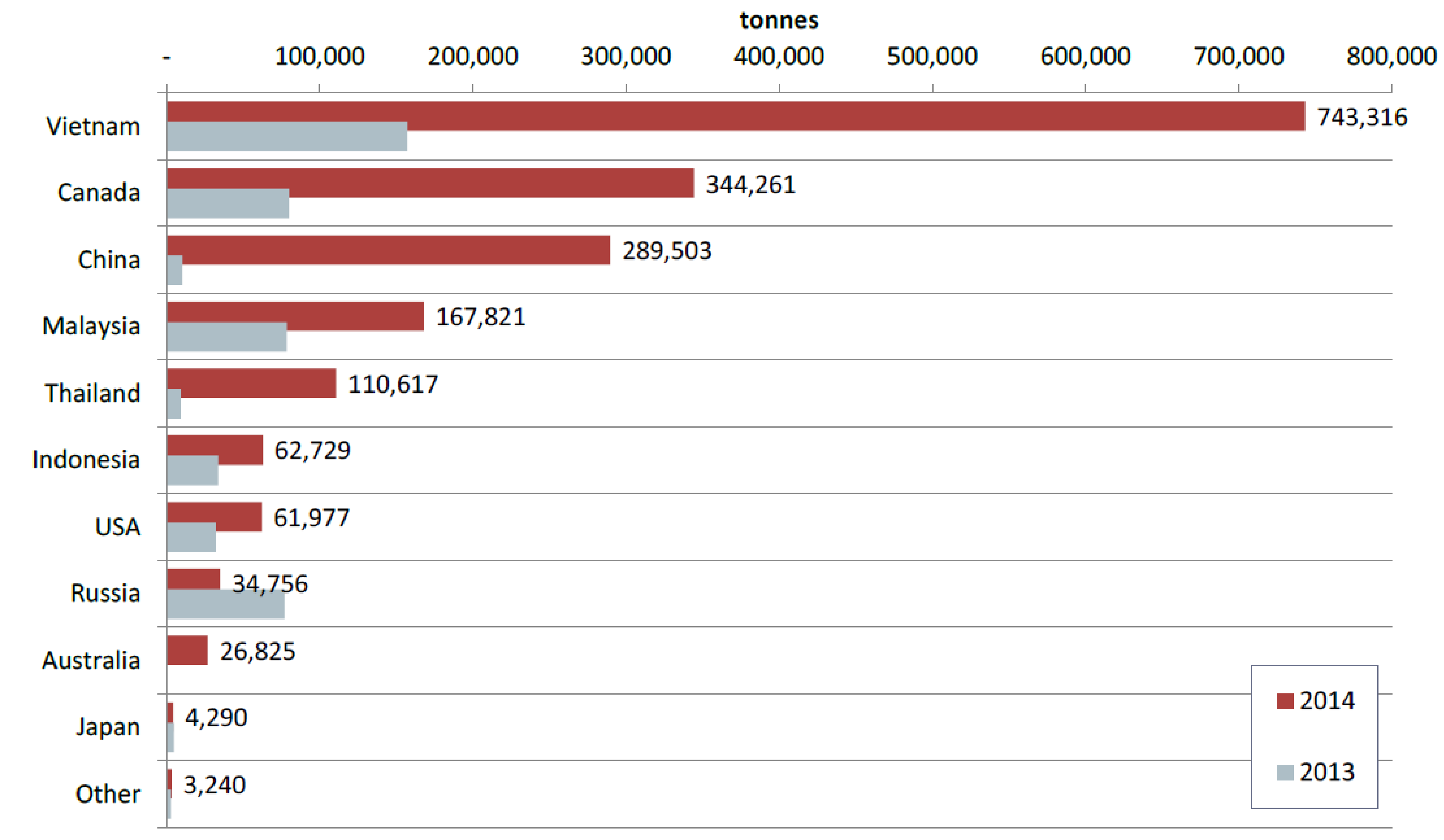
Imports to Korea by country of origin 2014 compared to 2013



Source: Korean customs data

The Global wood pellet market
Conclusions

- The European wood pellet market is still the world's largest market this is unlikely to change
- Europe is still the worlds largest wood pellet producer with 48% of global production, but North America may overtake Europe in time
- Contrary to expectations production volumes in nearly all European countries are showing healthy increases
- Consumption in both the power and heat markets are showing good growth
- Asian producers have shown just how quickly new supply routes can develop, once the market demand is there.
- Despite the increased demand we expect prices will remain relatively stable

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