

**Solid Biofuels for Electricity and Heat
Production in Denmark
Workshop 10.3.2010, Copenhagen**

**The supply perspective in
the short and medium term**

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VAPO GROUP

LEADING BIOENERGY COMPANY

- **World leader in peat**
- **Baltic Sea area in focus**
- **Divisions**
 - **Local Fuels**
 - **Pellets**
 - **Heat & Power**
 - **Garden & Environment**
 - **Timber**
- **Turnover 600 mill euros**
- **Owned by State of Finland (50,1 %) and local energy companies (49,9 %)**

VAPO Pellet

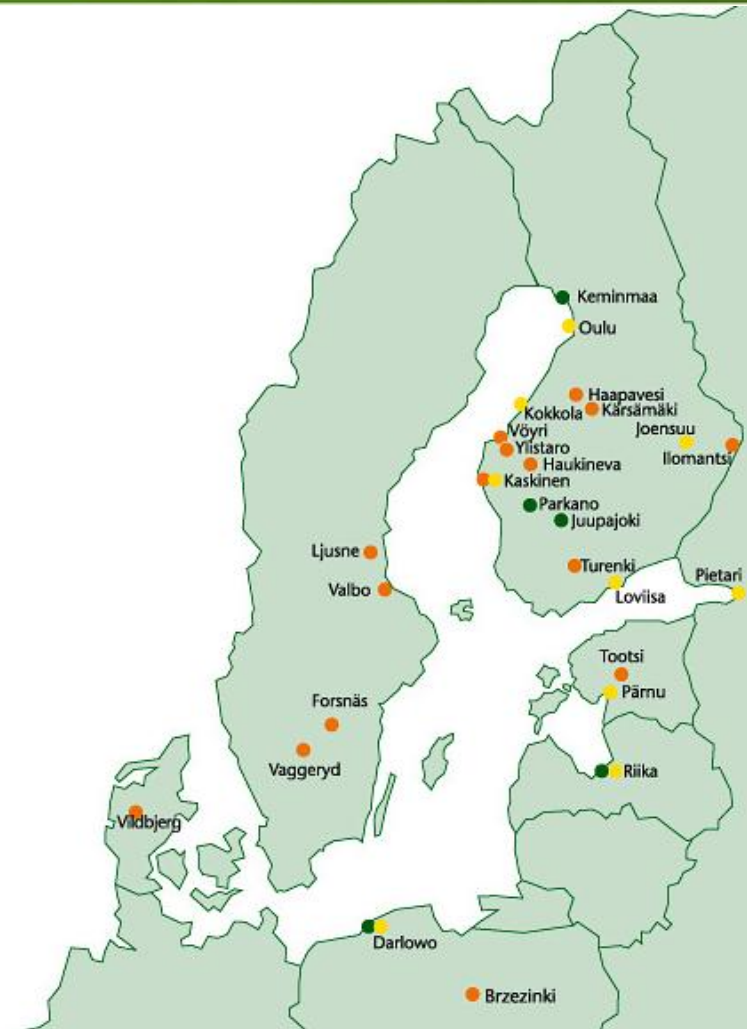
Production and supply

Pellet Factories of Vapo Group

Finland	7
Sweden	4
Denmark	1
Poland	1
Estonia	1
TOTAL	14

Own production 0,6 mill ton
Partners & purchase 0,1 mill ton

- Factories of Vapo Group
- Partner producers
- Loading port



VAPO Pellets Sales

Main markets

	Cons.	Mid	Large
Sweden	x	x	x
Denmark	x	x	x
Finland	x	x	
Poland		x	x
Benelux/UK			x

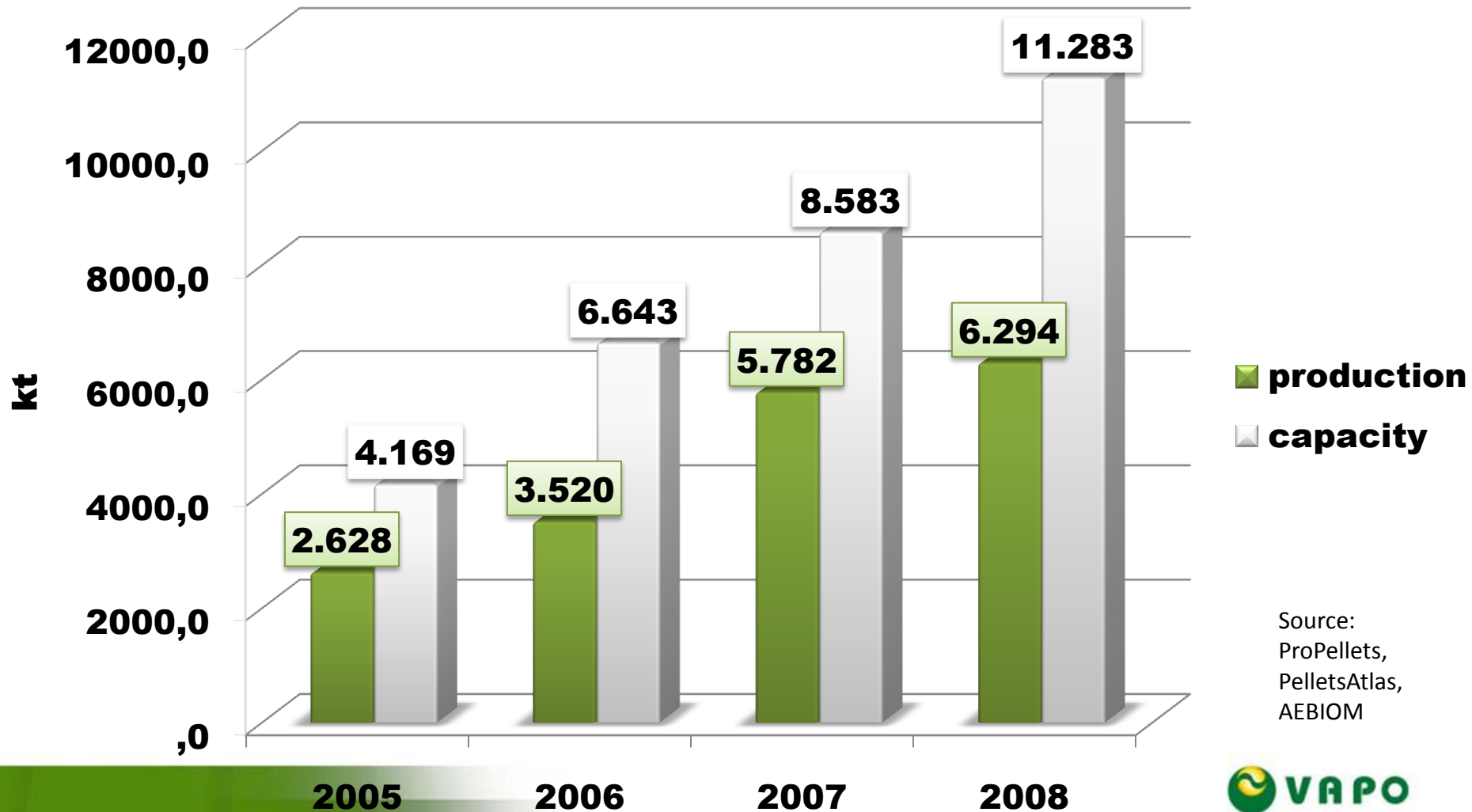
Total sales 0,7 mill tons.

VAPO Pellets Denmark

VAPO A/S

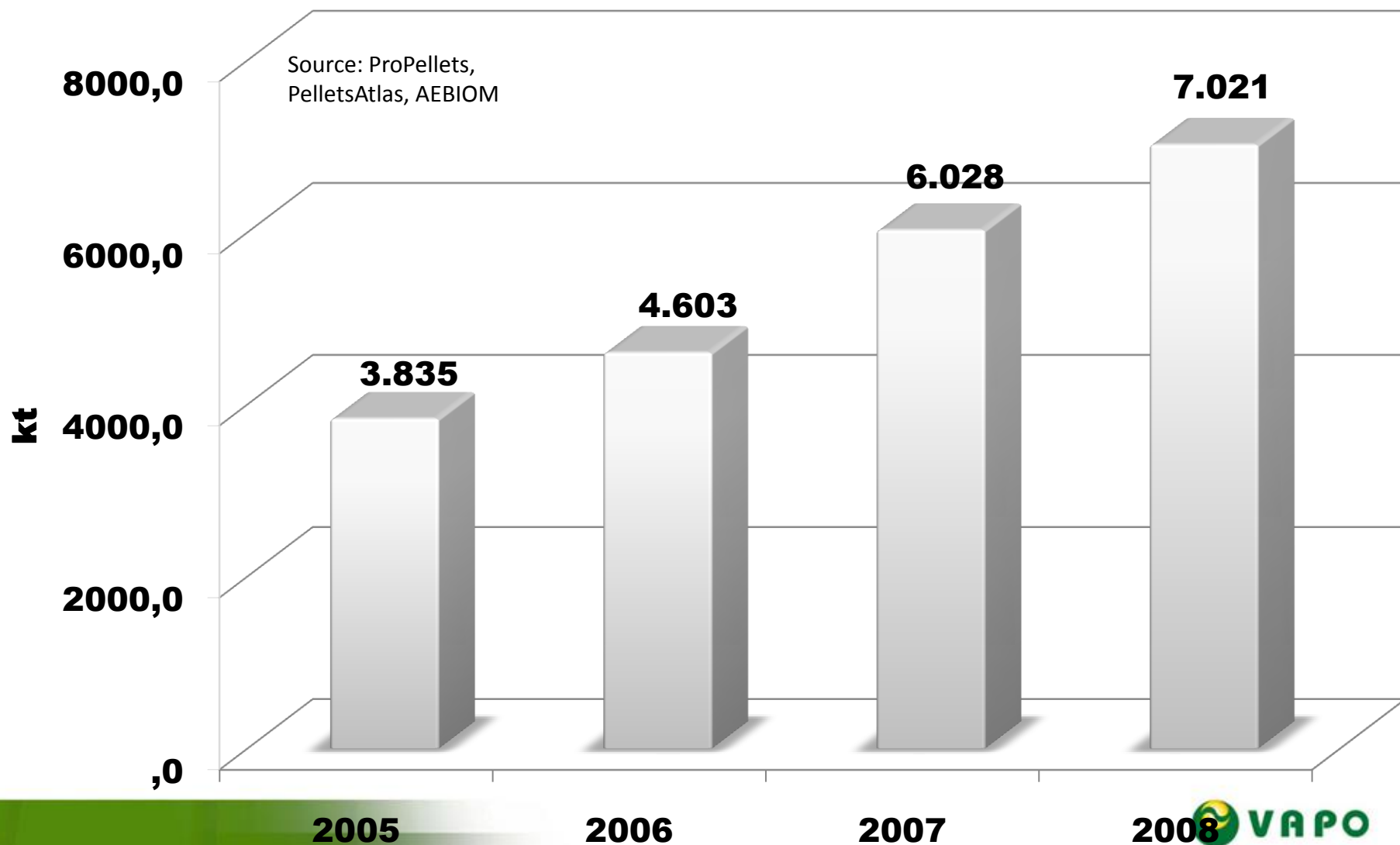
- **Take-over of Statoil Danish pellet operations 2009**
- **Factory in Vildbjerg, Jylland**
- **Only bagging and terminal operations now**
- **One of leading suppliers to consumer and mid market in Denmark**
- **Target 2010: 130 000 ton**

Pellets production and capacity in EU27 (kt)



Pellets consumption in EU27 (kt)

Source: ProPellets,
PelletsAtlas, AEBIOM



European Pellet Markets

Biggest markets 2008

	Volume Mill tons	Main customer segments
➤ Sweden	1,85	C M L
➤ Denmark	0,95	C M L
➤ Belgium	0,95	L
➤ Netherlands	0,91	L
➤ Germany	0,90	C M
➤ Italy	0,85	C
➤ UK	0,76	L
➤ Austria	0,51	C M

C= Consumer
M=Mid size
L=Large

Factors affecting to the development of pellet market

Main incentive types in Europe

- ❑ **Renewables obligation**
 - **UK, Netherlands, Belgium, Poland**
- ❑ **Feed in Tariffs**
 - **Germany, Sweden (electricity)**
- ❑ **Taxation**
 - **Sweden, Denmark, Italy (electricity)**
- ❑ **Subsidies for investments**
 - **Austria, Germany**

What is happening short term?

Production

Huge investment all over the world

- **South East USA**
 - **Several projects in size of 0,2 – 0,7 mill tons**
- **Russia**
 - **Vyborg 0,9 mill ton, several mid and small projects**
- **Asia**
 - **Vietnam, China, Australia, etc**
- **Coming**
 - **South America**

=> TOTAL PRODUCTION CAPACITY WILL INCREASE SEVERAL MILLIONS OF TONS IN 2 YEARS

What is happening short term? Consumption

EUROPE

- **Growth, but not boom in existing markets**
- **UK is most active, incentives in place, but**
 - **ROC system seems to be too unpredictable for investors**
- **Member countries building RES action plans, but**
 - **Regulations earliest 2011**
 - **delay before demand really start, 2013?**

USA

- **Now residential market**
- **with reasonable growth**
- **What shall Obama regime decide?**
 - **if incentives for mid and big scale, markets will explode**

ASIA

- **Interest for pellet in Japan, South Korea, Taiwan, China**
- **Incentives not in place yet**

Conclusions for short term (2010-2012) development

- **Pellet production will increase remarkably**
- **Growth is mostly outside EU countries**
- **Most projects are heading to EU customers**
- **Oversupply in the market will continue**
- **BUT, US market development can change the picture**

Medium term (2013-2015) development

- **Pellet production continues to grow near the raw material resources**
 - ⇒ **US, Canada, S America, Asia**
- **EU RES targets will push Europe to utilize more and more biofuels in different forms**
- **Price of local biofuels will increase, adding the cost of pellet production**
 - ⇒ **Pellet imports to Europe will increase**

Market Estimate

WORLD PELLET MARKET		2009	2015
(MILLION TONS)		Est.	Est.
EUROPE	Consumption	8,3	17,0
	Production	6,5	8,0
	Net import	2,0	9,0
NORTH AMERICA	Consumption	1,5	9,0
	Production	3,0	10,0
	Net export	1,5	1,0
OTHER MARKETS	Consumption	0,2	4,0
	Production	1,0	12,0
	Net export	0,5	8,0
WORLD MARKET TOTAL		10,0	30,0

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**THANK YOU FOR YOUR
ATTENTION!**

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