



UNIVERSITY OF GOTHENBURG  
SCHOOL OF BUSINESS, ECONOMICS AND LAW

Business development in the Nordic Clean Tech sector  
Challenges and opportunities on company and policy level

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norden

Nordic Energy Research

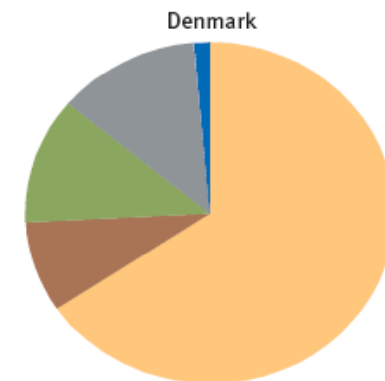
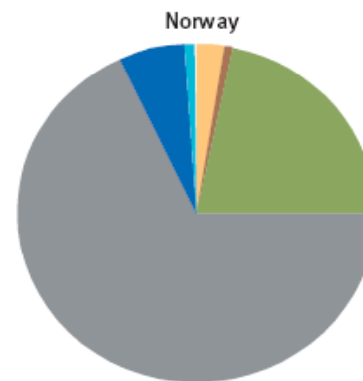
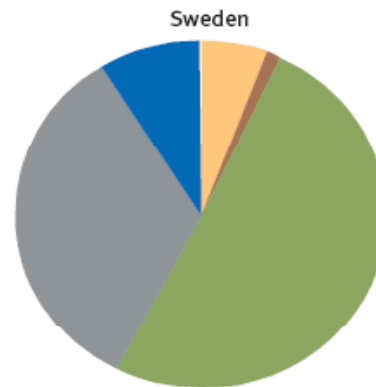




There is a good argument for choosing the biomass sector..

### Land use in the Nordic countries

- Arable land and gardens
- Permanent meadows and pastures
- Forests
- Other land area
- Lakes





## Challenges and opportunities within the biomass sector

Several official reports and research concludes that Sweden not as successful at export as peers

Purpose of the research is to identify:

Mechanisms explaining export activities in small and mature companies

Leading indicators for successful export-promoting policies

Manufacturers of industrial combustion plants and equipment for solid biofuels (1-50 MW)

Sample includes six Swedish companies with their own technologies



## Characteristics of Biomass Combustion Equipment Industry

- Sells 'one off' turnkey heat and CHP plants for dry and moist biomass
- Offers also individual components and service  
*(fuel management, burners, flue gas cleaning, ash management and control systems)*
- Typically only a couple of major deals per year
- Customers in energy sector, pulp and paper, sawmills, service and industry
- Manufacturing in own facilities, subsidiaries and subcontracting
- Competitive edge in engineering rather than product attributes
- No radical change in the industry foreseen



## Economic characteristics

	Sales (MSEK) 2007	Employees 2007	Average ROA (%) 2007-2004	Average ROE (%) 2007-2004	Equity ratio (%) 2007	Ownership/ Owner type/ Year of foundation
Petrokraft AB	82	44	1,3	1,6	55	Priv./family/1958
Järforsen Energi System AB	91	16	0,2	-0,7	9	Priv./family/1985
HOTAB Eldningsteknik AB	74	50	5,3	9,7	14	Priv./family/1979
Saxlund International AB	66	16	2,5	3,9	52	Priv./family/1960
TPS Termiska Processer AB	105	60	-8,3	4,6	29	Priv./Priv. Equ./1970
KMW Energi AB	300	41	-1,0	-25,5	9	Priv./Priv. Equ./1958
<b>Total/Average</b>	<b>718</b>	<b>227</b>	<b>0,0</b>	<b>-1,1</b>	<b>28</b>	



## Export

- Growth potential primarily through export but no active marketing abroad
  - Lot of experience of export
  - Standardized plant-configuration in continental Europe
  
  - Few initiatives by governmental facilitators instrumental for success
  - To many actors – needs to be coordinated and structured
  - Co-operation needs to be business-driven and goal oriented
- Important prerequisites for export outside the Nordic market:
    - Local presence through licensing, local partner or subsidiary
    - Flexible production (sub contract or co-operation)
    - Not a general need for funds but long term endurance and stable capital base



## Mechanisms explaining export activities in small and mature companies

- The entrepreneurial drive to grow is limited.
- Low risk strategies prominent for a reason
- Isolated deals
- Capital is rarely a limiting factor
- Difficult to establish local presence
- Facilitators of limited use



## Leading indicators for successful export-promoting policies for small and mature companies

- Pragmatic, deal oriented attitude
- Capabilities to handle company specific needs
- Capabilities to foster corporate culture and entrepreneurial orientation
- One stop shop facilitators with detailed knowledge of every company
- Establishing co-operation and trust building mechanisms
- Capabilities of promoting sustainability as an overall governing framework for conducting business

Demands new ways of working paired with extraordinary commitment and resources