
AEBIOM

EUROPEAN BIOMASS ASSOCIATION

Best examples of solid biomass utilization for heat and electricity production in Europe

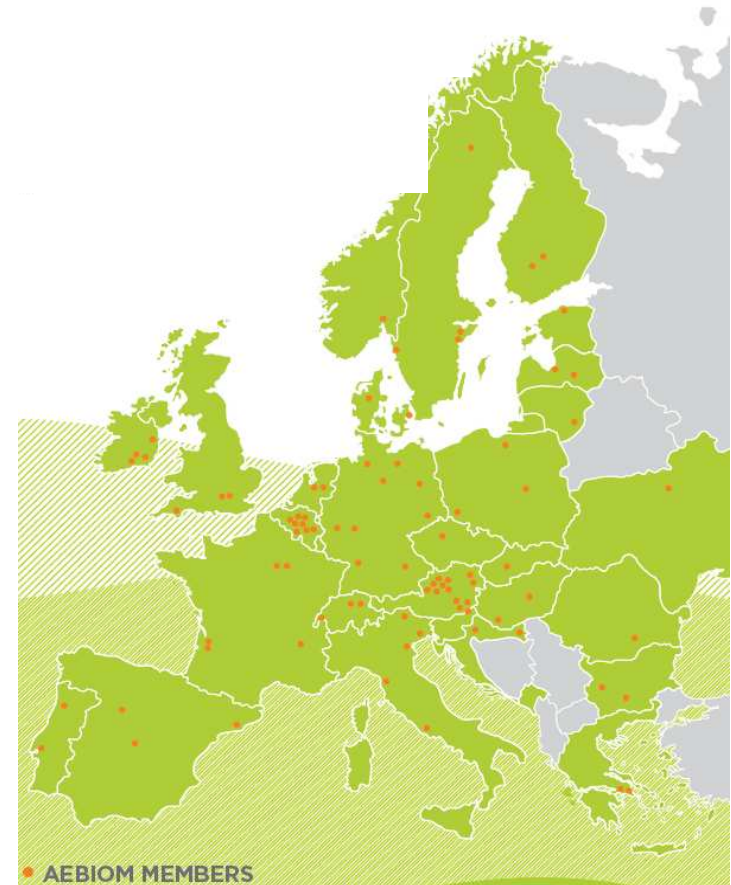
Gustav Melin

Vilnius, 10 October 2013

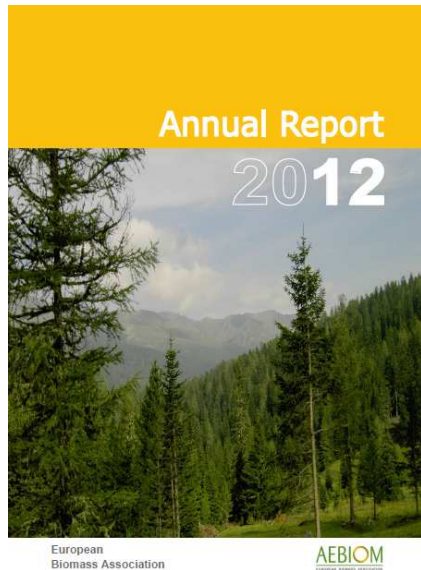


About AEBIOM European Biomass Association

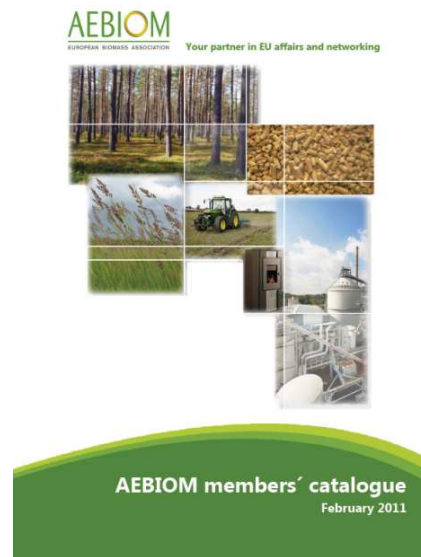
- Represents and promotes interests of bioenergy stakeholders
- 30 national associations
- About 80 associated companies
- Activities: lobbying, workshops, newsletters, European projects, working groups, conferences and networking, etc.
- Based in Brussels in the Renewable Energy House
- Member of EREC (European Renewable Energy Council) and WBA (World Bioenergy Association)



WWW.AEBIOM.ORG



Annual report 2012



Member's catalogue



Annual Statistical report



Annual conference



AEBIOM FULL MEMBERS



AEBIOM ASSOCIATE MEMBERS



The Swedish Bioenergy Association



- **Mission:**
 - To increase the use of bioenergy in an economically and environmentally optimal way.



- Swedish Bioenergy Association founded in 1980

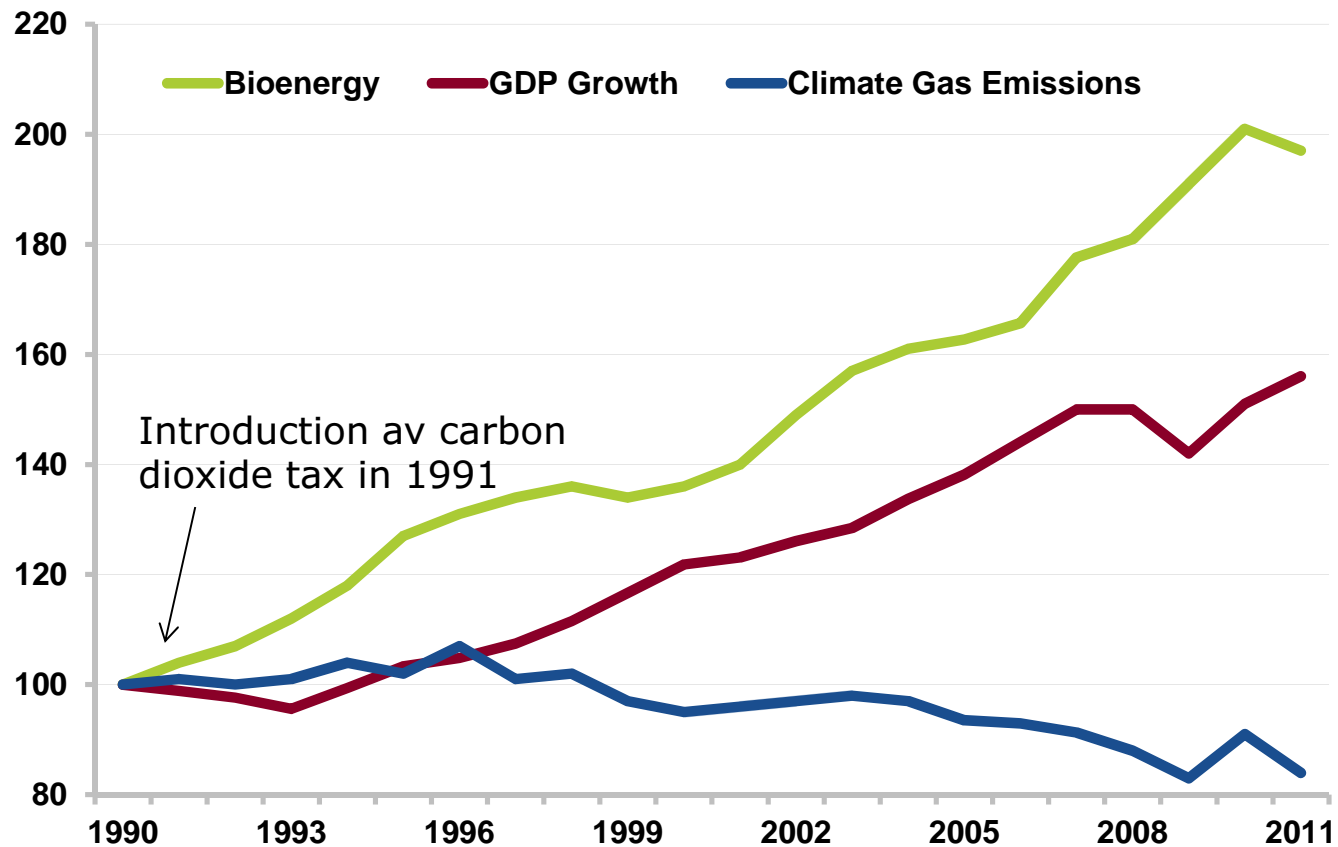
Interest organisation for companies and private persons

Almost 300 member companies are producers, users, manufacturing firms, consultants and service companies etc.

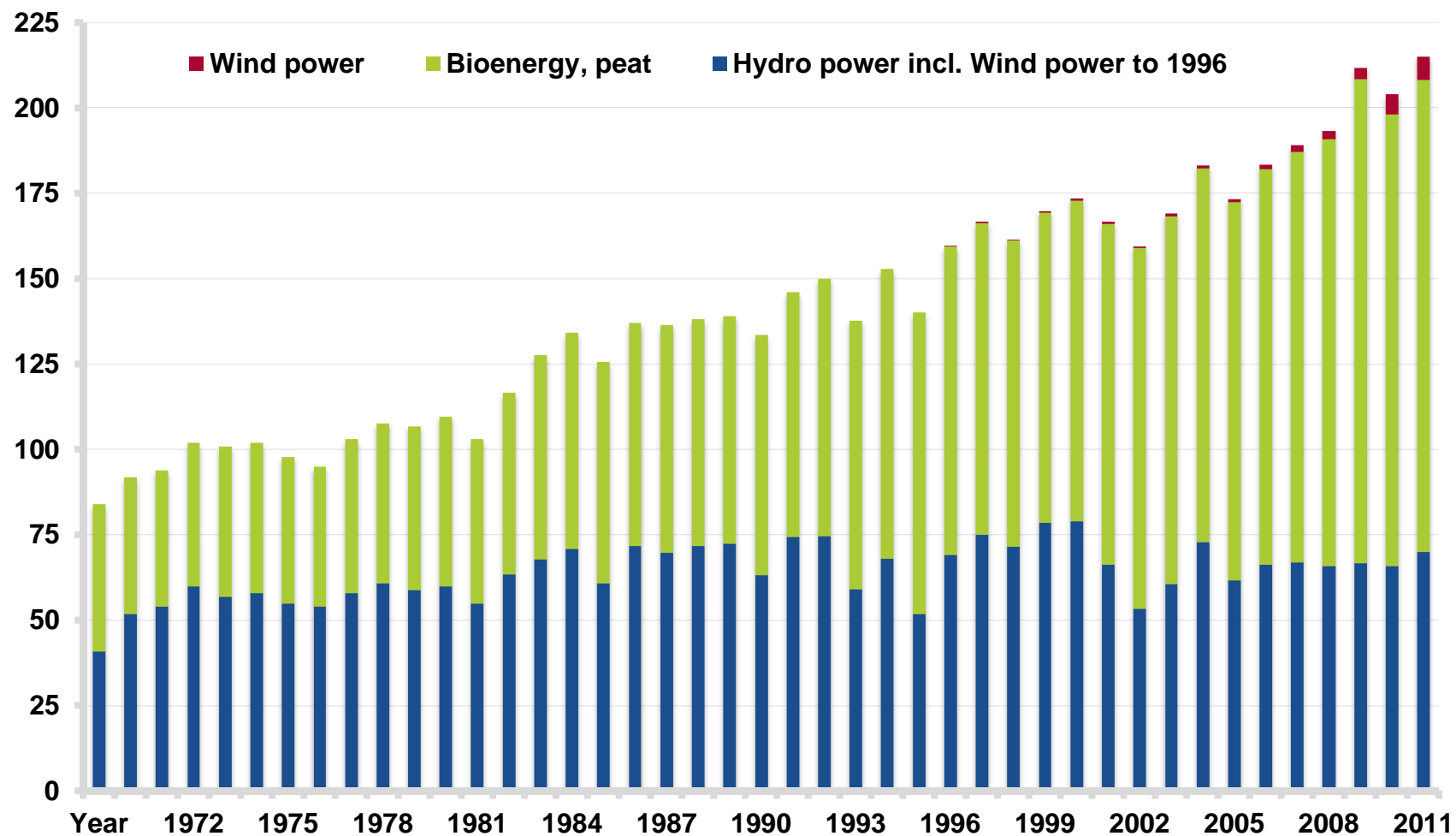
A young girl with dark hair is shown in profile, blowing on a dandelion seed head. The background is a bright green field with many other dandelions, and a clear blue sky is visible above. The scene is captured in a soft, natural light, suggesting a sunny day.

In 2012 the Swedish energy supply reached 51 per cent renewables.

Decreasing emissions and growing economy with increased use of bioenergy

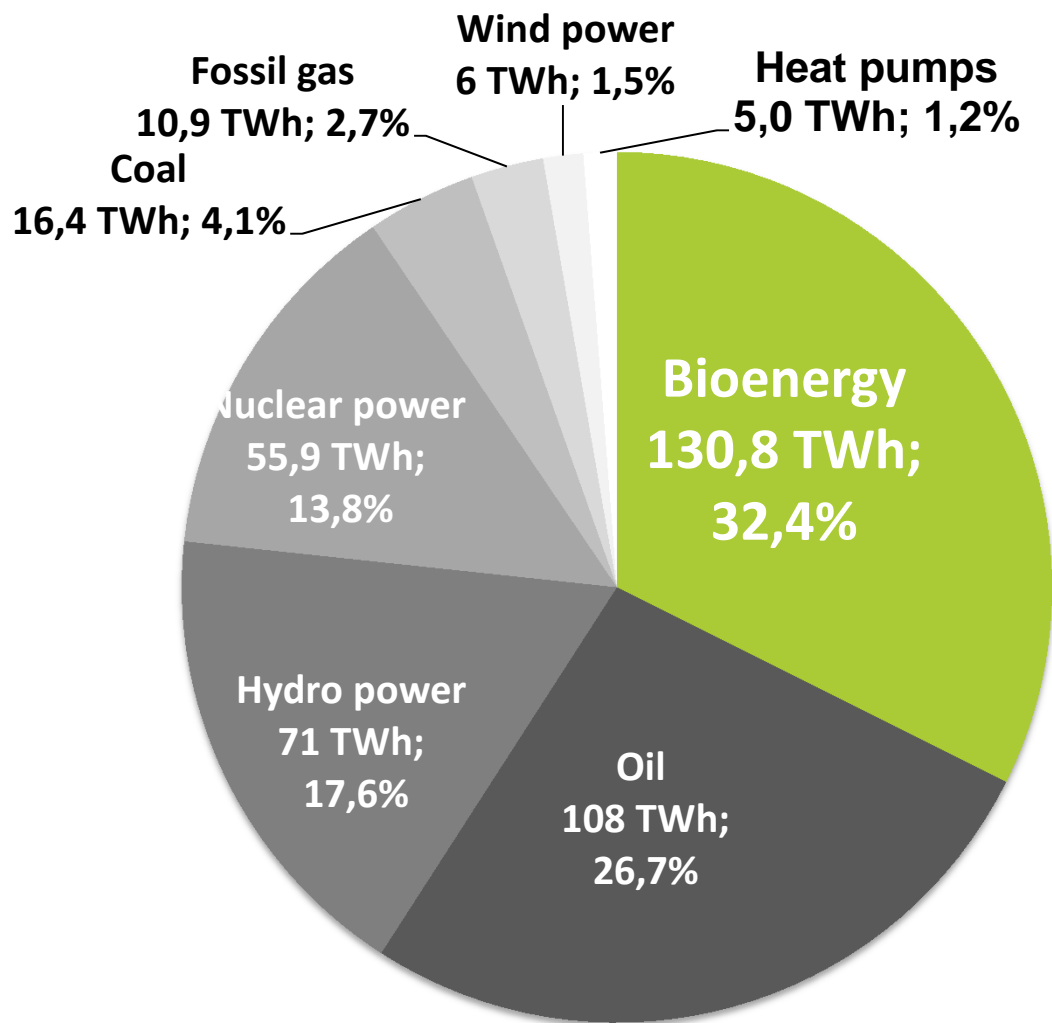


Renewable energy supply in Sweden, 1970-2012, TWh



Source: Energimyndigheten och SCB

Final energy use and electricity exports 2012



-
- **Why has it been possible:**
 - No domestic fossil fuels – expensive to import
 - Politicians have been able to create a market with general incentives- we choose the cost efficient renewables
 - Large natural resources and jobs in Sweden
 - Forest industry with knowledge, investment capital and high energy consumption
 - Interested companies and entrepreneurs

Efficient political instruments are:

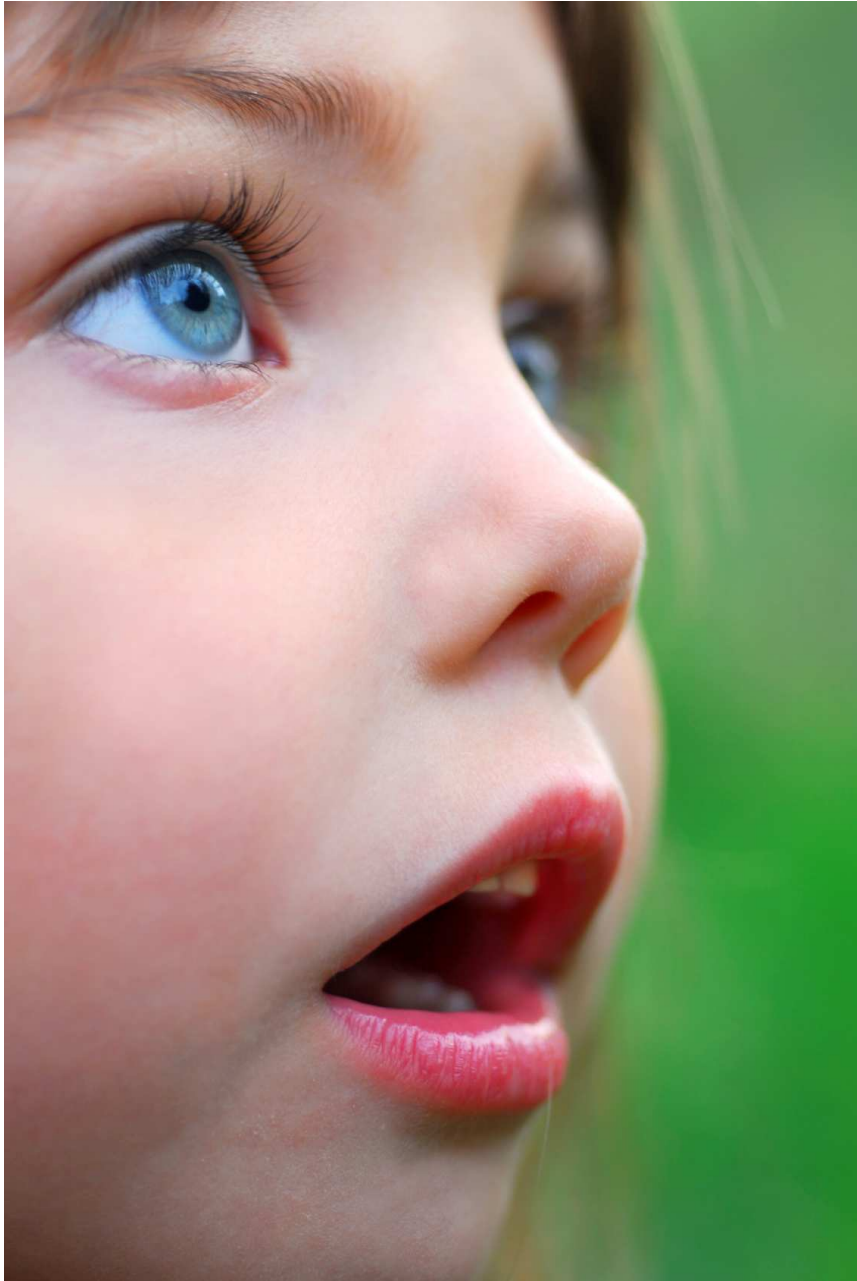
- General, PPP – Polluter Pays Principle
 - They who are responsible for an emission should pay for polluting. Then the legislation steer towards less emissions and better actions and habits. Example carbon dioxide tax, Sulphur tax, NOX-fees.
- Long term
 - Support restricted in time give uncertain investment situations and promote often wrong products and optimization of subsidies.
- Neutral to techniques
 - Meaning that the most profitable solutions are chosen in competition with other possible solutions
- Simple and logical
 - Easy to understand and administrate

Policy decisions needed to develop market on European level.

ETS – Emission Trading Scheme, EUA currently traded at €5/CO₂ tonne. The conclusion must be that it is not difficult to fulfil the 2020-goals, regardless of German nuclear phase out and increased use of fossils.

CCS – Could be decided to be financed within the ETS-system

CO₂ – tax proposed in Energy Taxation Directive
€20/CO₂ -tonne



We believe in the beauty of CO₂ tax

- It reduces the dependence on imported fossil fuels
- Stimulates the use of domestic renewable energy sources
- It ensures 'polluter pays principle' and has a direct impact on price
- It helps the consumers and countries to make the right choices in future investments.



Carbon tax "Green Tax Shift" – Possible benefits

- National budget is strengthened by increased carbon tax.
- Swedish government has lowered the income tax three times when increasing carbon tax.
- Poor people can be supported to obtain energy poverty.
- Companies adjust to new situation and get more competitive.

Current price relations

- Municipal Solid Waste, MSW get paid?
- Demolition wood € 8 / MWh?
- Wood Chips, delivered at plant €20 / MWh
- Pellets price CIF Rotterdam €28 / MWh
- Crude oil, Brent 2013 €47 / MWh



Klaipeda, Lithuania

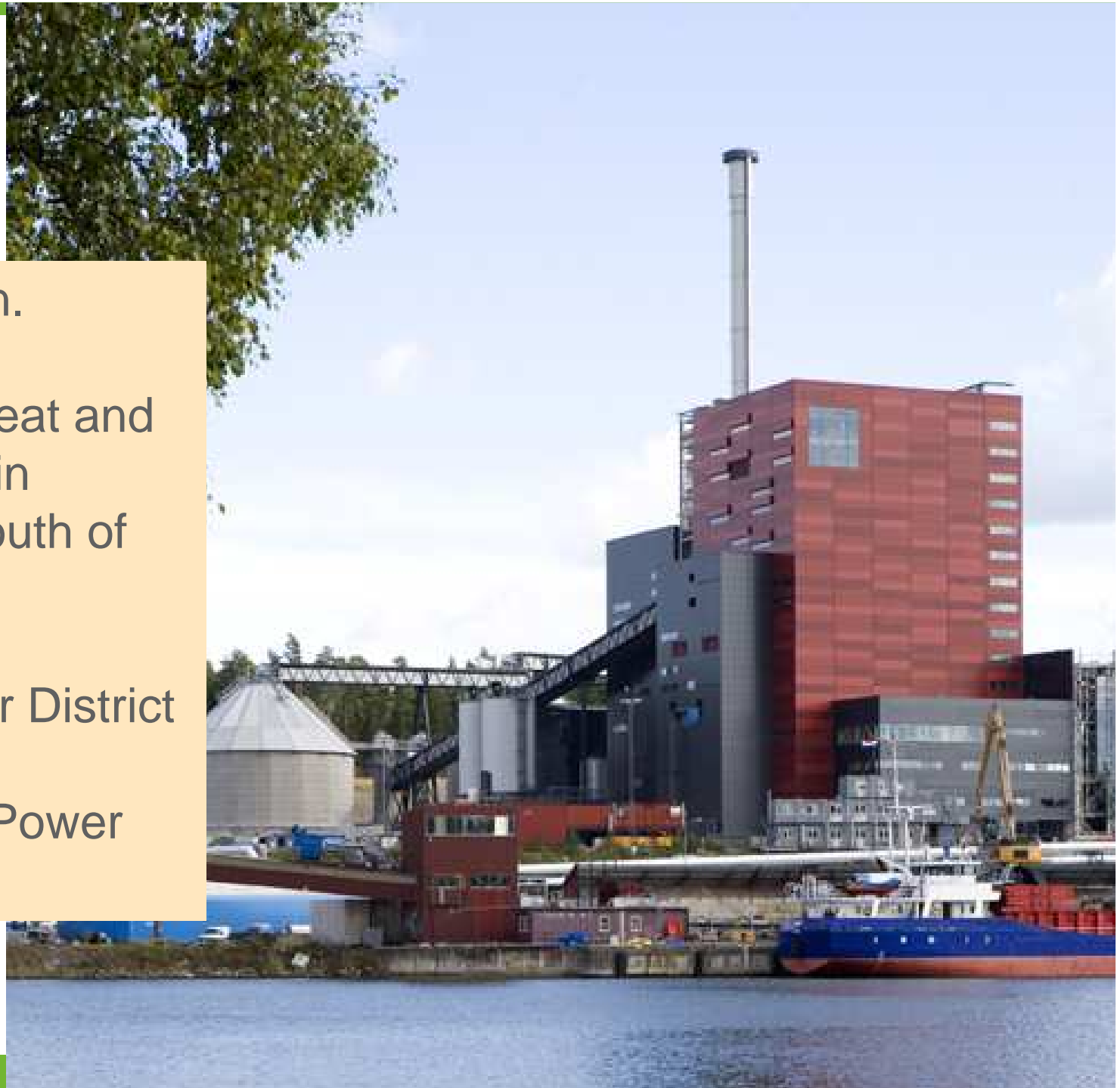
Waste to Energy, Municipal Solid Waste
Combined Heat and Power
20 MWe / 50 MWth
In operation since May 2013
Total investment 130 MEUR



Igelstaverken.

Combined Heat and Power plant in Södertälje south of Stockholm

200 MWth for District Heating.
85 MWe for Power production



Jelgava Biofuel CHP Plant - Latvia

- Jelgava biofuel CHP plant will provide 85% percent of Jelgava district heating
- Installed capacity - 23MWe and – 45MWth. The plant will generate 230 GWh of heat and 110 GWh of electricity
- Fuel – biomass (woodchips)
- Total investment in Jelgava CHP plant – 70 million Euros in plant and associated infrastructure constructions
- Commissioned – September 2013



Oil for heating are now quickly replaced globally by much cheaper wood pellets

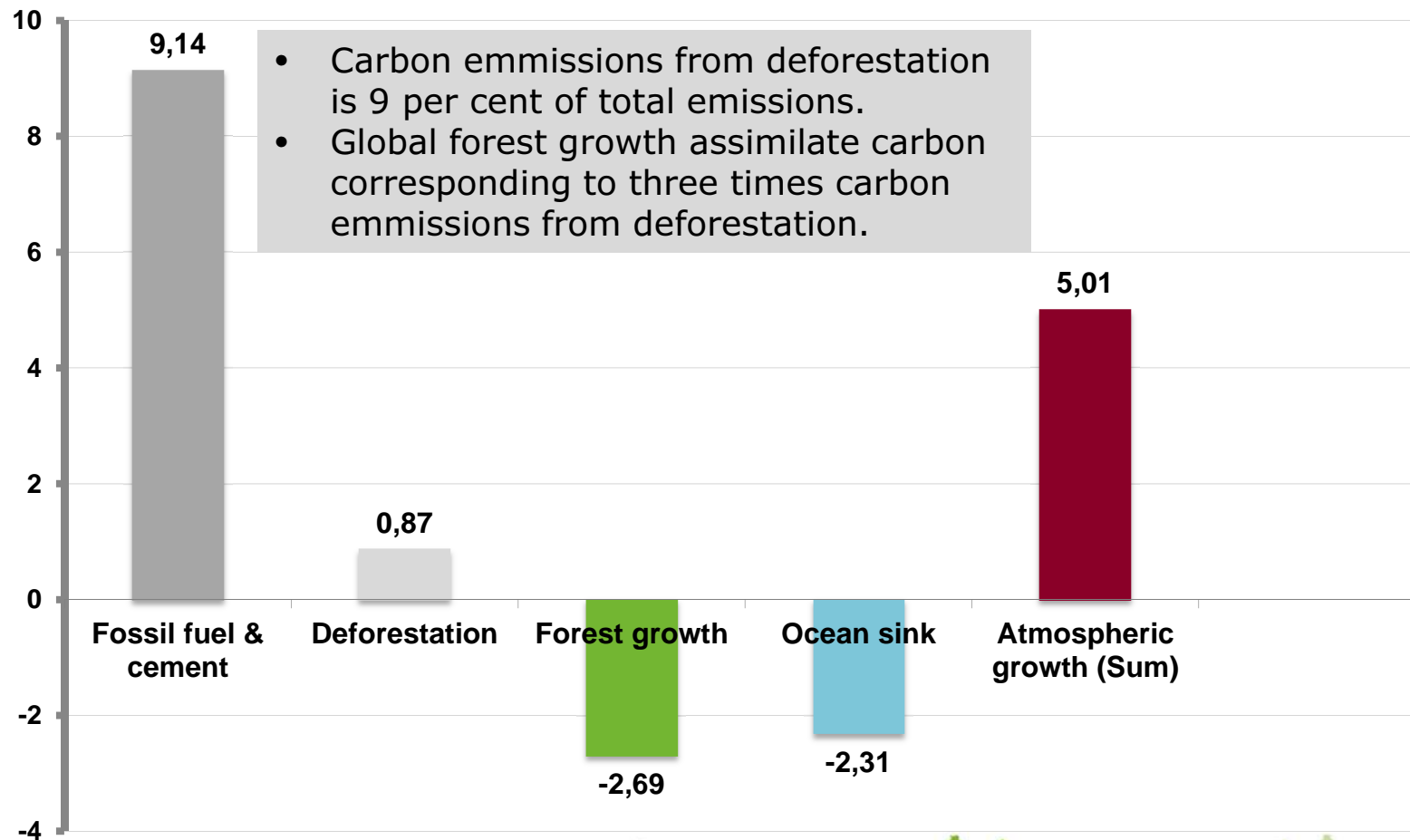


Installations of powder burners

- Burner size 5 – 50 MWth
- There are several suppliers of Multifuel burners that can use wood powder, coal powder, oil or natural gas.
- In October 2013 World market price of brent crude oil is 109 USD/Barrel.
- One barrel contains 1,7 MWh energy.
- One tonne of wood pellets contains 4,8 MWh,
- Price (World market) of 4,8 MWh Crude Oil = € 230
- Price of 4,8 MWh pellets delivered in port = € 135

Global carbon budget 2010

(Billion tonnes C per year)







Salix – Short Rotation Coppice Willows.

Waste water irrigation on Salix
in Enköping



Swedish gains in bioenergy and energy efficiency

- From 75 per cent of oil in 1974 to 27 per cent last year and still decreasing.
- Sweden import 20 million ton less of fossil oil today a volume that would have cost €11 billion each year in todays price!
- Fore sure an improved trade balance a better economy and a secured energy supply.



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WORLD BIOENERGY 2014

FIRST
ANNOUNCEMENT
AND CALL
FOR PAPERS

3 - 5 JUNE 2014, JÖNKÖPING, SWEDEN

WWW.WORLDBIOENERGY.COM



WORLD BIOENERGY 2014

Conference & Exhibition on Biomass for Energy

3-5 JUNE 2014, JÖNKÖPING - SWEDEN