



FERROSILISIUM

KOMPETANSE

SAMFUNNSBYGGING

PROSESS

**“The most climate friendly
energy is energy never
spent”**

Dr. Toini Løvseth, Policy Manager, Finnfjord AS



Finnfjord AS

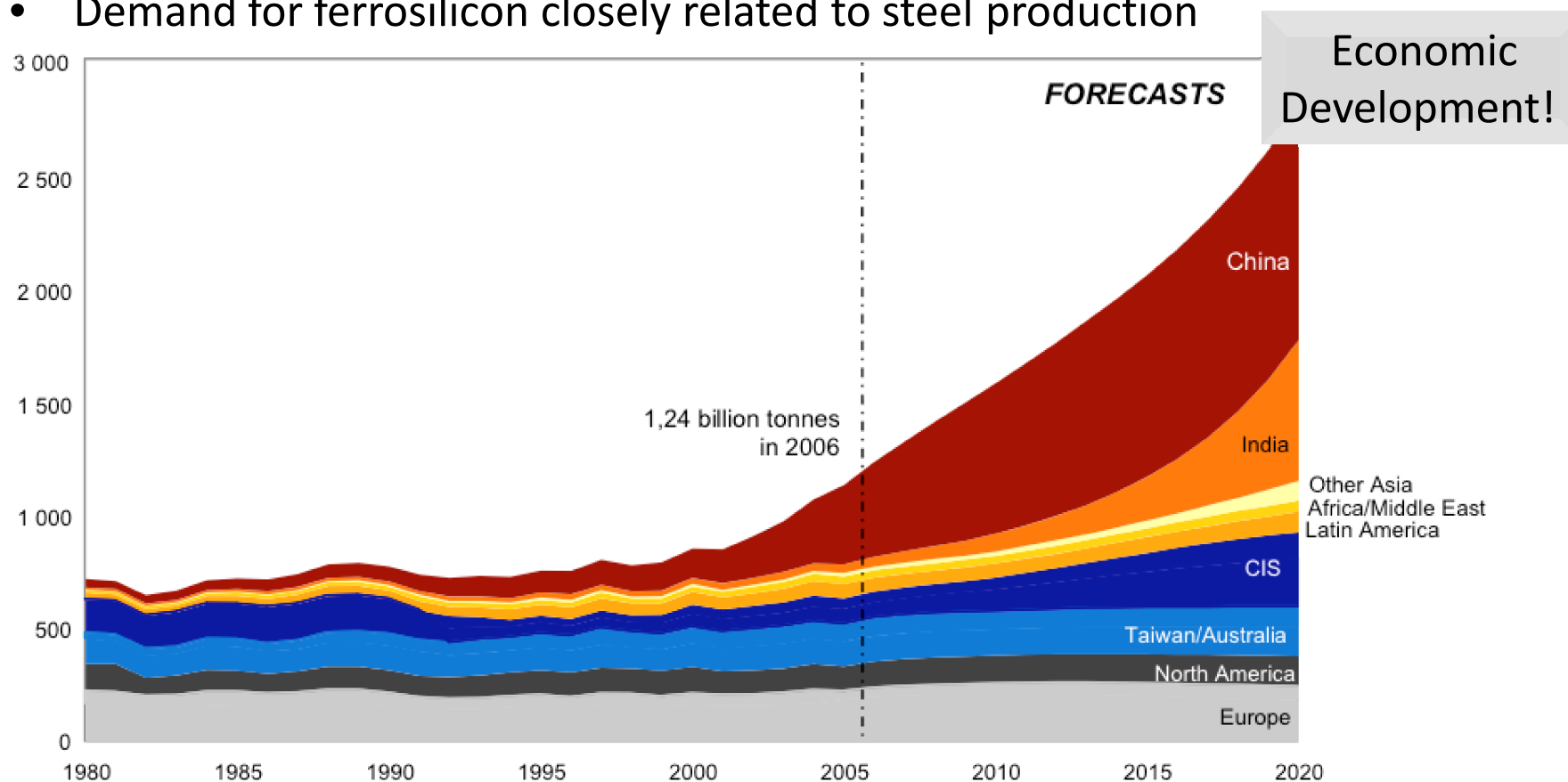
- 1960/1982
- Local owners, family enterprise
- 100.000 tons ferrosilicon
- 20.000 tons silica dust
- 120 employees
- EUR 108 mill (2010)

- Of the 10 largest producing units in the world
- Provides 15% of European consumption



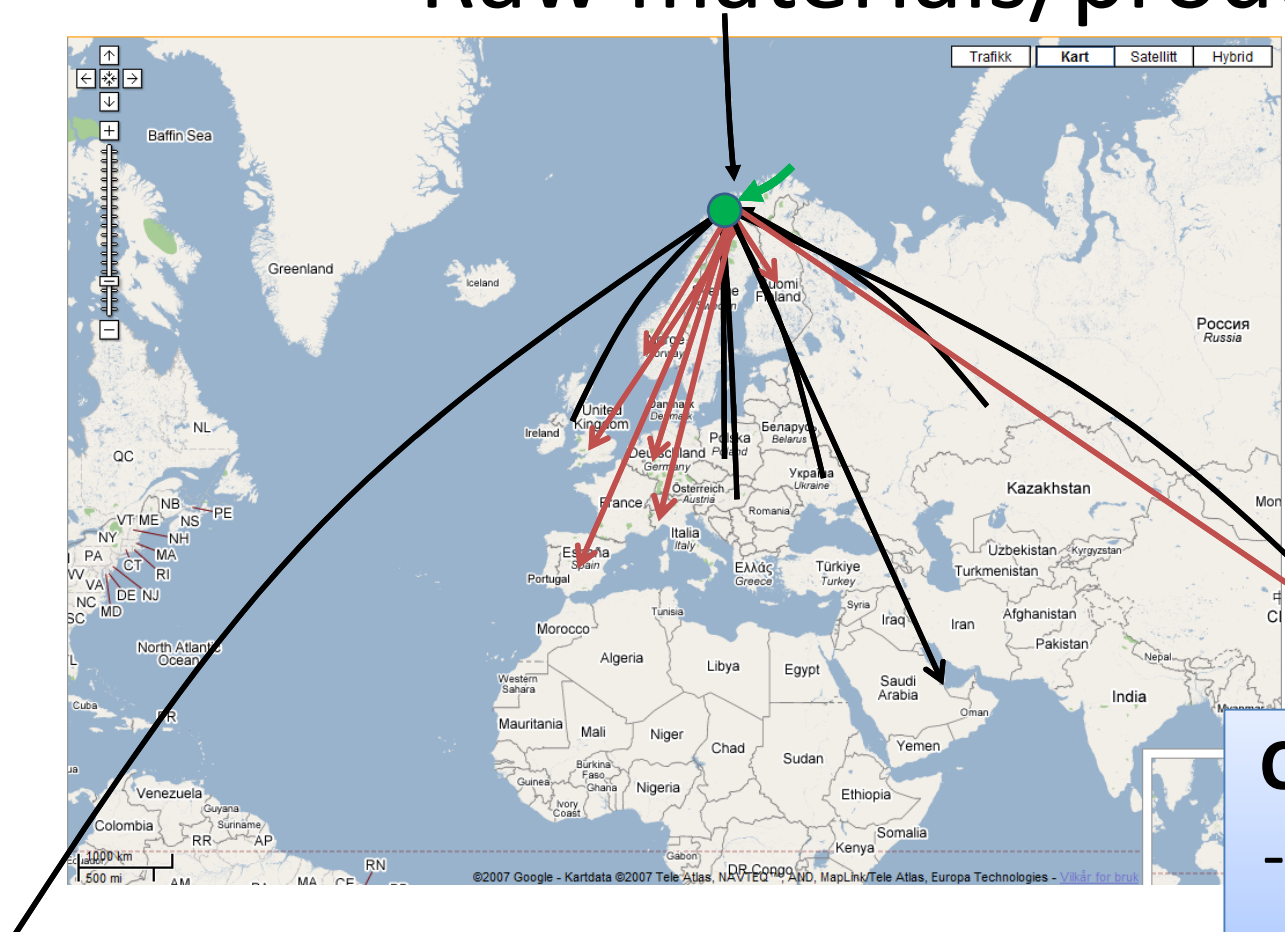
Ferrosilicon

- An alloying element, essential in steel production and recycling
- Demand for ferrosilicon closely related to steel production





Raw materials/products



Quarts

Electricity

Coal/Coke

Iron pellets

Electrode

Ferrosilicon

Silica dust

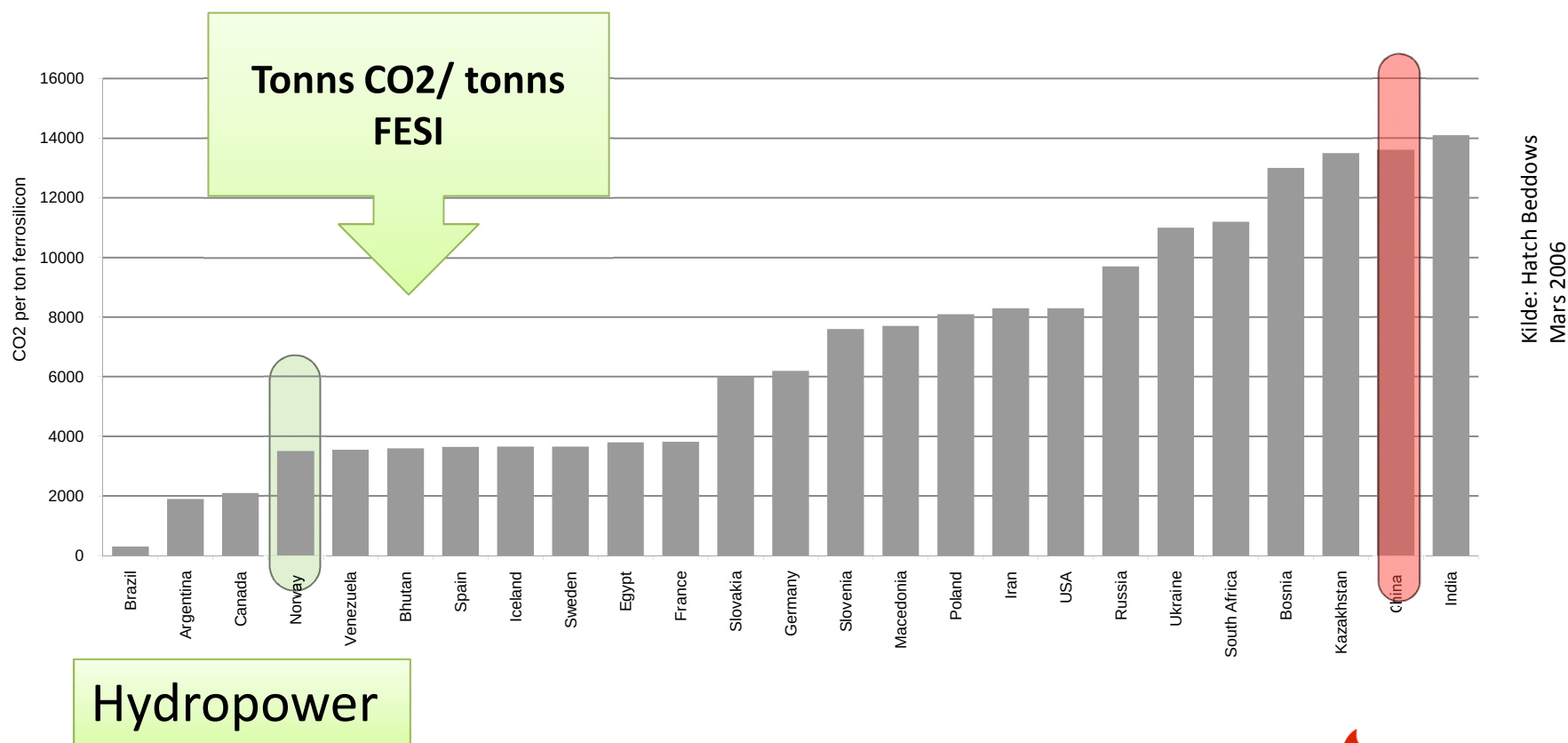
Costs/Total costs

-Electricity: 40 %

- Labour: 11 %

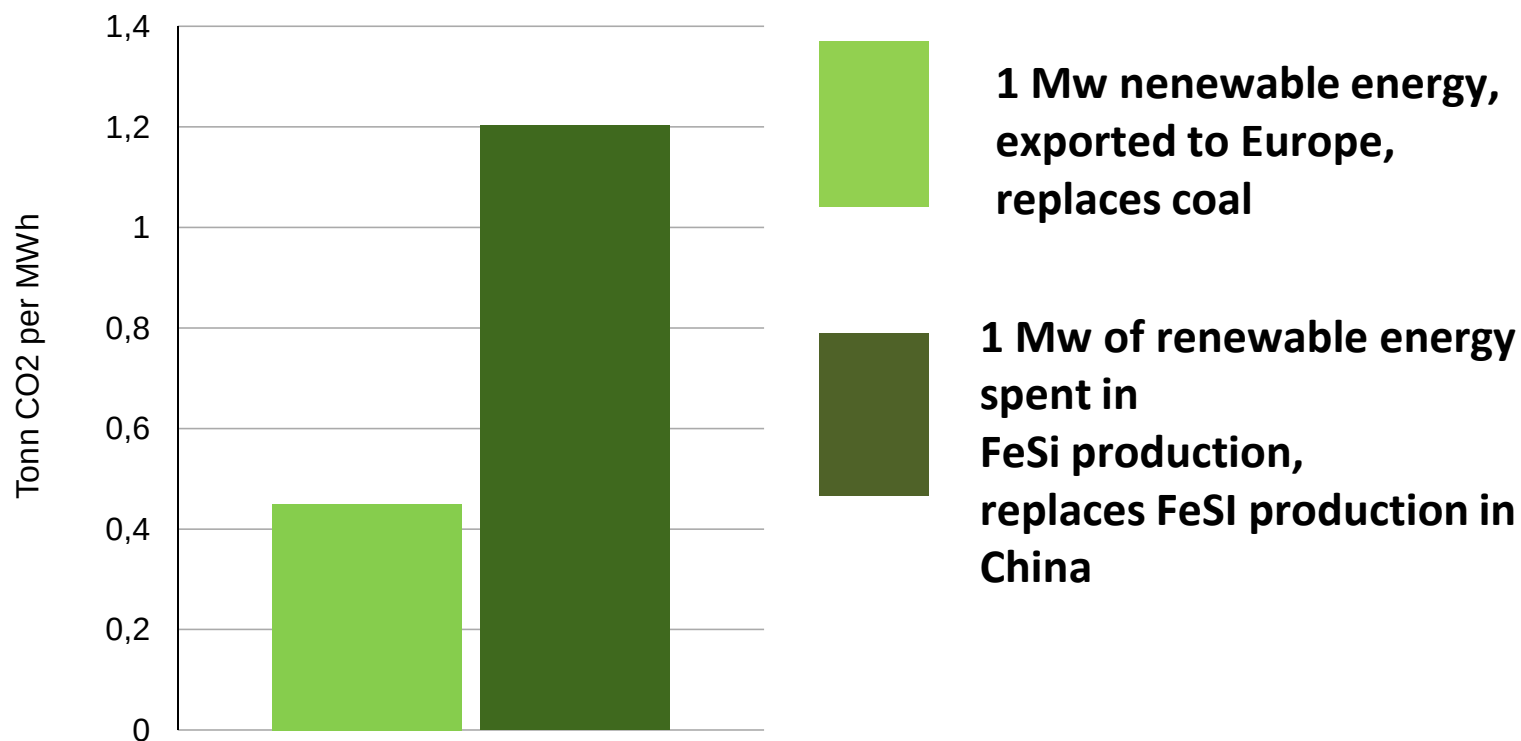


Norwegian manufactures – among the world's most climate efficient producers of FeSi



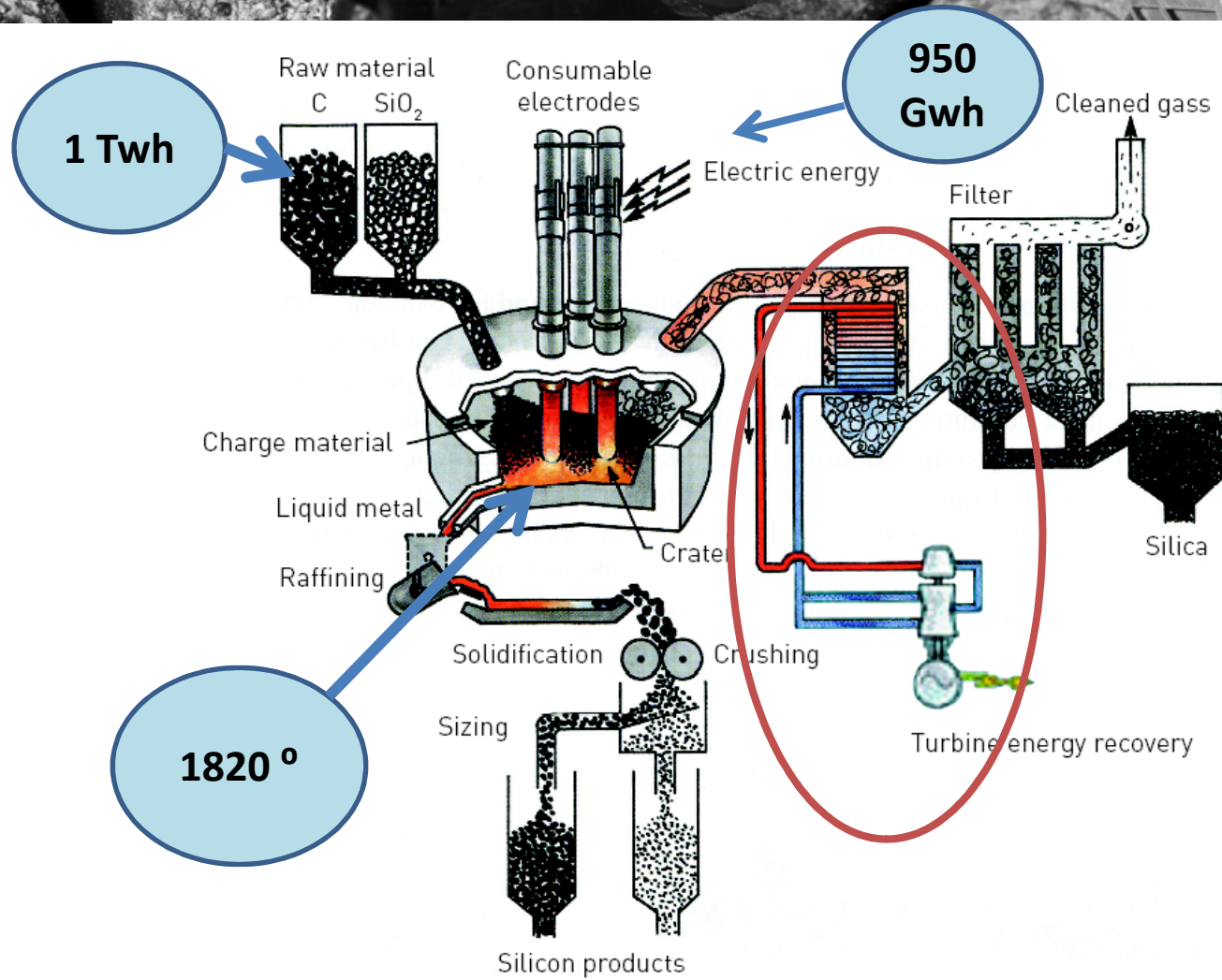


The most efficient way to export renewable energy!





Finnfjords goal:
**The worlds
most climate
efficient
ferrosilicon
producer**





Energy consumption
of 25 000
Norwegians



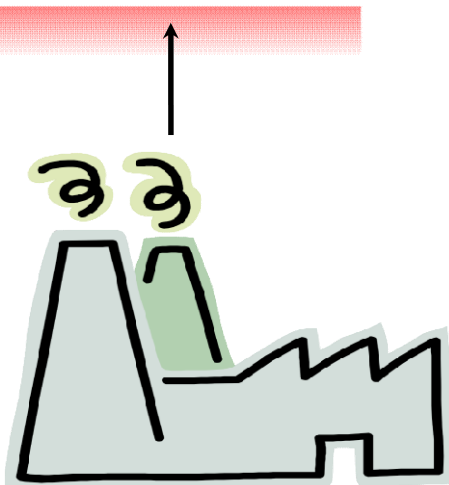
Energy recovery
plant

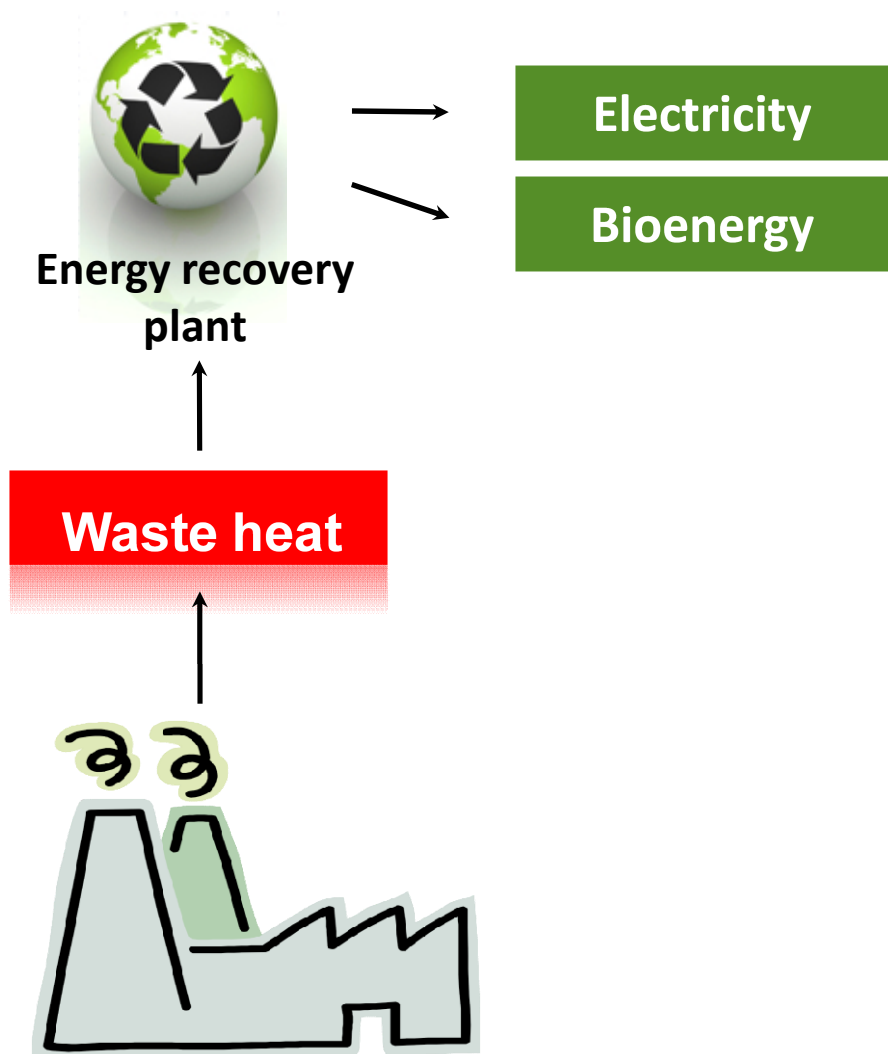


Electricity

- Recovery of 250 GWh
- A medium sized power plant
- No extra emissions
- No grid
- Minimal environmental impact

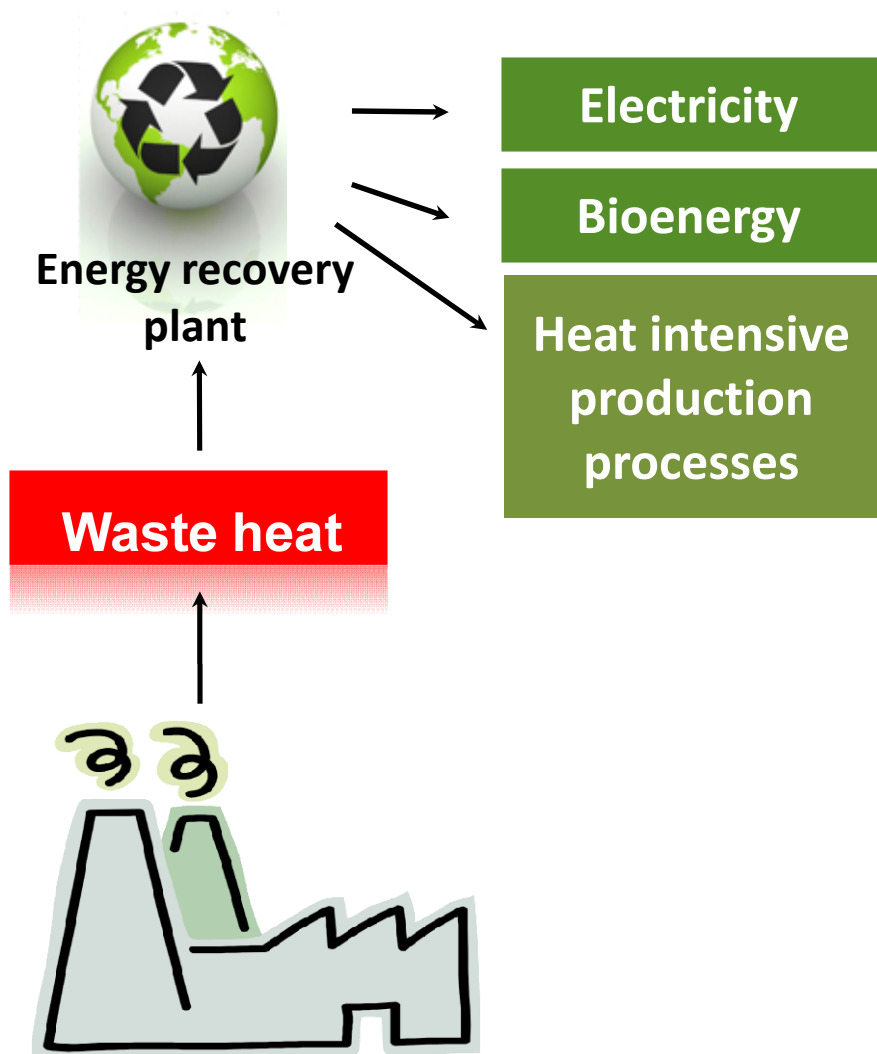
Waste heat





Finnfjord Miljøenergi

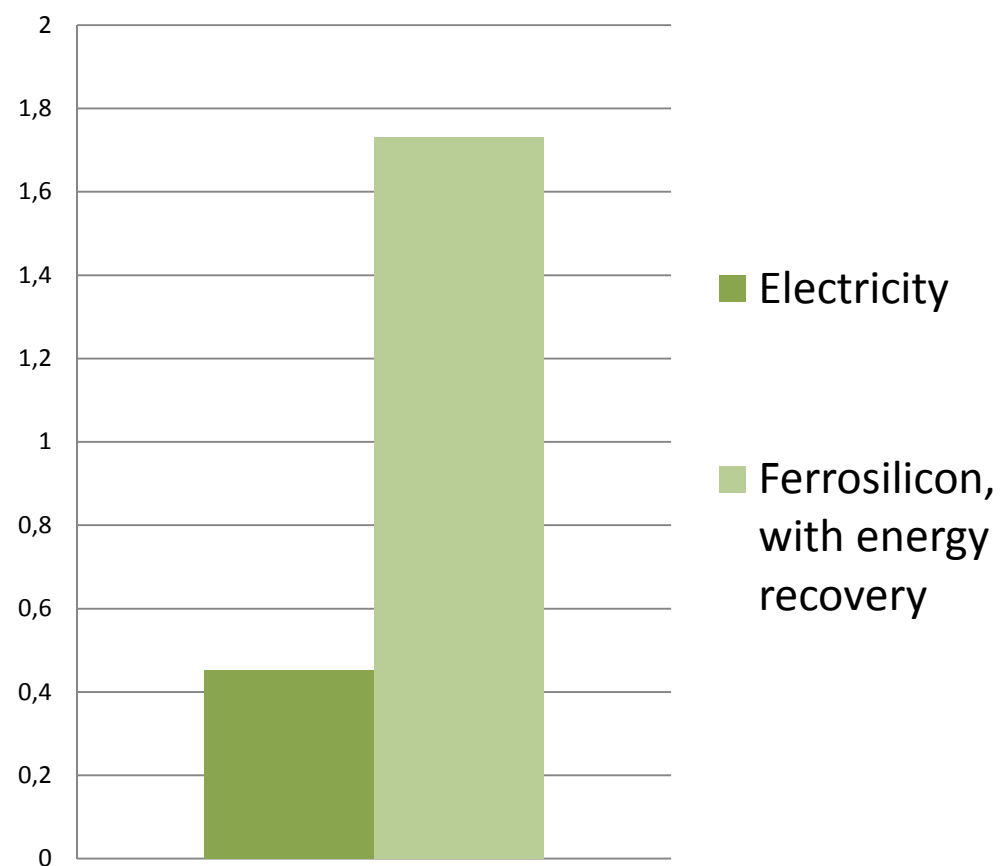
- Biopellets
- Efficient use of waste heat
 - 125 Gwh of steam
- Climate efficient production of renewable energy



- Harbor
- Available land/industrial area
- Algea?

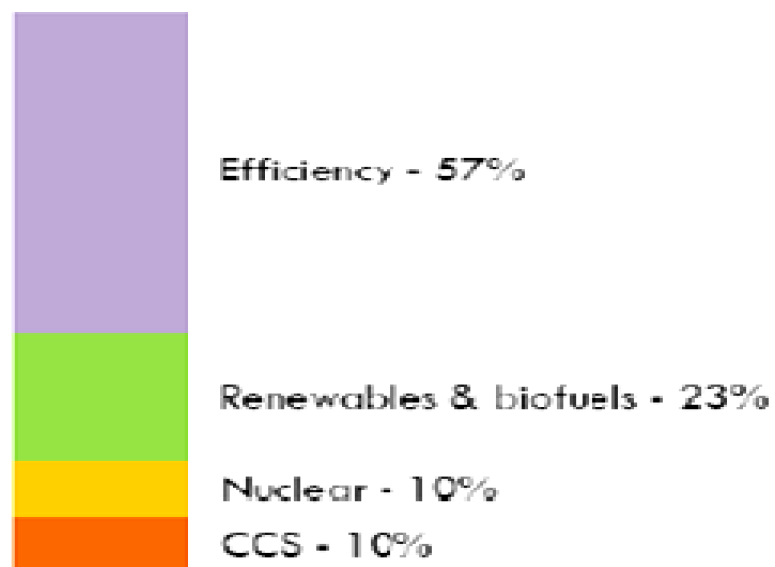


Mt CO2 saved globally by Norwegian production and export of.....





World abatement by technology, 2030



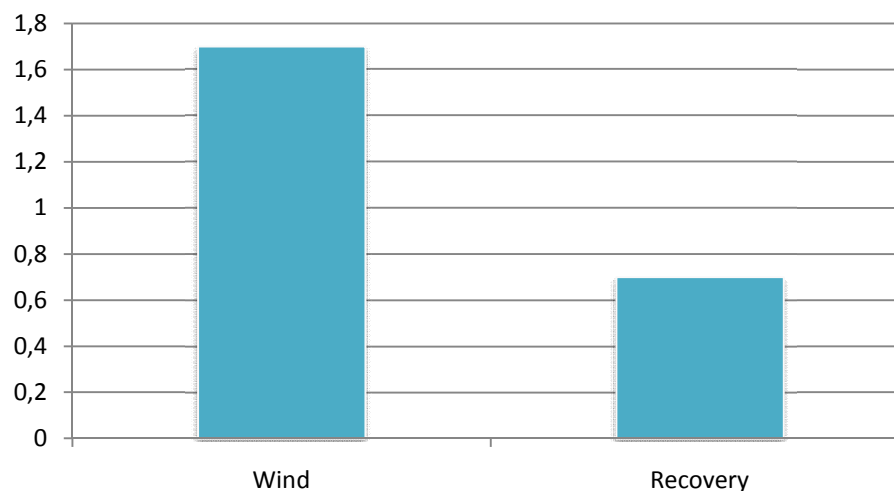
Kilde: IEA World Energy Outlook 2009

Energy efficiency
– The most
efficient climate
abatement
measure



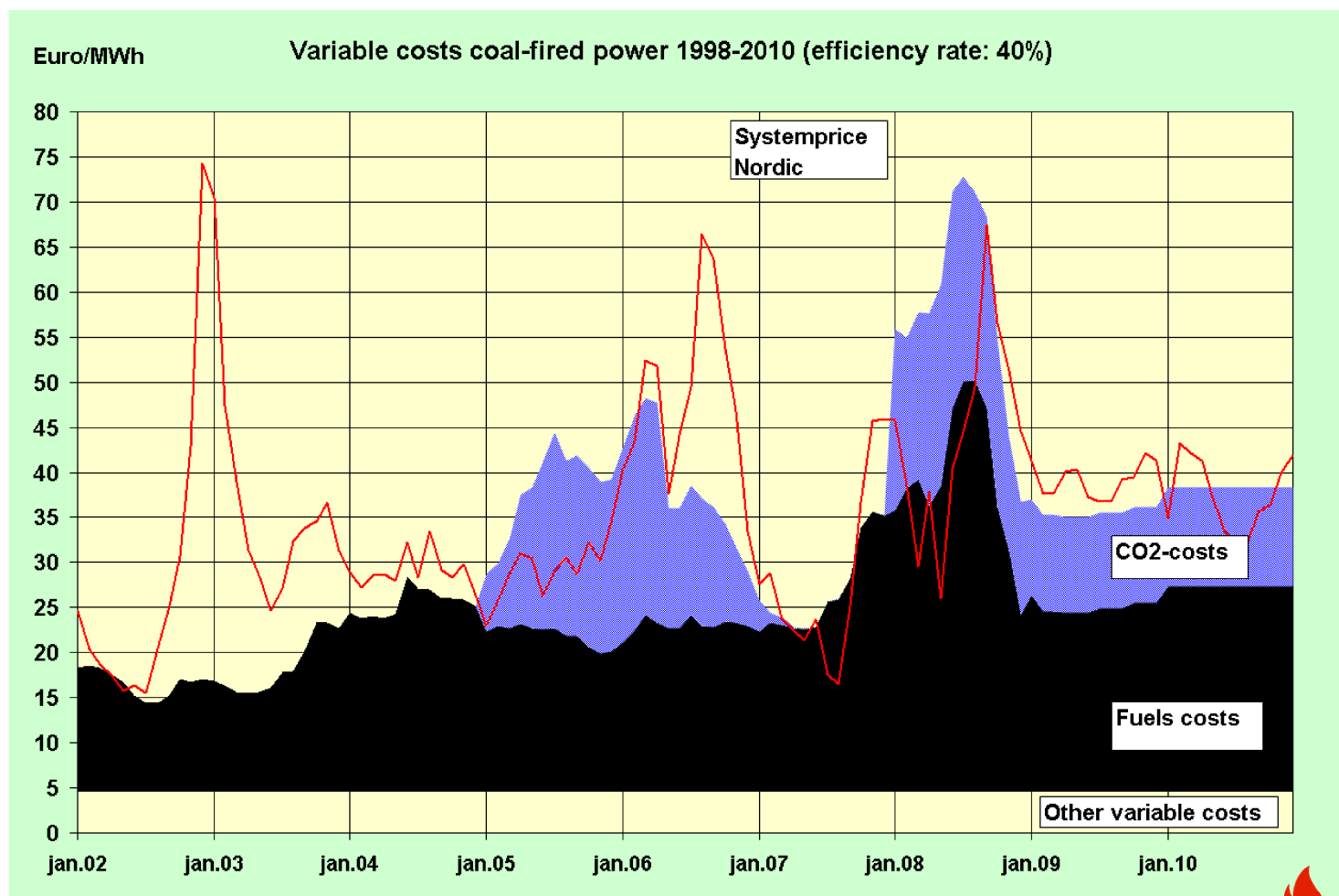
Political implications

- The status of energy efficiency
 - As an energy system resource
 - As a zero carbon system resource (free allocations?)
- State aid /Kwh





Political barriers: Carbon cost and leakage, competition policy





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- Climate friendly production of valuable goods
- Value added to our natural resources