



Climate Change and the Implications

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"Clean Tech" – a new driving force



- Clean Tech will be the strongest driving force for modern society
- Clean Tech will drive the next wave of innovation in a world with scarce resources
- Clean Tech can provide foundation for new Danish billion dollar industries

Clean Tech is not Enviro Tech

Enviro Tech 1970s-1980s

Regulatory driven market

Compliance-based purchasing

"End-of-pipe" tech, e.g.
scrubbers on smoke stacks

Chemical science

Traditional engineering

Slow growth markets, e.g.
waste management

"Save the world" mentality

Low IT use

Clean Tech mid/late 1990s

Economic market drivers

Productivity-based purchasing

"Front-of-pipe" tech, e.g.
zero emission plants

Biological & materials science

Systems design & engineering

Rapid growth markets, e.g.
solar energy

"Entrepreneurial" mentality

High use of IT

Political focus on global warming turbo charges the development

- 20% renewable energy by 2020
- 20% reduction in energy consumption by 2020
- 20% reduction in co2-emission by 2020
- 10% bio fuels by 2010



- 20% reduction in automotive fossil fuel consumption by 2017



- 15% renewable energy by 2020
- Triple the amount of wind energy by 2010
- Triple the amount of energy from biomass by 2020
- 20% reduction in energy consumption / BNP i 2010

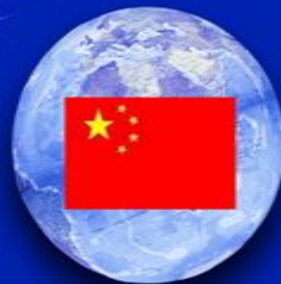


- 30% renewable energy by 2025
- Energy saving effort increased 40% by 2025
- 5.75% bio fuels by 2010
- Investments in energy research are increased



Political focus on global warming turbo charges the development

In order to reach these goals by 2030, it is estimated that more than **17,000 Billion USD** must be invested in energy infrastructure across the globe



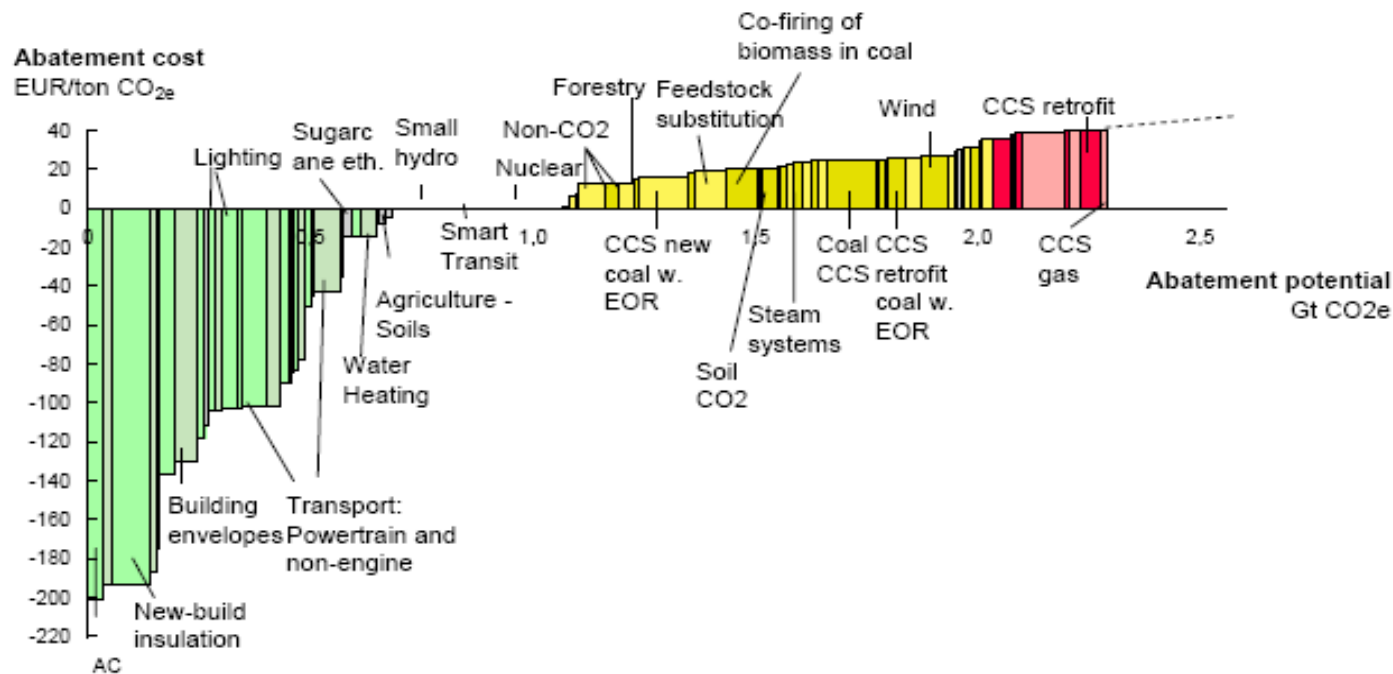
The markets show supernatural growth

Source: Cleantech Venture Network LLC

Technology	Market in 2000	Market in 2012
Wind	\$5.5 billion	\$49 billion
Solar	\$3.5 billion	\$27.5 billion
Industrial Water Purification	\$5-6 billion	\$20 billion
Desalination	\$4-5 billion	\$75 billion

Greenhouse gas abatement cost curve

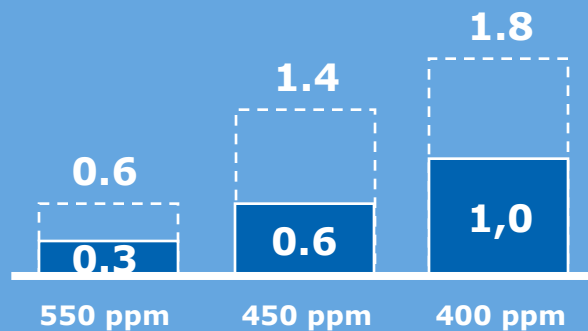
-beyond business as usual OECD Europe 2030



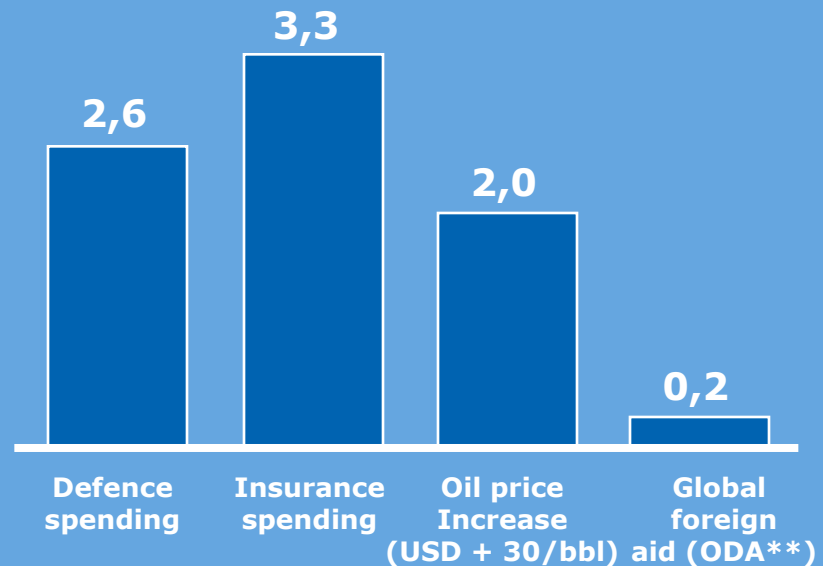
All technologies must be in play in order to meet goals	We need to determine the most effective order of priority	Energy efficiency has a vital role to play and must not be forgotten	This creates multiple business opportunities
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We can afford CO₂ abatement

Estimates of total abatement cost for the global society
% of global GDP 2030



Comparables
% of global GDP 2005



- * Lower boundary: Opportunities addressed in order to increase cost and negative costs are set To zero; upper boundary: Average cost EUR 40/ton
- ** Official Development Assistance from OECD countries; does not include humanitarian aid or private donations

Source: www.vattenfall.com/climate

Investment in energy savings is more profitable than placing money in the bank



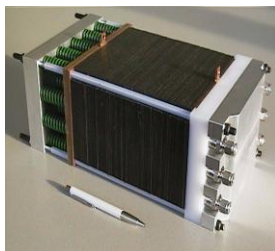
- 1 kWh saved
= 1 kWh not produced
- Renewable energy
= long term investment
with uncertain return
- Energy savings
immediately provide a high
return on investment
- The advantages are often
invisible to the consumer,
or he is ignorant of their
existence

We possess unique know-how within renewable energy

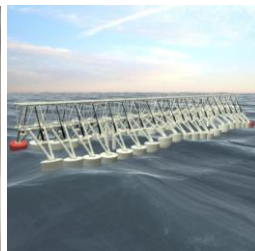
- So far, the Danish home market has been the strongest driving force for commercialisation of Danish renewable energy technology
- It is necessary to ensure that the essential domestic frame conditions are in place, for the development of all relevant forms of energy technology, if Denmark is to lead the development
- This encompasses governmental support for research and development and establishment of large scale demonstration projects as well as "green-power" initiatives



Biomass



Hydrogen



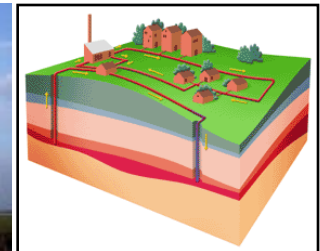
Wave



Solar



Wind



Geothermia

Danfoss is ready!



“Microcebus danfossi” is the name of the world’s smallest Lemur. It is an example of how nature has solved the problem which the entire globe is faced with today: to optimise energy consumption