



The Business of Climate Change

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It has to be good for business!



Business Opportunities

- **moralization of the markets:** consumers are not buying just what they need but also what makes them feel good
- there will be cost related to **change of climate**
- there will be cost associated to **20-20-20 targets**
- **someone's cost in someone else's income**



Slovenian Presidency of the EU 2008

Moralization of the markets



Theoretical basis

- Schumpeter:
 - products fulfill needs
 - "profit is result of **innovation**"

- Dan Pink (rephrased):
 - products fulfill passions
 - "profit is result of **creativity**"



Do you buy what you need?

Or do you buy what you think and feel you need?



Do you pay for function
or do you pay for meaning?





Added value in function

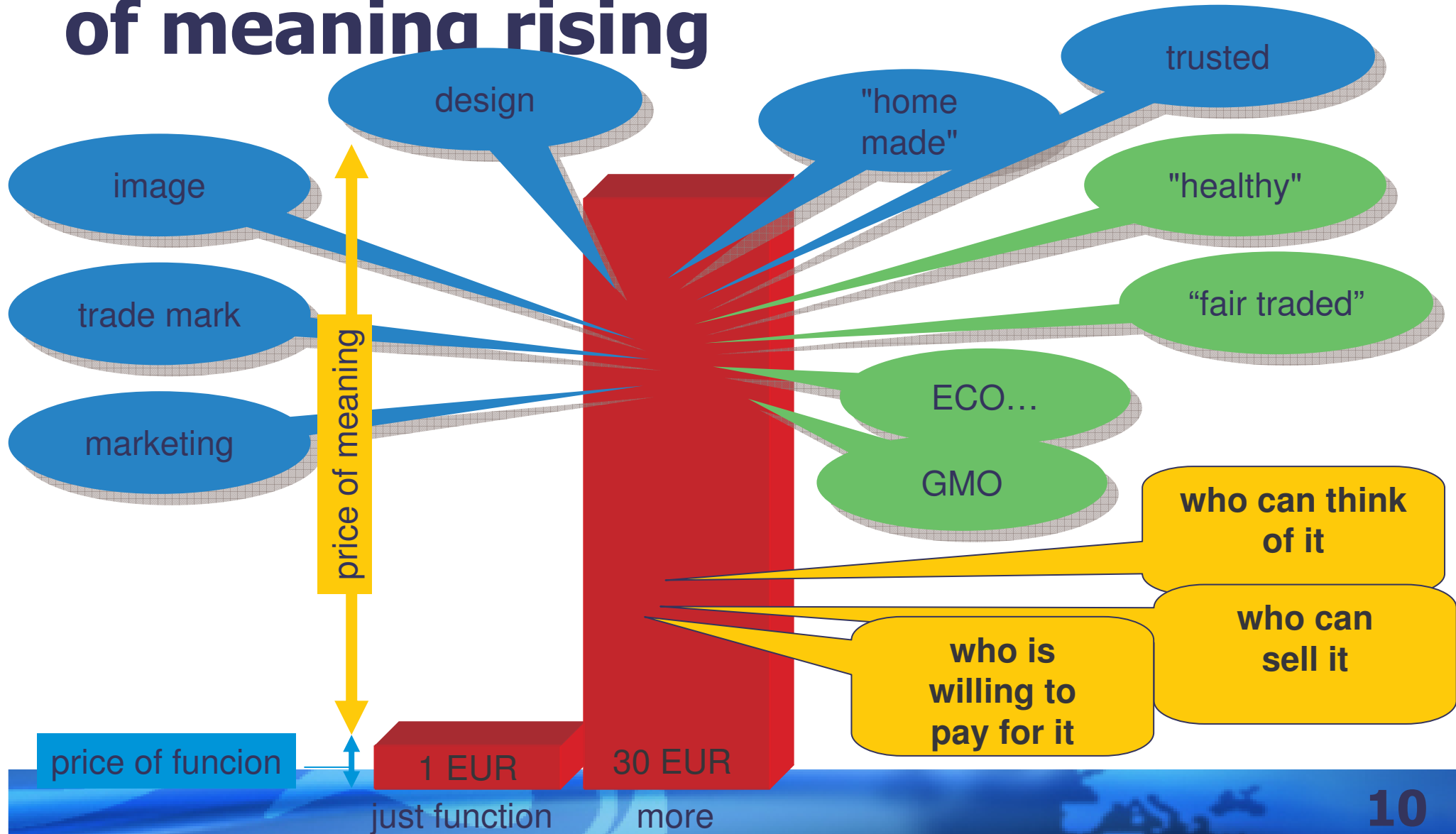


or in
meaning ?



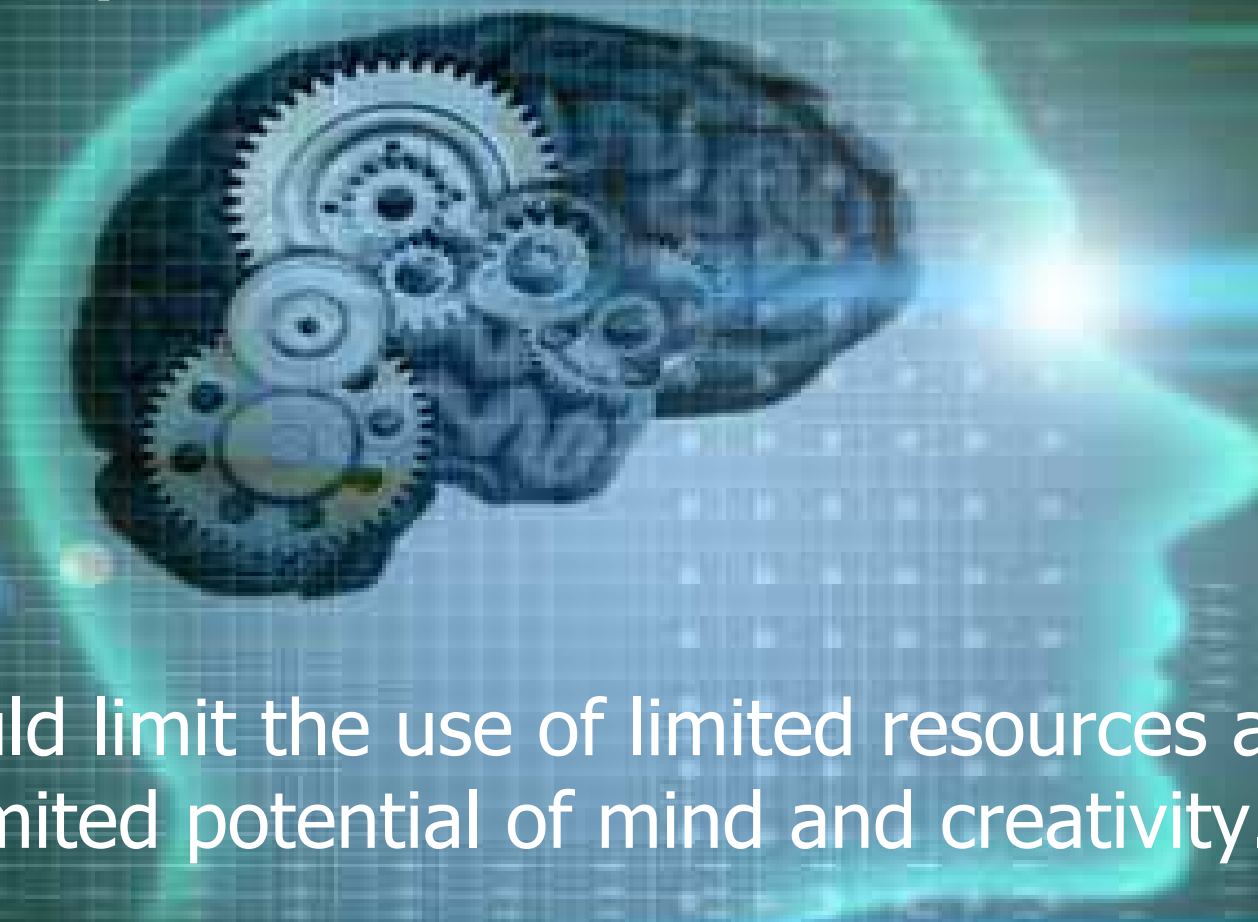


Price of function is dropping, and price of meaning rising





Environment is a finite economic resource, therefore ...



- We should limit the use of limited resources and use our unlimited potential of mind and creativity.

Lisbon Strategy on Moralization of the Markets

- The European Council recognizes that addressing energy and climate change is also a matter of **shaping values** and changing citizens' behaviour. It therefore urges national governments and European institutions to **set an example** by making substantial progress towards reducing energy use in their buildings and car fleets.





The good will is there ...

- Recent European LOHAS study shows that in comparison to the Americans Europeans are more inclined to buy environmentally friendly products and improve their environmental behaviour. (50 percent more likely to **buy "green"** products 25 % more likely to **recycle**)
- People want to work at green companies and that green and responsible companies are attracting and retaining talented people.



... but consumers need an opportunity to use their values and morals ... they need information!



Flybe Bombardier Q400		flybe.
Local Environment		
Noise Rating		
Less		
A		
B		
C		
D		
E		
More		
Take off & Landing CO ₂ Emissions		A (817 kg)
Take off & Landing CO ₂ Emissions (per seat)		10.5kg
Take off & Landing Local Air Quality ¹		2kg
Journey Environment		
Total Aircraft Fuel Consumption By Journey Length	Domestic (500km)	A (1044kg)
	Near EU (1000km)	A (1896kg)
	Short Haul (1500km)	A (2760kg)
CO ₂ Emissions Per Seat By Journey Length	Domestic (500km)	B (42kg)
	Near EU (1000km)	B (77kg)
	Short Haul (1500km)	B (111kg)
Passenger Environment		
	Minimum Leg Room	30"
	Number Of Seats	78

¹ Emissions of Nitrogen Oxides as an indicator of the effects on local air quality





In summary: Dematerialize economy and create sustainable ...

- production processes (e.g. cleaner production, life cycle thinking, organic farming)
- products (e.g. eco-design)
- ownership and consumption patterns (e.g. sharing, leasing)
- lifestyles (energy efficiency)
- communities (urban planning)
- development indicators (e.g. GDP, GPI, HPI?)

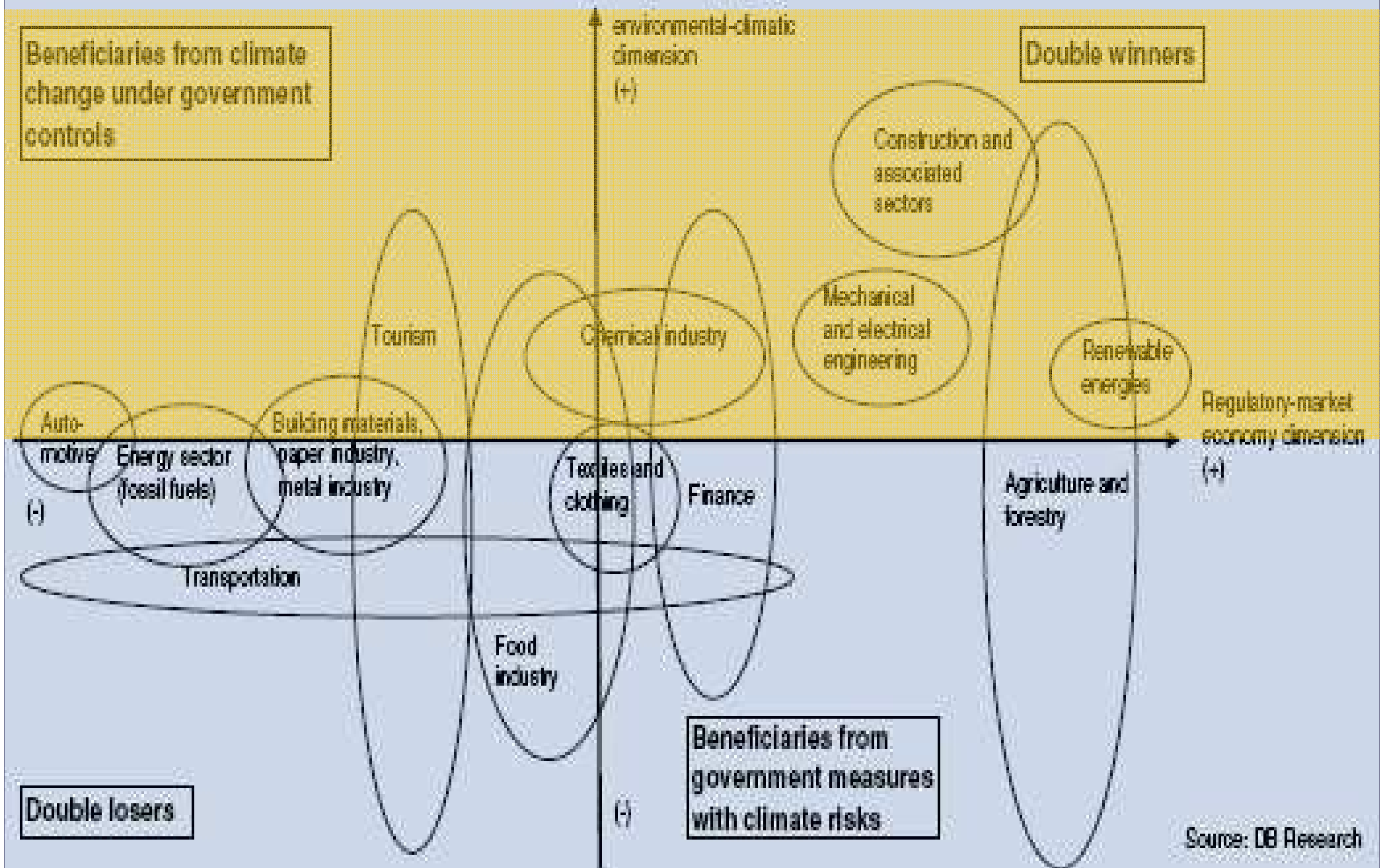


Changing climate, changing policies





Winning and Losing Sectors from Climate Change





Three drivers of policies

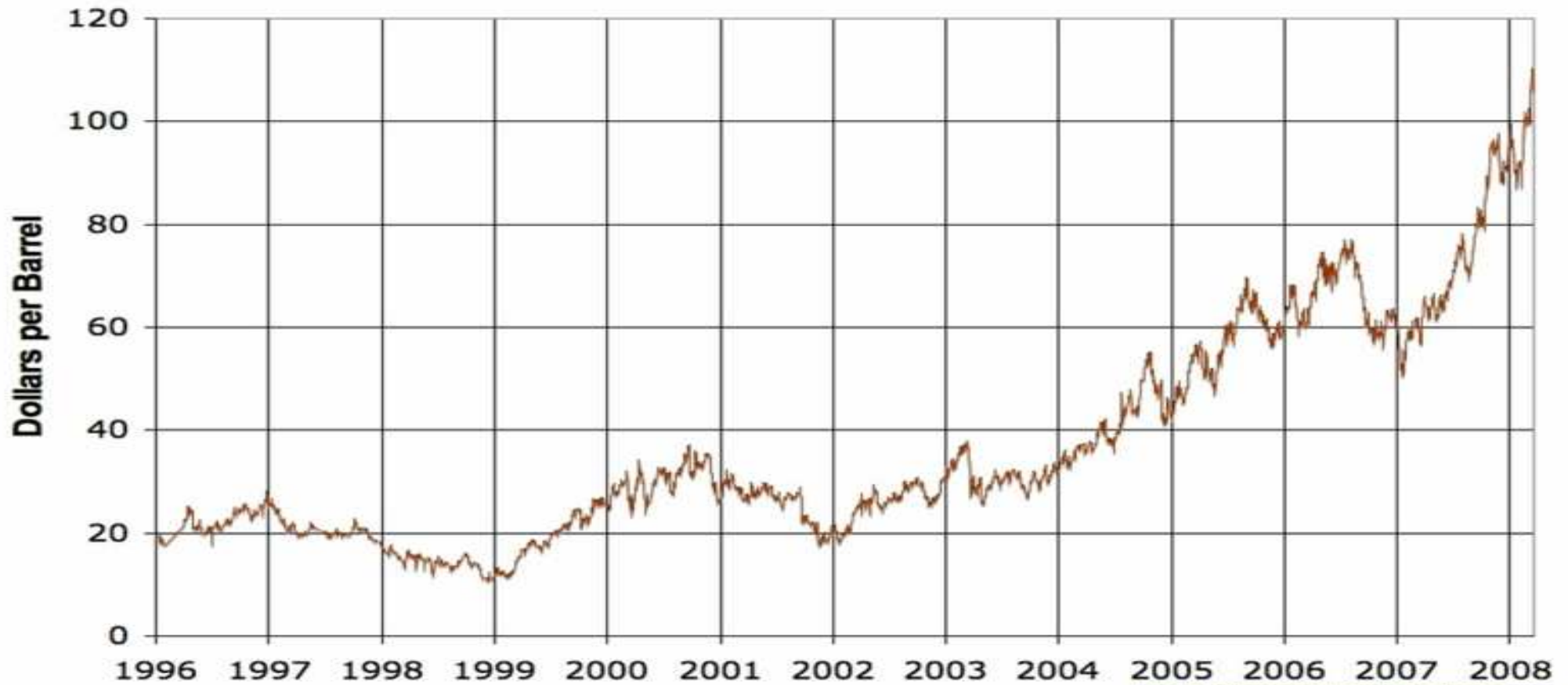
Security of Supply





Price

**Oil Prices, 1994-March 2008
(NYMEX Light Sweet/WTI)**



SOURCE: <http://octaine.nmt.edu/gotech/Marketplace/Prices.aspx>



CO2 Abatement is Possible ...

- The recent Japan – UK Joint Research Project analyses the possibilities of reducing CO2 emissions by 70 % by 2050.
- Results show that:
 - This can be achieved (under both scenarios developed), under the acceleration of research, development and deployment of new technologies.
 - Expected future innovations will lead to the reductions in energy demand by 40 – 50 % 2000 level while maintaining GDP growth and improving service demands.
 - The additional costs to achieve this goals is estimated to 1 % average of GDP (in Japan). As for the comparison the Stern report estimates that costs of extreme weather alone could reach 0.5 – 1 % of world GDP per annum by the middle of the century, and will keep rising if the world continues to warm. Costs and risks could, according to The Stern Review, rise to 20 % or more.
- To achieve that, three key elements should be fulfilled:
 - demand reduction through rationalization of energy use,
 - development and deployment of energy efficient technologies
 - decarbonization of energy in supply side.

Source: Japan – UK Joint Research Project "Developing visions for a Low-Carbon Society (LCS) through sustainable development



How much money exactly?

- 40 billion tons CO₂ annually
- possible to reduce by 27 billion tons
- at cca. 35EUR/ton
- total: 1 trillion EUR

- somebody's cost
- someone else's income



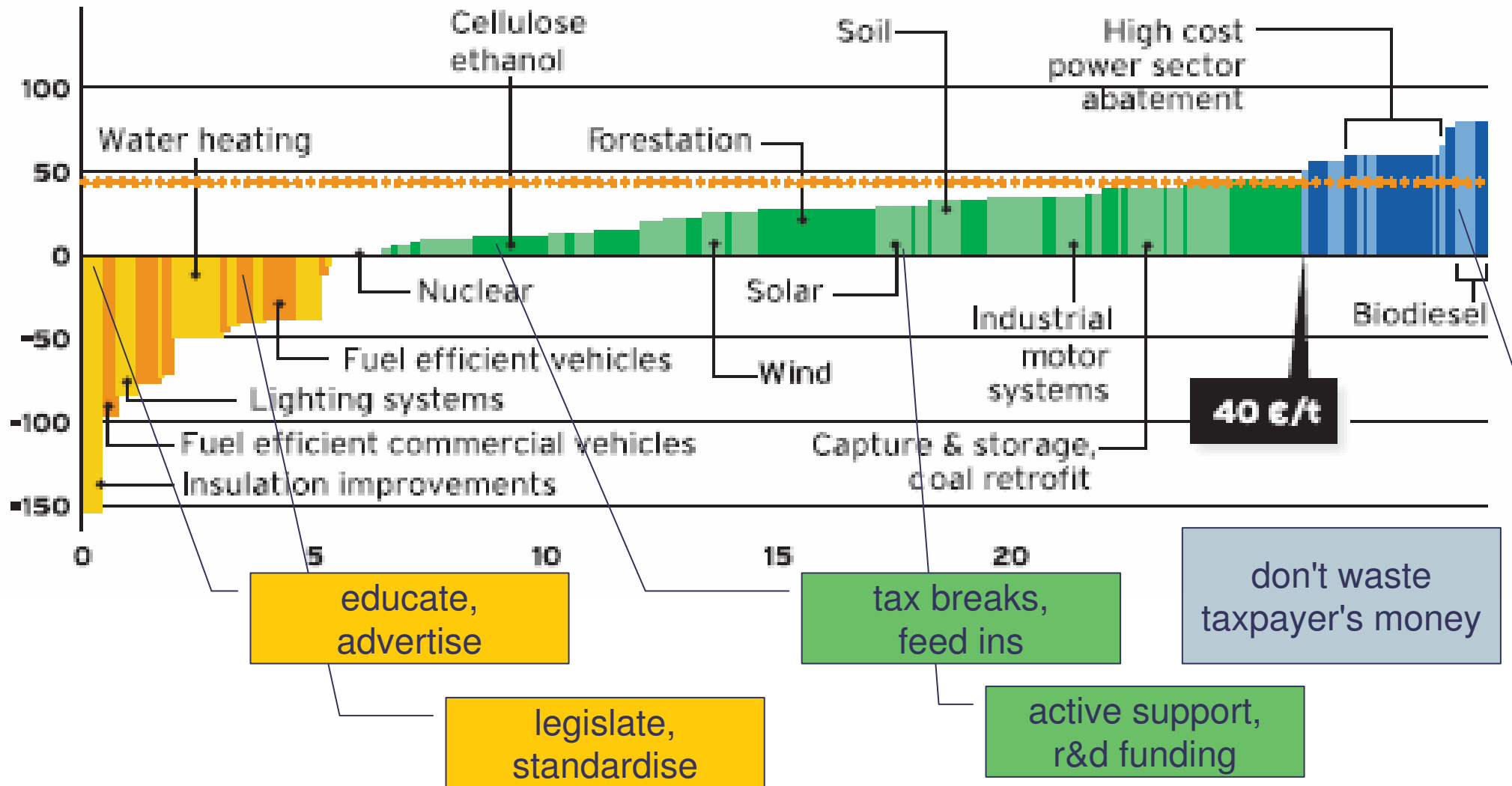
Where do you want Europe to be in this 1 trillion EUR business ?

- to **pay** your share of the trillion?
- to **collect** your share of the trillion?

- this is where "**growth and jobs**" and ECC should converge

Political Economy of CO2 abatement

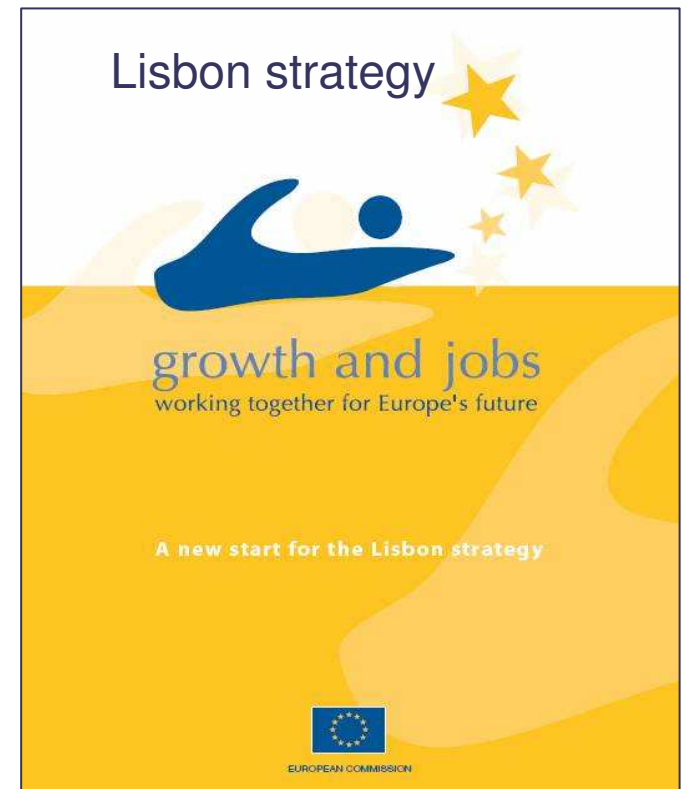
Marginal cost of abatement - examples
€/t CO₂





Lisbon Strategy: ECC in a nutshell

1. technology, **innovation** for renewable energy and energy efficiency
2. climate change can create good **business**
3. people need good environment, ageing issues, **education**, employment opportunities, raising about environment
4. energy and climate change **core** issues



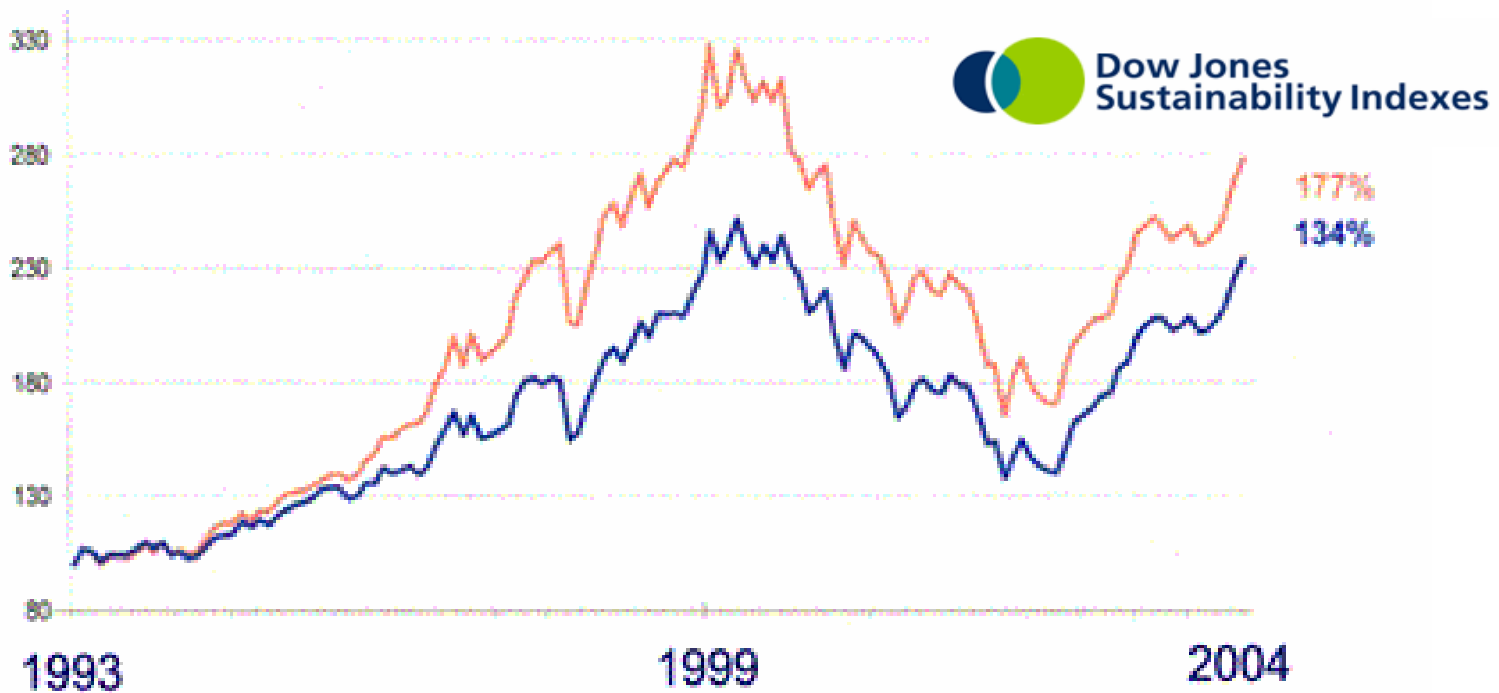


Growth and jobs

- Global investments in renewables amounted to 74 bn € of in 2006
- Renewables sector provides approximately 2 milion jobs worldwide
- Eco industries already represent a significant and quickly growing portion of EU economy (2,1 % EU GDP) and sustain 3,5 million full time jobs;
- number of jobs/€ invested into renewables is 3 – 5 times number of jobs from fossil fuel based power generation
 - good news if you believe economy is about creating work
 - bad news if you believe economy is about doiung more with less work
- 700.000 new jobs by 2020 from renewables
- competitive advantage
 - The Dow Jones Sustainability Index shows that European companies are the most sustainable in 13 out of 18 major economic sectors



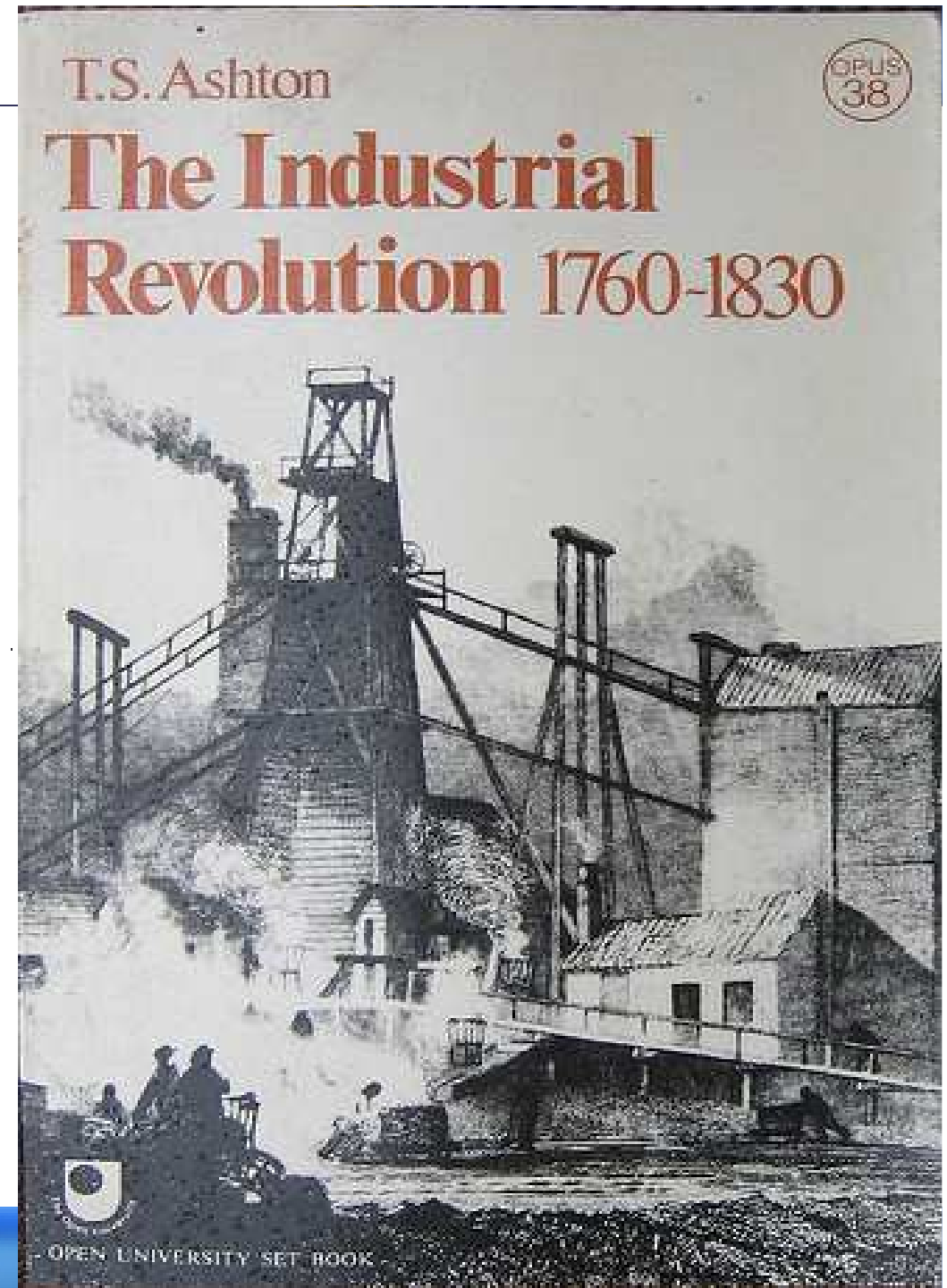
Sustainability is good for investors





Towards 3rd industrial revolution

- from below ground energy to above ground energy (wind, solar, biomass?)
- from centralized to decentralized production
- new types of storage (battery, hydrogen?)





Vectors of change

- **market pull:** change of values
- **technology push:** massive technological breakthroughs
 - we need to get to zero carbon economy
 - you can do only limited progress with energy efficiency
 - comparable to Manhattan or Apollo projects
- **actors of change**
 - industry
 - consumers
 - politicians



In Summary

- Europe cares for people and environment
 - these values must become the world values
 - we will be the first to develop associated products
- Climate change is good business
 - irrigation, floods, rising sea levels, air conditioning, new tourist destinations
- Climate change mitigation should be made commercially interesting
 - carrot (where not economical)
 - stick (where economical)
- It will succeed only if the world follows
 - back at item #1

The End

