



CBS-conference

Copenhagen

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Associate Partner

ADVISORY



Climate Changes Your Business

KPMG's review of the business risks and
economic impacts at sector level



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1. Stern Review on the Economics of Climate Change (Global /UK)

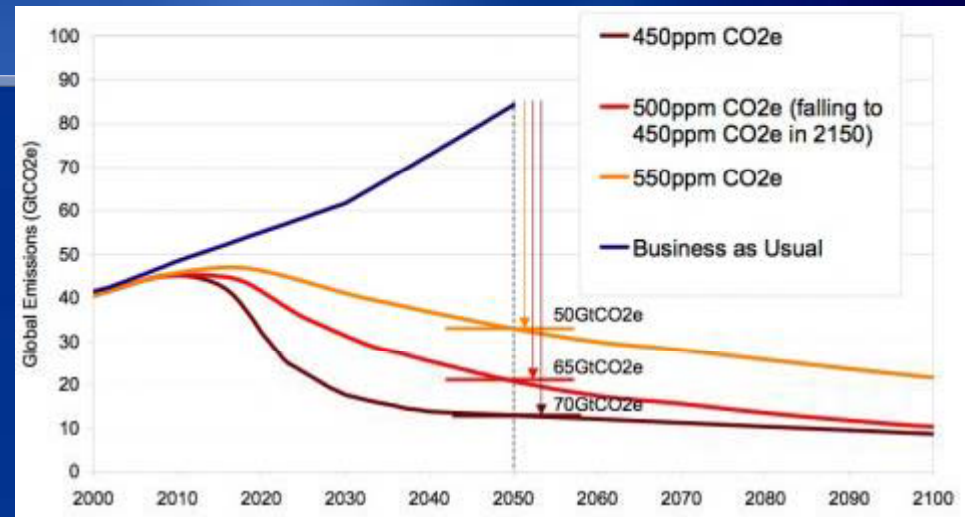
Nicholas Stern / UK government

Strengths

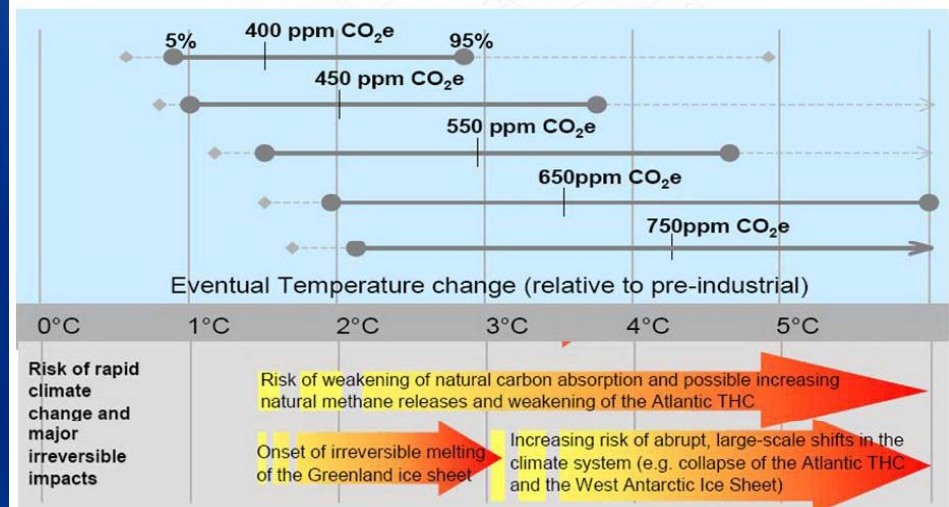
- One of the earliest and largest reports exploring the economics of stabilising GHG
- Used as reference by policy makers in UK /globe

Comments

- Based on assumptions which are not widely accepted by the scientific community
- Does not take into account soft skills
- Discounting factor seen to be incorrect by some economists



STERN REVIEW: The Economics of Climate Change (already at about 430 ppm CO₂e – all GHG, not just CO₂)



2. Vattenfall / McKinsey GHG Abatement cost curve (Global model)

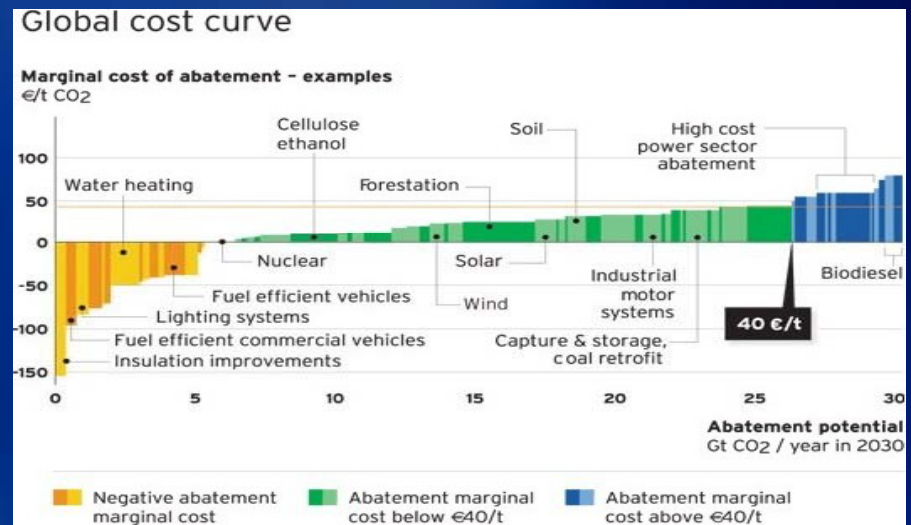
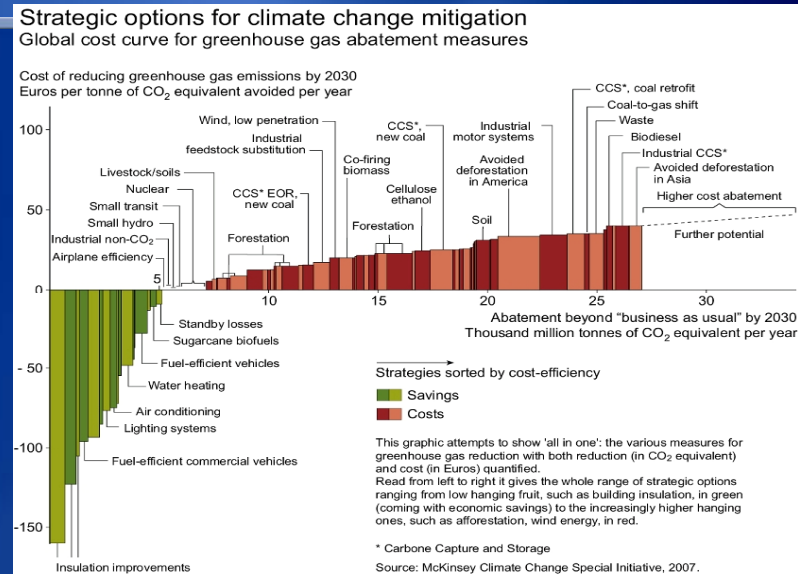
Vattenfall and McKinsey developed this model to show the size and cost of measures to abate GHG emissions globally.

Strengths

- Widely used by business and government
- It is flexible and can be tailored to individual country and business needs.
- It provides a detailed bottom up view of GHG abatement efforts
- Highlights the relative economics of different approaches to GHG abatement

Comments

- The model is based on assumptions which may vary with time
- It assumes a Business as usual scenario which fails to account for radical innovations which can change the business environment drastically.



3. Ecofys- Sectoral Emission Reduction Potentials and Economic Costs for Climate Change (EU)

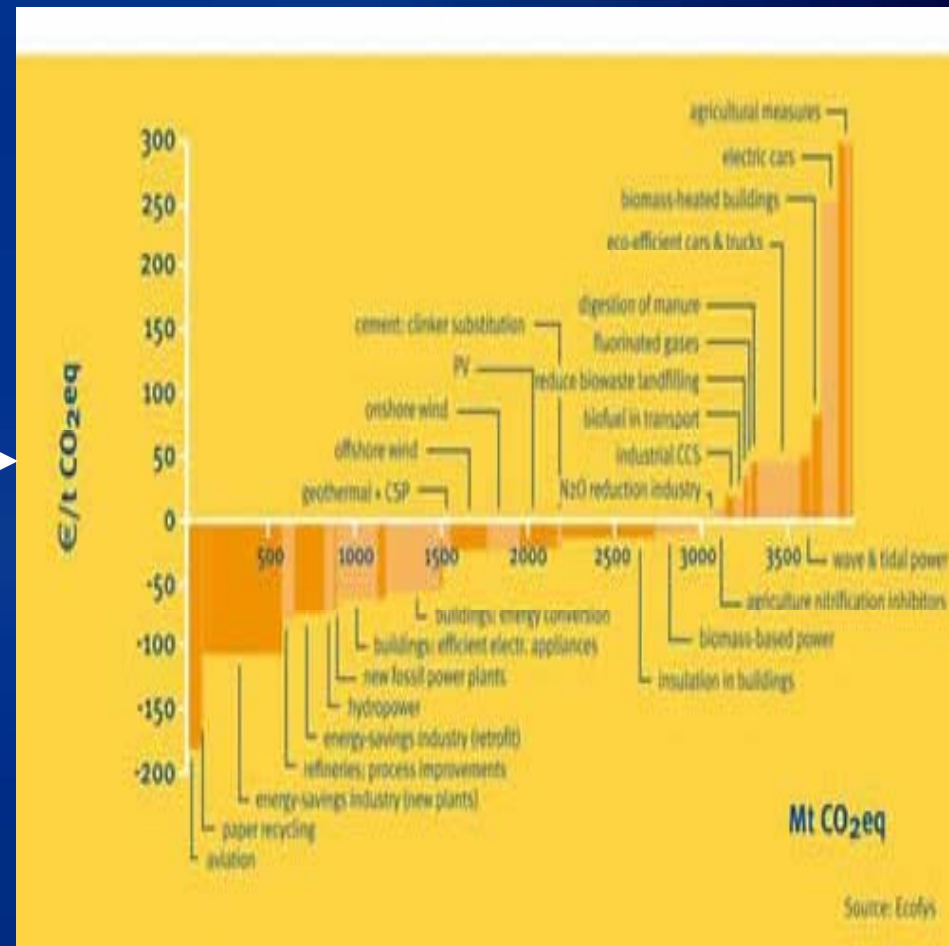
Ecofys GHG abatement model EU based on an analysis of the emission reduction potential and costs to society of 650 technologies in ten major sectors over a period of two years.

Strengths

- It is a detailed and comprehensive study of the various sectors in the EU region
- It emphasizes on soft aspects of behavioural change to realize the benefits
- It highlights the economic cost to society for undertaking abatement

Comments

- It assumes that low-carbon technologies will be applied in each cycle of renewal or renovation.
- It is focused on the EU and does not take into account the global scenario.



4. The Garnaut climate change review (Australia)

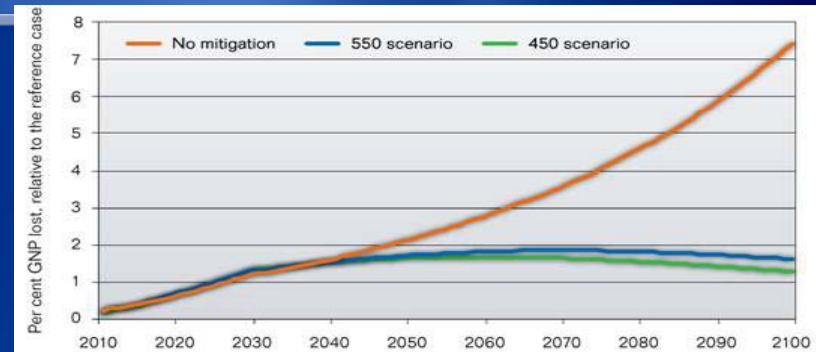
This report was created by Ross Garnaut for the Australian government to highlight the urgency for Australia to participate in mitigating climate change. It was reviewed by the Treasury Dept.

Strengths

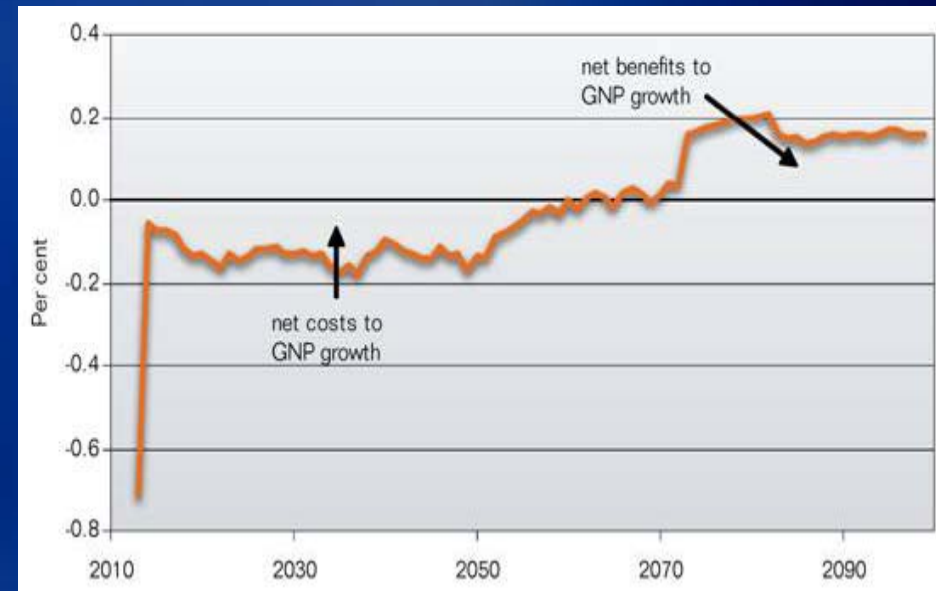
- Emphasizes on developed countries like Australia to take initiatives to tackle global warming
- Tackling climate change under both the 450ppm and 550ppm scenarios is manageable

Comments

- Emission reductions from the agriculture and forestry sectors were excluded
- The reduction target of 10% by 2020 was seen as a weak target
- The time frame used in the analysis was too long for the assumptions to hold good

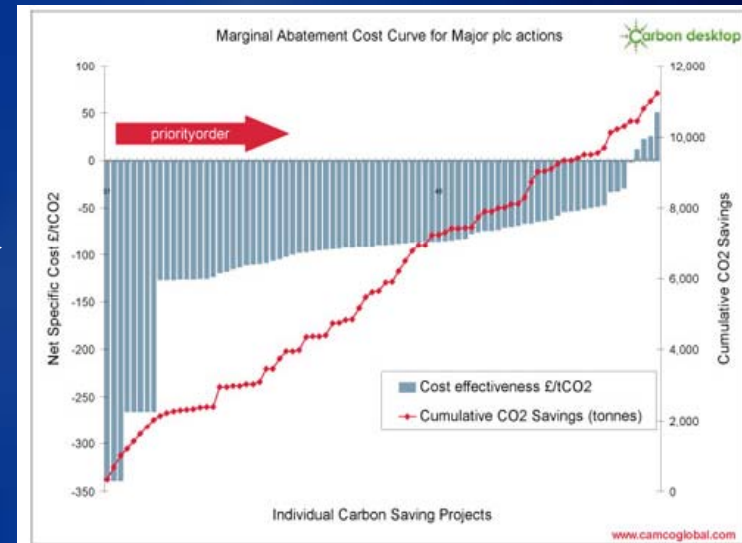


Notes: The graphs show the cost as a percentage of GNP of expected market damages from the level of climate change associated with the three scenarios. These estimates are achieved by 'shocking' the reference case with the differing levels of impact associated with the temperatures expected from the three scenarios.



5. Variety of national / sector CRC cost curve models

This model has been developed by Camco consultancy to show businesses the impact of the establishment of the Carbon Reduction Commitment in 2010 in UK and strategies to be adopted to benefit from the same. It highlights the benefits of adopting a carbon reduction strategy by showing the potential cumulative carbon savings and the cost effectiveness to businesses.



Survey rationale & methodology

(Chapter 1)

- ◆ **Mismatch macroeconomic costs climate change - business confidence**
 - High macroeconomic costs 1 - 20% GDP
 - Research (KPMG & GRI, 2007) suggests companies primarily see opportunities
- ◆ **Business risks are starting to materialise**
- ◆ **Lack of knowledge at sector level**

Methodology:

- ◆ **Analysis 50 reports**
- ◆ **Interviews 11 international experts**

Publishers of the reports reviewed	
Allianz and WWF	JPMorgan Chase and Innovest Strategic Value Advisors
American Electric Power	Lehman Brothers
Aon	Lloyd's
Australian Business Roundtable on Climate Change	McKinsey
Barclays	Merrill Lynch and World Resources Institute
Carbon Trust and Lippincott Mercer	Milieudéfense and Profundo
Ceres	Moody's
Ceres and Calvert	Morgan Stanley
Ceres and Investor Responsibility Research Centre	Nature
Chatham House and Insight Investment	SAM Group
Citigroup and World Resources Institute	SAM Group and World Resources Institute
Columbia University	Social Investment Organization
Deutsche Bank	Standard & Poor's
Ford	Swiss Re
Goldman Sachs	Swiss Re and ETH-Zurich
Goodwin Procter	Trucost
Henderson Global Investors and Trucost	UBS
ING Wholesale Banking	UNEP FI
Innovest Strategic Value Advisors	University of Amsterdam
Innovest Strategic Value Advisors and UNEP FI	Vattenfall
Insight Investment	World Tourism Organization
Institutional Investors Group on Climate Change	

Climate Changes Your Business: Key Findings (chapter 2)

◆ Four types of climate change risks for business:

Direct Risks

- Physical risk



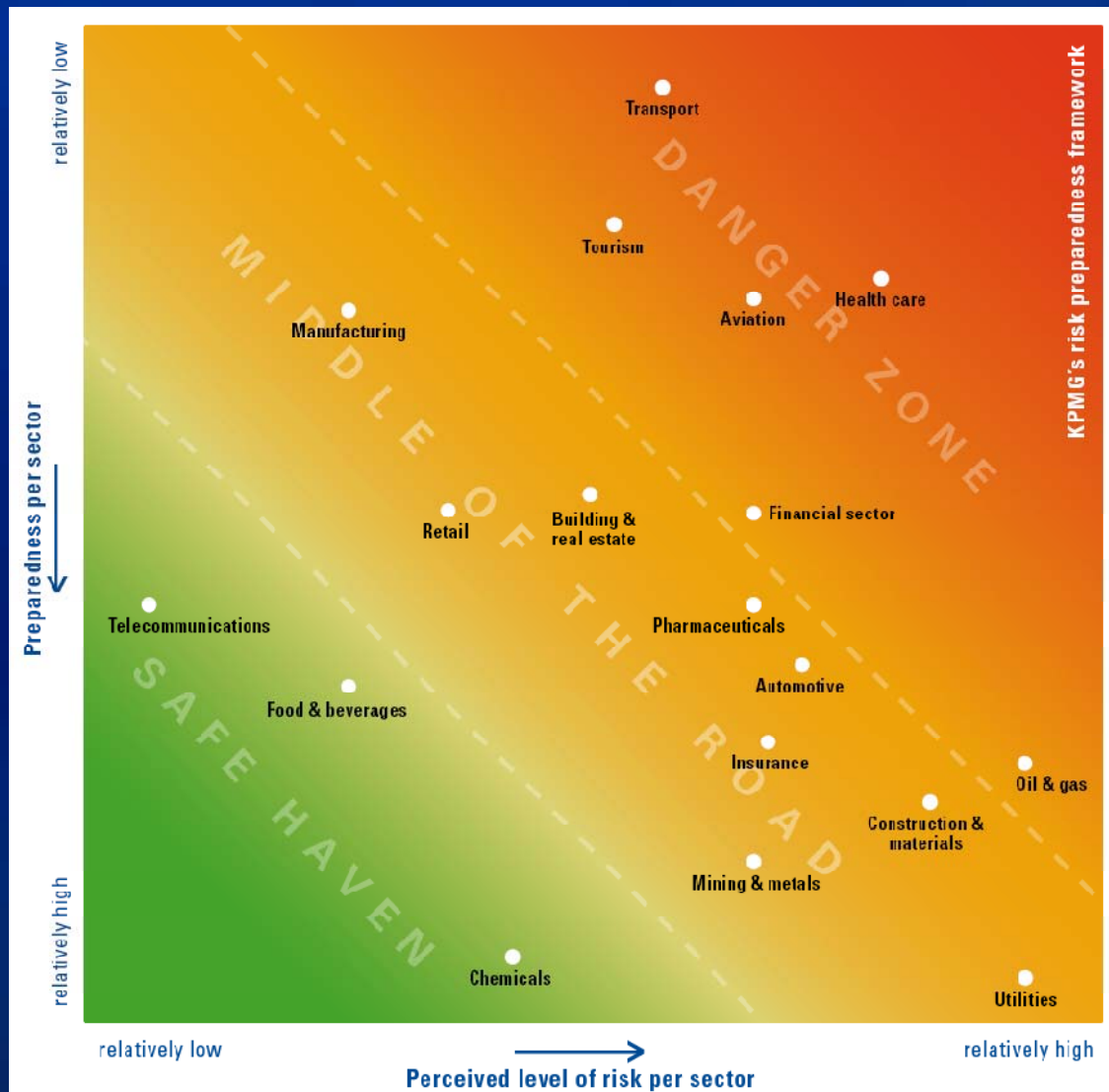
Indirect Risks

- Regulation (Most commonly cited)
- Reputation
- Litigation



- Actual risks for most sectors higher than commonly perceived
- Most sectors at risk, but preparedness varies greatly

KPMG's risk preparedness framework: substantial sector variations (Chapter 3)



Sector classification:

◆ 'Danger zone': risk is markedly greater than preparedness

◆ 'Middle of the road': risk is roughly matched to preparedness

◆ 'Safe haven': reasonably high level of preparedness for relatively low risks

Risk preparedness of sectors (Chapter 3)

◆ Danger zone:

- Oil & Gas
- Aviation
- Health care
- Financial sector
- Tourism
- Transport

◆ Middle of the road:

- Manufacturing
- Retail
- Building & real estate
- Pharmaceuticals
- Automotive
- Insurance
- Construction & materials
- Mining & metals
- Utilities

◆ Save haven:

- Telecommunications
- Food & beverages
- Chemicals

Looking ahead

(Chapter 4)

◆ Actions at sector level:

- Need to gain a better understanding of the sector-specific business risks
 - Improve the 'risk and risk preparedness' methodology
 - Improve the quantification of climate-change related risks to reputation
 - Assess sector-specific risks of litigation as it evolves
- Initiatives may come from variety of sources

◆ Actions at company level:

- Invest in understanding risks and developing risk management
- Invest in opportunities
- Provide disclosure

Thank you!