

# **CLIMATE CHANGE: CAN THE HUMANS SURVIVE?**

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**FIRE STARTER FESTIVAL - EACG  
APOCALYPSE NOW... OR NEVER?  
THE REALITY OF CLIMATE CHANGE**

**8TH FEBRUARY 2018  
CITY CHAMBERS, HIGH STREET, EDINBURGH**



Last week the concentration of carbon dioxide in the atmosphere was reported to have passed 400 parts per million for the first time in 4.5m years...

On the present course, it could be 800 parts per million by the end of the century.

Thus all the discussions of mitigating the risks of catastrophic climate change have turned out to be empty words.

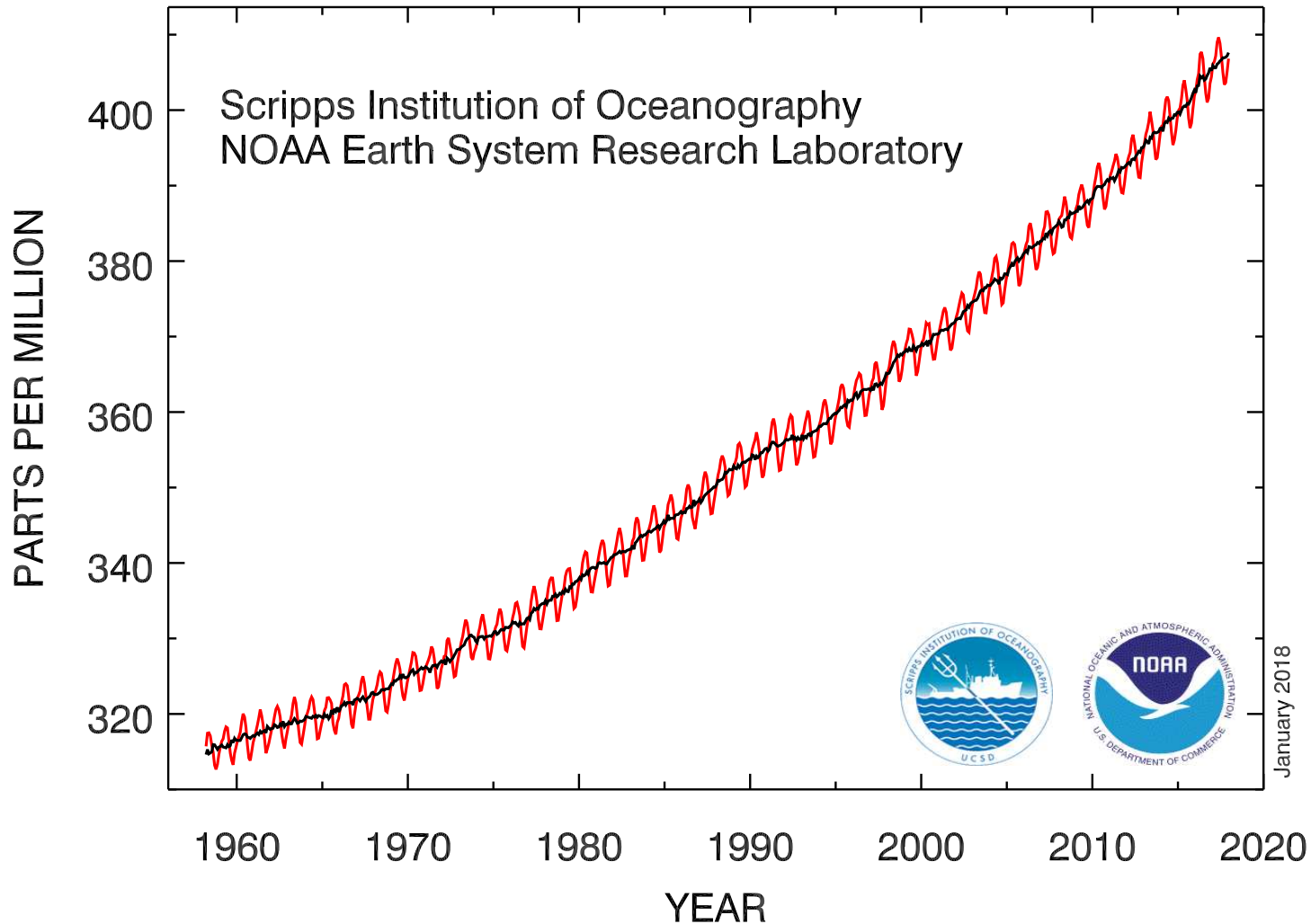
Collectively, humanity has yawned and decided to let the dangers mount.

...humanity is conducting a huge, uncontrolled and almost certainly irreversible climate experiment with the only home it is likely to have. Moreover, if one judges by the basic science ... risk of calamitous change is large.

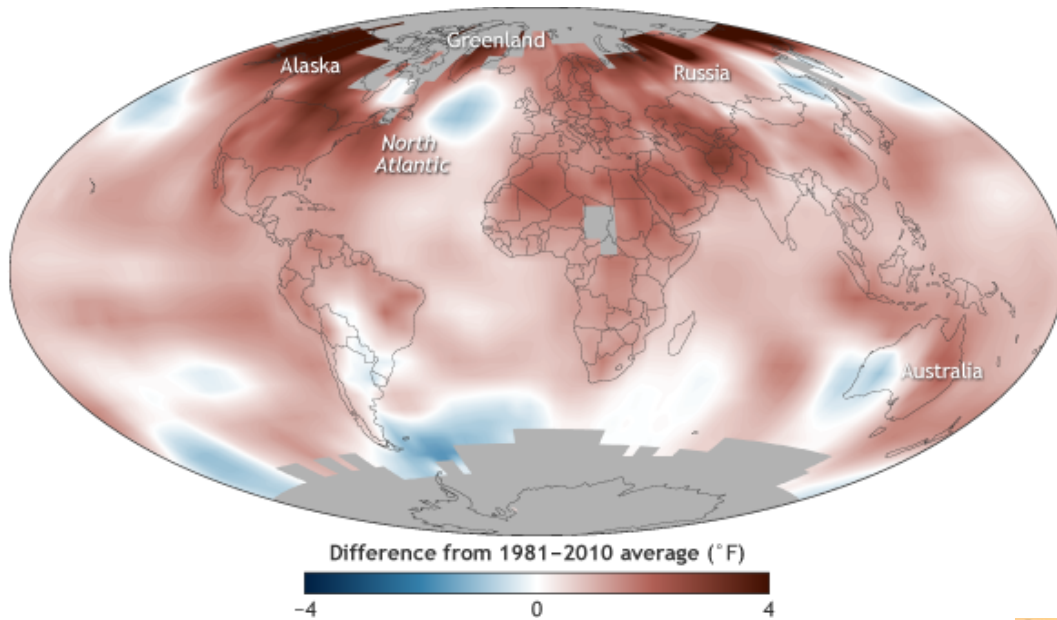
Martin Wolf, *Why the world faces climate chaos*  
Financial Times May 14, 2013

Globally averaged concentrations of CO<sub>2</sub> reached 403.3 parts per million (ppm) in 2016

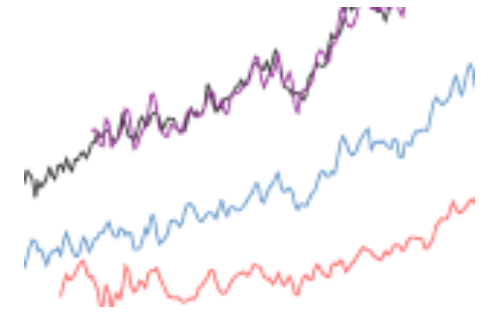
## Atmospheric CO<sub>2</sub> at Mauna Loa Observatory



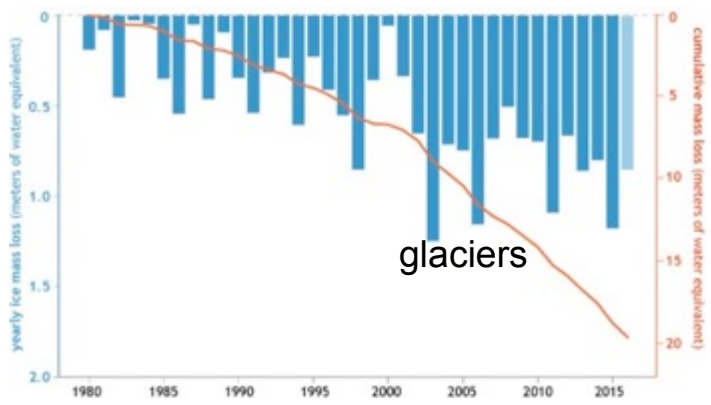
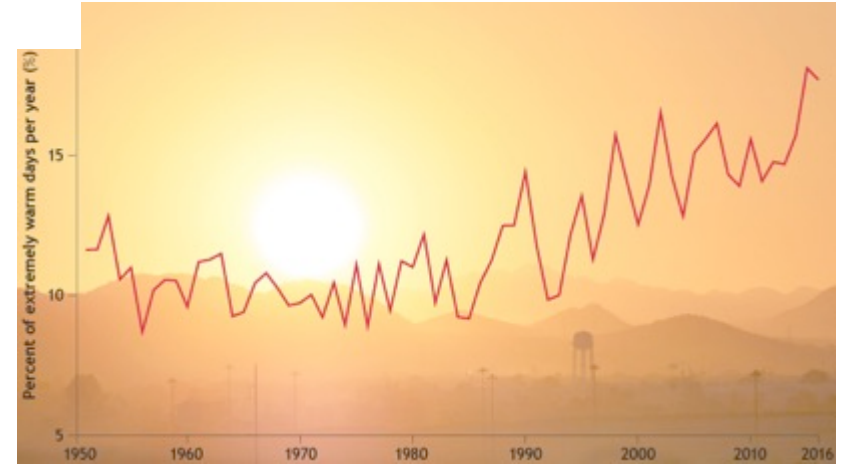
# 2016 STATE OF THE CLIMATE



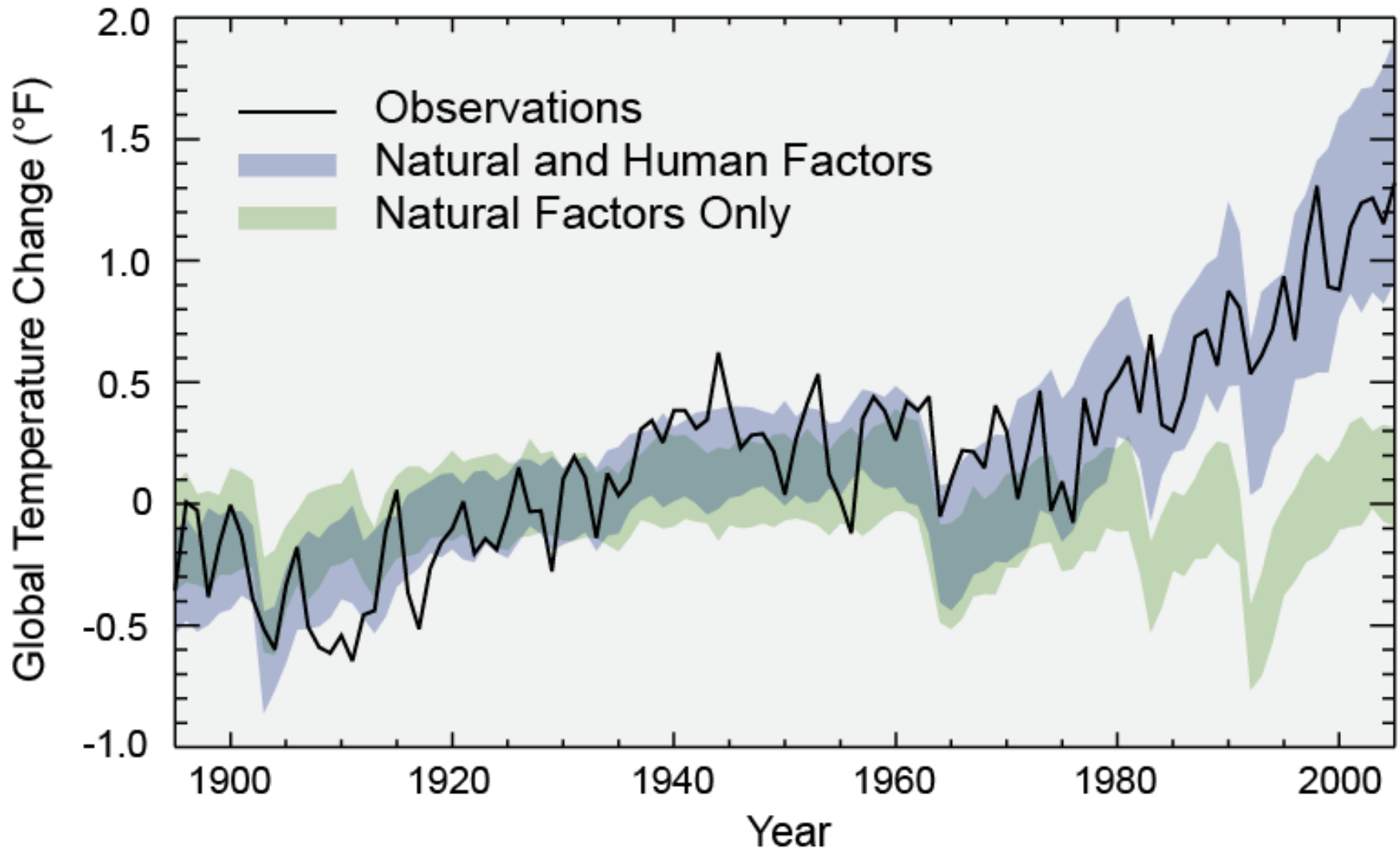
Sea level



Extremely hot days

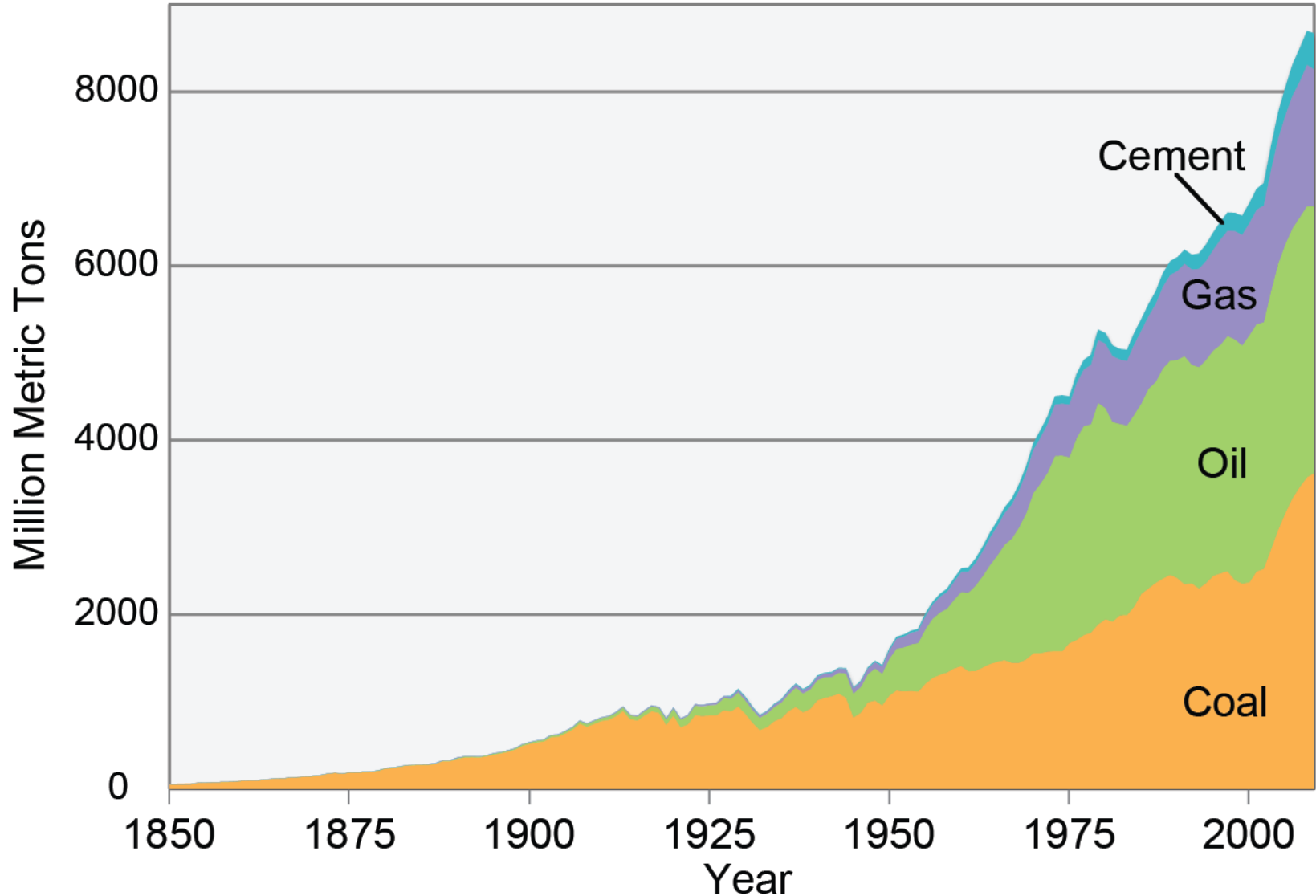


## Separating Human and Natural Influences on Climate



We burn, each year, around a million years worth of accumulated hydrocarbons

## Carbon Emissions in the Industrial Age



Source: *Climate Change Impacts in the USA 2014*

# PARIS AGREEMENT 2015 AIMS TO HOLD GLOBAL AVERAGE TEMPERATURE INCREASE TO BELOW 2°C AND PURSUE EFFORTS TO LIMIT INCREASE TO 1.5°C



## 2017 global GHG emissions ~60% higher than 1990

- First IPCC report & Kyoto Protocol base year
- Doubling of global economy
- Accelerating global warming outside IPCC 2007 'worst case scenario'

## 2018 UK Met Office forecasts 2018-2022

- Global average temperature could reach 1.5°C above pre-industrial levels

## IPCC mitigation scenarios rely on negative emission technologies (NETs) to meet carbon budgets

- Expectation of future 'cost optimal' technologies more politically palatable than rapid mitigation now
- Legitimises continuing exploitation of fossil fuels

## European Academies Science Advisory Council

- NETs could fail, resulting in severe global warming with 'serious implications for future generations'

# WHY DO SOCIETAL RESPONSES SEEM INCONSISTENT AND FALTERING? DESPITE ABUNDANT EVIDENCE OF MAJOR CLIMATE RISKS

Scotland, UK and Europe have the resources to mitigate and adapt

- Financial, technical, and managerial
- Knowledge, capacity and policy

In practice action is uneven

- Continuing dependence on fossil fuels for heating and transport
- Patchy energy saving
- Consumption footprint & waste
- Financial investments not prioritising sustainable society

## A Problem of Liberalised Markets?

Materialistic values  
Globalisation of trade  
Deregulated financial markets  
Retreat from fiscal policy

The 'powerful cosmos of the modern economic order' propels 'the heedless consumption of resources for which there are no substitutes'...  
'until the last ton of fossil fuel has burnt to ashes'  
Max Weber, 1930 *The Protestant Ethic and the Spirit of Capitalism* and 1925 *Economy and Society*

# CORE VALUES OF LIBERALISED ECONOMIES - ECONOMIC GROWTH AND CONSUMER MARKETS

**UK economic growth since 1990 stimulated by deregulated finance and expansion of consumer credit**

**A systematic framework of incentives to consume more**

- Personal debt doubled in the decade after 1990
- Now £1.5 trillion or 88% UK annual GDP

**Climate policies rely on market mechanisms**

- Steering of markets (EU ETS and electricity)
- Micro-economic management for 'greener choices'

Weak consumer spending in Britain has raised fears about the strength of the economic recovery



# UNDERSTANDING SOCIETY AS A CONSUMER MARKETPLACE

Each of us is regarded as having unlimited 'natural' desire to consume more

Short-termism and calculative attitude

Allows 'split mind' as means of coping with disruptive knowledge

- Compartmentalised responsibility
  - *The citizen consumer 'demands more and more protection while accepting less and less the need to participate in the running of the state' (Bauman, 1999: 156)*



# CAN MARKETS DELIVER SUSTAINABLE SOCIETY?

## Supermarkets

- Business Model - Cost Cutting & Economies of Scale
  - Concentration of purchasing & production
  - Global sourcing
  - Centralised distribution systems and the 600 mile carrot



## Energy intensive retail space and warehousing

## Car dependence

- Defra estimates food shopping costs society £3.5bn pa from traffic emissions, accidents, congestion and noise

## Waste

- Food, clothes and plastics

## Palm oil and soy products - rainforest destruction

## Invisibility of risks

## Vulnerability to collapse





# CAN WE MAKE A SUSTAINABLE SOCIETY?

**Failure of core values of market society to solve problems of debt, poverty, conflict and climate change**

**Above a certain standard of living, mutual respect, care, meaningful work make for a sustainable way of life**

**Change material infrastructure to change behaviour**

**Public spending needs to follow policies for**

- Energy saving
- Walking, cycling, public transport
- Land use and restoration
- Local economic prosperity

Some of the good things in life are corrupted or degraded if turned into commodities, so to decide *when* to use markets, it's not enough to think about efficiency; we have also to decide how to value the goods in question. Health, education, national defence, criminal justice, environmental protection and so on – these are moral and political questions, not merely economic ones...

Michael Sandel, 2009

