

RIIA Energy & Environmental Programme  
Oil Resources Workshop  
June 17/18 1999

# Environmental Constraints On Access



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# Constraints ?

- Habitat/ physical development - eg nature reserves, wilderness quality
- Process pollution - muds, discharges etc
- Climate change: the carbon logic > phase out fossil fuels

# The 'carbon logic'

- Climate change threatens ecological catastrophe and human disaster
- Existing greenhouse gas pollution already commits the world to crossing ecological thresholds/ limits
- The main cause is carbon (dioxide) pollution from fossil fuels ...

# carbon logic ...

- There is more fossil fuel than can be burnt if we are to stay within tolerable levels of climate change
- Therefore phase out fossil fuels

# carbon logic ...

- When in a hole: first, stop digging
- Do not 'add to the stockpile'
- Do not more convert resources to reserves:  
stop exploration and development



# process

Ecological knowledge



Temperature &  
Sea level rise  
tolerances/limits  
and rates



Relate to ppm CO2



Carbon budget

Compare carbon budget  
with

- existing commitment
- reserves and resources
- present rates of use



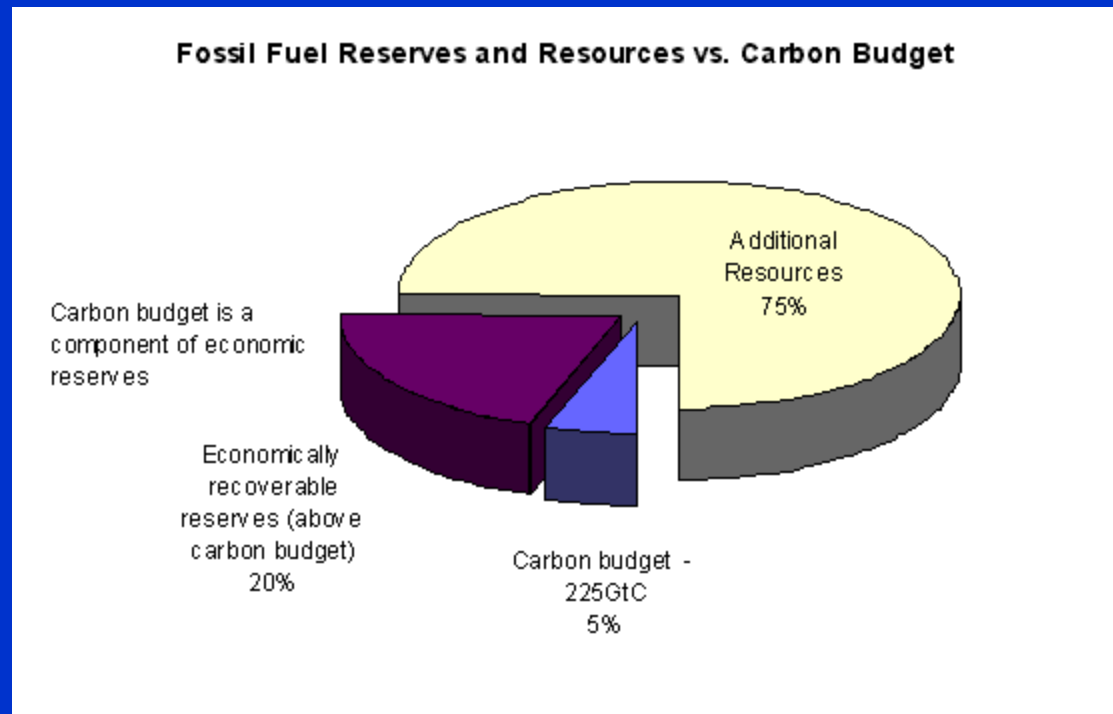
Reach inescapable  
conclusion



# Technical bases

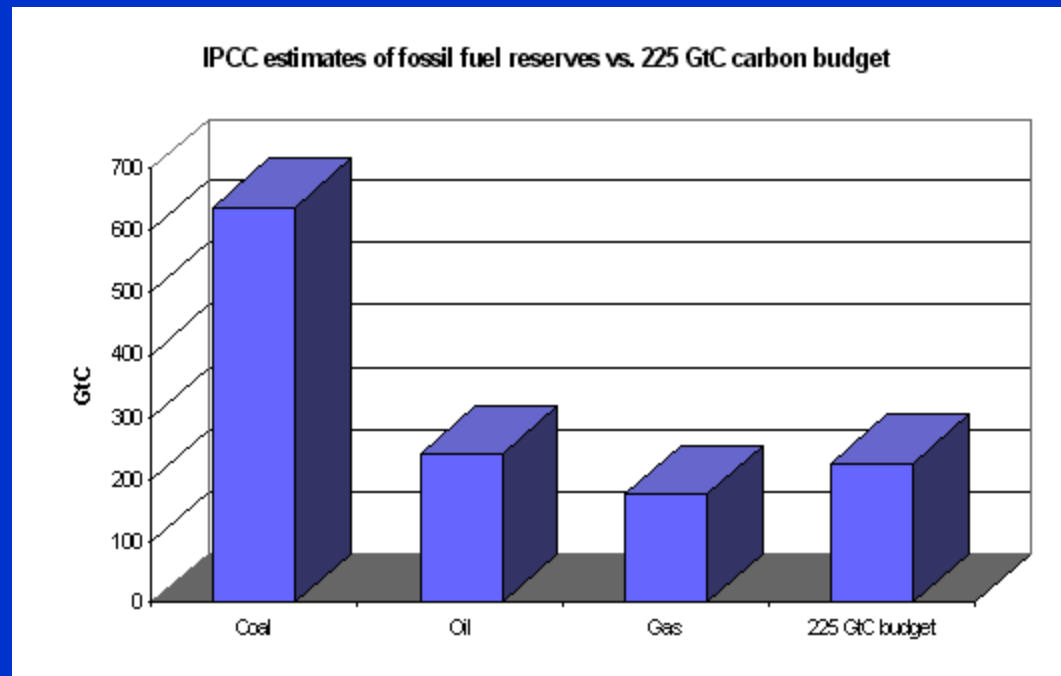
- Advisory Group on Greenhouse Gases 1990  
- ecological limits (and subsequent work)
- IPCC (and aborted chapter for SAR)
- Fossil Fuel And Climate Protection: The  
Carbon Logic, Bill Hare Greenpeace International  
<http://www.greenpeace.org/~climate/science/reports>

# 225GtC, 1.0C/ o.1.C decade/limit





# Too much carbon, not enough sky



# Political incorporation

- Objective of the 1992 Climate Convention to stabilize greenhouse gas concentrations

*‘within timeframe sufficient to allow ecosystems to adapt naturally to climate change’*

(= eco-limits)

# political incorporation

- European Union: 2.C limit above pre-industrial levels
- Swedish & Danish policies towards a 'phase out' of fossil fuels
- Identification of fossil fuels in climate-problem language eg the UK at Kyoto

# Carbon comprehension



“It is important to recognize, however, that the specific attack by Greenpeace in Particular, on oil and gas developments in the Atlantic Margin, accompanied by the usual exaggerated claims about last wilderness and environmental devastation, with emotional references to whales and endangered species, also raises a key question: *‘In how far is it sensible to explore for and develop new hydrocarbon reserves, given that the atmosphere may not be able to cope with the greenhouse gases that will emanate from the utilization of the hydrocarbon reserves discovered already?’* Undoubtedly there is a dilemma ...”

Heinz Rothermund

1997 (then MD of Shell

Expro and Production)

Celebrity Lecture for the

Institute of Petroleum

# Greenpeace campaign strategy

- Put the case
- Go to the point of exploration/ adding to the stockpile - try to stop it
- Create dialectical moments of conflict - or “a rethink on fossil fuels” (Sir Edward Heath MP)
- Create new political movement to a global phase out of fossil fuels



Greenpeace Arctic Base Camp activists bear witness to Arco's oil exploration in the Beaufort Sea.  
©Greenpeace 23 July 1997

# Where to start a U-turn ?

Examples of Annexe 1 carbon frontiers

Atlantic Frontier -  
UK,  
Irish,  
Norwegian, Icelandic  
and Danish/Faeroese  
territory



UK Government  
1975

# Where to start a U-turn ?

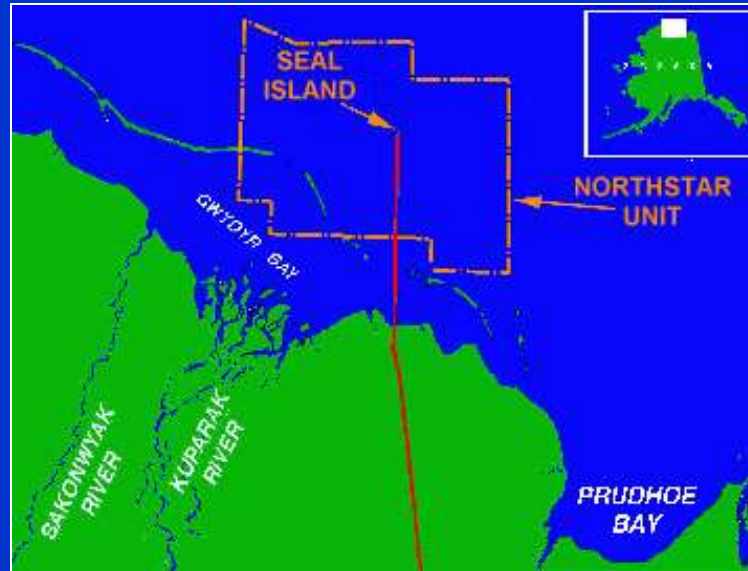
More examples of Annexe 1 carbon frontiers

Alaska

Prudhoe Bay

Northstar

Development



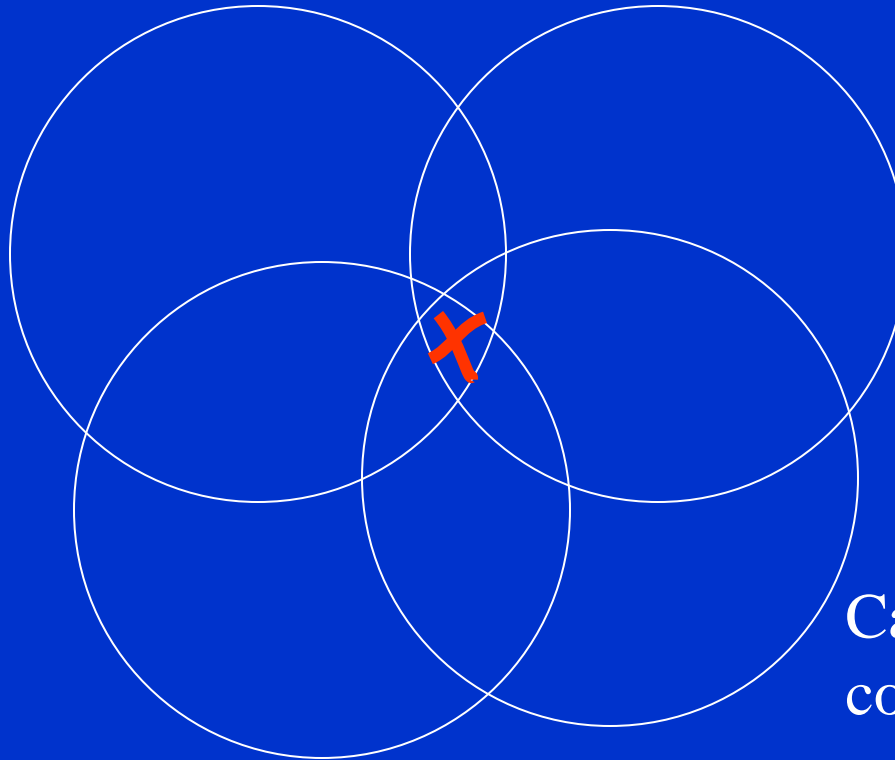
Oil shales eg Stuart  
(Queensland) Australia  
... and others



# Where to start a U-turn ?

Carbon budget - applies everywhere

Additional reasons - lower threshold for change - greatest in eg AF, GBR, North American Arctic



Political responsibility - greatest for Annexe 1 states

Capacity to convert to renewables - greatest for Annexe 1 and Top 500



# political

## Climate convention

- FCCC ~ visible as a negotiating process and modalities of that became ‘the problem’
- does not deal with energy or fossil fuels - deals with emissions of gases - real players off stage

## Carbon budget politics

- Carbon development - eg oil exploration - a real industrial activity that is the problem
- brings industrial players and energy/industry policy centre stage

# political

## Climate convention

- Negotiation of distributing ‘painful cuts’ - ‘all losers’
- Leaves ‘hardest questions’ eg ultimate reductions, to last (and too late)

## Carbon budget politics

- Renewables offer new jobs, new industry - ‘winners’ as well
- Starts by ‘accepting’ or debating the need to phase out fossil fuels



# A formal negotiation

Via FCCC ?

Or via a new entity

Like the disarmament talks

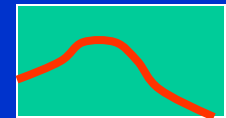
Climate change = cold war scale threat

Carbon is the plutonium or weapons stockpile equivalent - first stop adding, then negotiate away

Only effective global governance can solve it

The ultimate prestige negotiation

Bridging fuels can only be defined by an agreed trajectory, and rates are crucially important



Analysis - see Fossil Fuel And Climate Protection: The Carbon Logic, Bill Hare Greenpeace International

<http://www.greenpeace.org/~climate/science/reports>

- Central IPCC 1415GtC > atmos by 2100 = 2.5-2.9.C rise with 2.5C sensitivity assumed
- For 1.0C limit (assume no deforestation) need 225GtC budget with 3.5.C sensitivity or 295GtC budget with 2.5C sensitivity
- current rates exhaust budget in 30yrs (2025)
- EU 2.0C limit implies 410GtC with 3.5.C sensitivity and 585GtC with 2.5C sensitivity
- 829 - 1501GtC recoverable ? 4000GtC resource ? too much anyway
- Limits slr 20cms above 1990; temp >0.1.C/decade, +1.0C total = rapid and unpredictable changes; > 2.0C = grave and severe damage
- Sensitivity likely to be higher (3-4.C better fit with observations)
- 'Surprises' excluded from IPCC and will increase

The End

