

Solving Climate Change?

Wednesday 28th March 2007
A Manchester Climate Forum event

Agenda

7.35
Introductions
7.40
Three presentations, Q and A
7.55
Three presentations, Q and A
8.10
Three presentations, Q and A
8.25
Break to refresh your brain
8.35
UNFCCC, Kyoto and beyond...
8.55
Global Warming Swindle:
Discussion, Q and A
9.05
Brief group updates
One sentence announcements
9.10
Off for a drink!



"You must not deal only with the symptoms. You have to get to the root causes by promoting environmental rehabilitation and empowering people to do things for themselves. What is done for the people without involving them cannot be sustained."

Wangari Maathai, founder of Green Belt and 2004 Nobel Peace Prize laureate

Greenhouse Effect

There is a blanket of carbon dioxide trapping heat that bounces off the Earth. That's okay; without that blanket the temperature would be minus 30 degrees and the Earth would be a lifeless lump of rock, not unlike Adelaide on a Sunday morning. The problem is, by burning so much oil and coal and gas over the last two hundred years, we have made that carbon dioxide blanket thicker and thicker. A bit like George Bush. And the carbon blanket isn't something we can just throw off like a duvet. And to make things even worse, carbon dioxide isn't the only gas involved (there's methane, nitrous oxides etc.)

And to make things EVEN worse (don't stop reading- I'll almost done), the pollution from sulphur has probably protected us from even more heating by bouncing heat off before it hit the Earth's surface. If we reduce our emissions, that will lessen...

The problem is probably more serious than we realise. But no matter what the warning, most of us want "business as usual." We grasp at straws of 'controversy' like the recent Channel 4 documentary, as a reason to do nothing. "Business as usual" is what we know, and as the cheerleaders for the fossil fuel economy are forever telling us, it means we live like kings and queens. Those same cheerleaders also tell us that Human Ingenuity will save the day. They have a bad dose of blind technophilia...

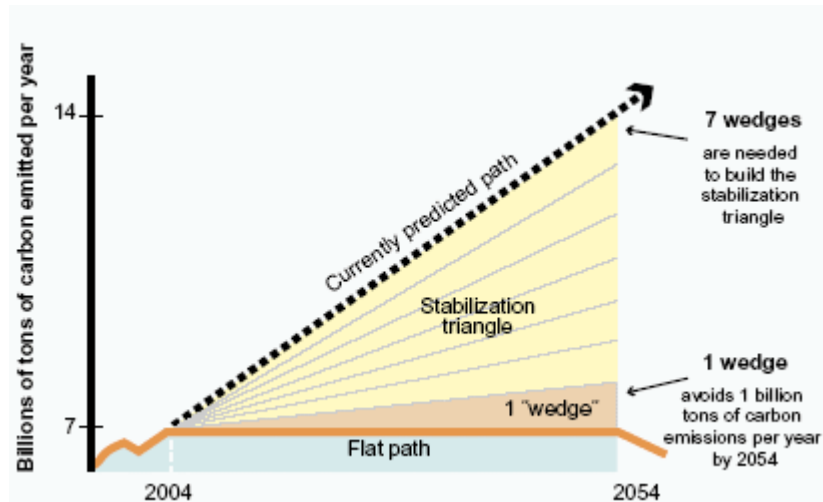
It is strange and striking that climate change activists have not committed any acts of terrorism. After all, terrorism is for the individual by far the modern world's most effective form of political action, and climate change is an issue about which people feel just as strongly as about, say, animal rights. This is especially noticeable when you bear in mind the ease of things like blowing up petrol stations, or vandalising SUVs. In cities, SUVs are loathed by everyone except the people who drive them; and in a city the size of London, a few dozen people could in a short space of time make the ownership of these cars effectively impossible, just by running keys down the side of them, at a cost to the owner of several thousand pounds a time. Say fifty people vandalising four cars each every night for a month: six thousand trashed SUVs in a month and the Chelsea tractors would soon be disappearing from our streets. So why don't these things happen? Is it because the people who feel strongly about climate change are simply too nice, too educated, to do anything of the sort? (But terrorists are often highly educated.) Or is it that even the people who feel most strongly about climate change on some level can't quite bring themselves to believe in it?

from "Warmer, Warmer" by John Lanchester, London Review of Books
March 22nd 2007 www.lrb.co.uk/v29/n06/lanc01_.html

And of course, there is always *someone else to blame*...

www.eco-action.org/dt/blame.html

Wedge issue



In 2004, two scientists published an extremely influential article in *Science*. "Stabilization Wedges: Solving the Climate Problem for the next 50 Years with Current Technologies"

"Robert Socolow and Stephen Pacala, who outlined the concept didn't invent the idea of an energy portfolio, but their way of linking it to global warming and all its complications seem to have hit on something big.

Here's how it works: Start with a toolbox of 15 energy technologies and lifestyle choices. Choose seven to implement. If these "wedges" -- as the pros call the emission-cutting tools -- are all carried out with gusto around the world for 50 years, the soupy mix of gases heating the earth's atmosphere may be on the way to slowing, stopping or even reversing their current trajectory.

Critics of the wedges warn they are an over-simplified academic exercise unconstrained by price tags or real-world politics. But a growing number of politicians, teachers, lawyers, industry lobbyists and environmentalists consider the concept a great way to identify and articulate their climate strategies."

Princeton profs drive 'wedges' into policy debate Darren Samuelsohn
http://www.eenews.net/special_reports/climate_repair/

For more on the wedges see

Elizabeth Kolbert's recent book *Field Notes from a Catastrophe*
 & summits.ncat.org/docs/Wedges_Concept_Game_Materials_2005.pdf

Carbon Trading

What's the bright idea?

Carbon emissions trading involves the trading of permits to emit carbon dioxide (and other greenhouse gases, calculated in tonnes of carbon dioxide equivalent, tCO₂e). It is one of the ways countries can meet their obligations under the Kyoto Protocol to reduce carbon emissions and thereby mitigate global warming. Carbon emissions trading has been steadily increasing in recent years. According to the World Bank's Carbon Finance Unit, 374 million metric tonnes of carbon dioxide equivalent (tCO₂e) were exchanged through projects in 2005, a 240% increase relative to 2004 (110 mtCO₂e) which was itself a 41% increase relative to 2003 (78 mtCO₂e).

The world's only mandatory carbon trading program is the European Union Emissions Trading Scheme (or EUETS). Created in conjunction with the Kyoto Protocol, a 1997 international treaty that took effect in 2005, it caps the amount of carbon dioxide that can be emitted from large installations, such as power plants and factories, in the EU's 25 member countries.

In a perfect world, how much good would it do?

In theory it makes "mitigation" (meaning, reducing emissions) more "cost-effective". It makes more sense for the reductions to be done as cheaply as possible. That way, in theory there's money left over for other spending on environmental and social problems. Or Trident.

In our imperfect world, just how Horribly Wrong could it go?

Rich countries will kid themselves that they can get away with buying other countries spare emissions ("hot air") and merrily build in infrastructure (airports, roads, power stations) that commit them to long-term high emissions. In the meantime, while the rich get the pleasure, the poor get the blame. And the planet burns...

Who is proposing it?

All the usual investment companies, trading firms. Hedge funds got a tax break in the recent budget to gamble one carbon too.

IETA International Emissions Trading Association www.ieta.org/

Who is opposing it

www.carbontradewatch.com

[The Cornerhouse](http://www.thecornerhouse.org.uk/summary.shtml?x=544238) <http://www.thecornerhouse.org.uk/summary.shtml?x=544238>

[Rising Tide](http://risingtide.org.uk/resources/factsheets/carbontrading) <http://risingtide.org.uk/resources/factsheets/carbontrading>

More info

Environmental Audit Committee report **The EU ETS: Lessons for the Future**

Carbon Offsets

What's the bright idea?

You pay other people to reduce their carbon emissions to make up for the fact that you aren't going to reduce yours. They plant a tree (hopefully more than one), or invest in solar panels instead of gas-power.

In a perfect world, how much good would it do?

The whole point is no-one knows. The calculations of how many trees you'd have to plant to offset a flight are impossible. And what happens when the tree dies? There are non-tree based offsets, but

In our imperfect world, just how Horribly Wrong could it go?

If you were a rich Catholic who wanted to sin, back in the 1400s, you could literally buy a clear conscience by paying your priest for God's forgiveness. It was known as "indulgences..." <http://en.wikipedia.org/wiki/Indulgence>

Who is proposing it?

Oh, you can't move but for people offering to offset your hot air. DEFRA is (re)launching its validation scheme. There are some very bad actors out there, and the first major highly-publicised scandal can only be months away, at most.

Who is opposing it

Everyone with a brain.

There is some distinction, perhaps, to be made with the big industrial size schemes and the littler ones. But by definition, the little ones will never add up to part of the Solution... Interestingly, Marks and Spencer have come out and said that they will use offsetting only as a *last* resort to meet their ambitious targets. I suspect they are thinking ahead to when the scandals hit the fan and they can (smugly) say "nothing to do with us, guv."

Further info

The Manchester-based Ethical Consumer magazine

Sinks watch www.sinkswatch.org

Real Climate did a piece 29 May 2006 "Stairway to Heaven"

www.realclimate.org/index.php/archives/2006/05/buying-a-stairway-to-heaven

In March 2007, *BusinessWeek* investigated the carbon offsets given as gifts to [2007 Academy Awards](#) presenters and performers. *BusinessWeek* inquired of project managers regarding the impact of offset revenue; their findings suggested that offsets merely provided additional revenue to CO₂ reduction projects that would have happened anyway, and that offset funding did not play an important role in either the existence or the scale of the projects. www.businessweek.com/magazine/content/07_13/b4027057.htm

Carbon Capture and Storage

What's the bright idea?

Stick a pipe on a power station, liquify the carbon dioxide as it goes up the chimney. Pump it into disused oil fields. Voila, bob's your mitigation strategy!

In a perfect world, how much good would it do?

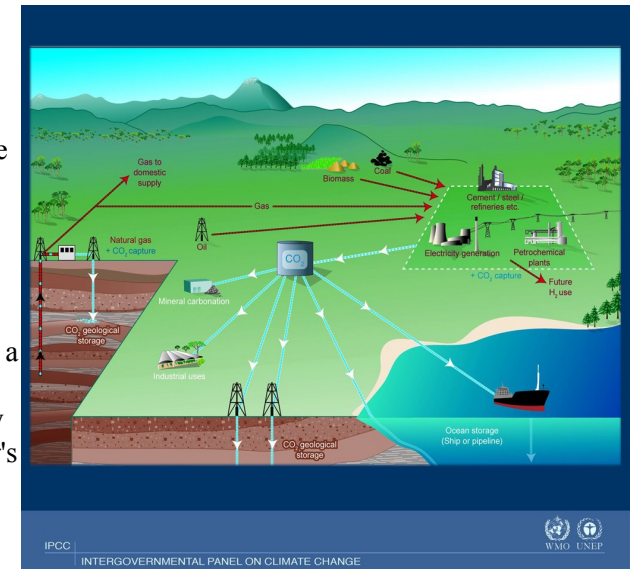
To be one of Pacala and Socolow's stabilization wedges (which it is) it is going to have to be rolled out very quickly and very well. Especially in China.

In our imperfect world, just how Horribly Wrong could it go?

A "Business as usual" mentality could be encouraged by the idea that we are burying the problem. Leakage is a concern, but the geologists tell us not to worry...

Who is proposing it?

Gordon Brown has announced that there will be a competition to provide the UK's first CCS project (fully working model!) in this year's Energy White Paper. And this is one technology the oil companies like, not just because it means BAU, but because pumping CO₂ into oil fields raises the pressure, lowering their costs... <http://www.co2capture.org.uk/> Carbon Sequestration Leadership Forum <http://www.cslforum.org/>



Who is opposing it?

No-one as yet, is physically doing stuff or arguing against it as the main focus of their campaigning. There are other fish that are already frying. As CCS becomes flavour of the month, expect to see more action on this. That's dialectics for you...

More info

http://en.wikipedia.org/wiki/Carbon_capture_and_storage

Biofuels

What's the bright idea?

Oil, coal and gas are carbon that has been stored for millions of years. Digging them up and burning them adds to atmospheric carbon dioxide levels. But if you grow crops and then burn them, you wouldn't be adding to the carbon dioxide levels would you? The plant will have absorbed as much growing as you release by burning it. If you don't count the water, fertilizer and all the other energy involved in getting the corn cob into your gas tank...

In a perfect world, how much good would it do?

It's another of those pesky stabilisation wedges that Socolow and Pacala came up with. i.e. in theory it's supposed to be part of the solution

In our imperfect world, just how Horribly Wrong could it go?

Beer will get more expensive (no, really, it will)

Millions of people and untold numbers of species of animal and plant will be wiped out so we can keep driving for another year or three. We will shorten the time we have left to peak our carbon emissions, because the sinks that soak up what we have will be gone.

Who is proposing it?

The Nobel Laureate currently in the White House was busy bigging up ethanol/biofuels in his 2007 State of the Union speech. And he is cutting a deal with Brazil, who've been doing biofuels for ages.

On 9th March, the European Union has announced they want to increase biofuel production and usage, to a 10 per cent figure by 2020

Who is opposing it?/

Biofuels Watch www.biofuelwatch.org.uk/

WE WANT FOOD SOVEREIGNTY, NOT BIOFUELS

We, the undersigned organizations express before the European Parliament, the European Commission, the governments and citizens of the European Union, our deep concern over the policies that are probably to be adopted to favour the use and import of biofuel as an alternative to fossil fuels, whose disproportionate use is one of the main causes of global warming.

The increasing use of individual automobiles and their associated oil consumption as one of the main causes of global warming, makes fossil fuels use grow day by day. In this context, the use of biofuels would appear to be a positive alternative. However, everything seems to indicate that this will generate serious negative impacts, especially on the people of the South.

Alert Against the Green Desert Network, Latin American Network against Monoculture Tree Plantations, Network for a GM free Latin America, Oilwatch South America, World Rainforest Movement

www.wrm.org.uy/

Going Nuclear

What's the bright idea?

We extend the lives of our age-ing nuclear power stations. We let the government push through a completely phoney "consultation" process for some new ones.

Nuclear review 'was misleading'

A High Court judge has ordered a rethink of the government's nuclear power plans, after a legal challenge by environmental campaigners Greenpeace.

A judge ruled that the consultation process before the decision last year had been "misleading", "seriously flawed" and "procedurally unfair"



http://news.bbc.co.uk/1/hi/uk_politics/6364281.stm

Ministers say nuclear power will cut carbon emissions

We let the Government change the planning rules. We up security to deal with eco-hippies and anyone who wants ploot for a dirty bomb.

We keep lecturing foreigners about their nuclear ambitions.

We ignore the fact that we still don't know what to do about the waste.

We ignore the fact that we will run out of uranium in a few more years anyhow.

We ignore the whopping bill for all this, money we could have spent on far more effective efficiency saving etc

Yippee!! We make a very very small dent in our emissions (Nuclear won't supply energy for most of our transport needs, for example)

In a perfect world, how much good would it do?

Another wedge, in theory

In our imperfect world, just how Horribly Wrong could it go?

See above. This is a species just in love with a techno-fix. A poisonous mix of adolescence, hubris and garden-variety stupidity.

Who is proposing it?

The Government, bless it.

World Nuclear Association www.world-nuclear.org/

Who is opposing it?/further info

Greenpeace www.greenpeace.org.uk

CND <http://www.cnduk.org/>

Clean Power from Deserts

What's the bright idea?



In a perfect world, how much good would it do?

From their website: *By 2050, between 10-25% of Europe's electricity may be clean power that is imported from the deserts. International trade in renewable energy will tend to increase the number of available sources and should help to strengthen international stability. The creation of new jobs in the MENA region should enhance its internal stability. Employment would be created in construction phase, in the maintenance of power plants, and in the generation of electricity and water for local people.*

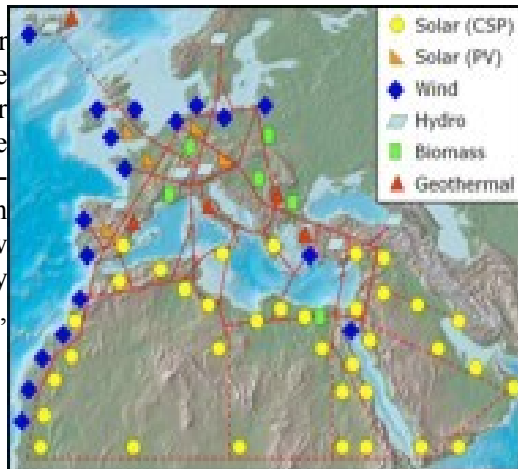
In our imperfect world, just how Horribly Wrong could it go?

Well, the sun always shines on tv... I mean, on the Sahara.

Who is proposing it?

The Trans-Mediterranean Renewable Energy Cooperation (TREC) is an initiative, in the field of renewable forms of energy, of The Club of Rome, the Hamburg Climate Protection Foundation and the National Energy Research Center of Jordan (NERC).

Since it was founded in September 2003, it has developed the DESERTEC concept for energy, water and climate security in Europe, the Middle East and North Africa (EU-MENA), building on the cooperation of sun-belt and technology belt. Now TREC is making this concept a reality in cooperation with people in politics, industry and the world of finance.



www.trecers.net/index.html

www.trec-uk.org.uk

Sulphur Cannons

What's the bright idea?

TEL AVIV, Dec 15 (Reuters) - Nobel Prize laureate Paul Crutzen says he has new data supporting his controversial theory that *injecting the common pollutant sulphur into the atmosphere would cancel out the greenhouse effect.*

Though such a project could not be implemented for at least 10 years, the data is aimed at appeasing critics of the idea he first championed in the scientific journal Climatic Change in August. www.alertnet.org/thenews/newsdesk/L14558285.htm Crutzen says adding a layer of sulphates to the stratosphere would create a cooling layer, reflecting sunlight back into space.

In a perfect world, how much good would it do?

Crutzen thinks lots.

In our imperfect world, just how Horribly Wrong could it go?

One study shows that as the gas dissolves in seawater, by 2050 the oceans could become too acid for shells to form, obliterating much of the plankton on which the marine ecosystem depends. In Crutzen's scheme, the carbon dioxide levels are not diminished. It would also be necessary to keep firing sulphur into the sky for hundreds of years. The scheme would be extremely expensive, so it is hard to imagine that governments would sustain it through all the economic and political crises likely to take place in that time. Monbiot, "No Quick Fix" August 29, 2006

Who is proposing it?

The geo-engineering crowd. The Sulphur Manufacturers of America Cabal

Who is opposing it?/further info

<http://www.monbiot.com/archives/2006/08/29/no-quick-fix/>

Branson's Pickle

What's the bright idea?

British billionaire Richard Branson and the former U.S. Vice President Al Gore announced a \$25 million prize to overcome what could be the biggest challenge faced by humankind: To reduce the huge quantities of planet-warming gases that have collected in the atmosphere since the dawn of the Industrial Revolution.

In a perfect world, how much good would it do?

You gets the money if you can shift "one billion tons a year over a 10-year period." That's a stabilisation wedge right there...

In our imperfect world, just how Horribly Wrong could it go?

Oh, the usual- business as usual, wrecking biodiversity because CC is sorted...

Who is opposing it?

Who can be bothered? The guy is a fruit loop. But the judging panel is about as prestigious as you can get...

Further info

<http://www.iht.com/articles/2007/02/09/business/climate.php>

UN Framework Convention

The United Nations Framework Convention on Climate Change (UNFCCC or FCCC) is an international environmental treaty produced at the United Nations Conference on Environment and Development (UNCED), informally known as the Earth Summit, held in Rio de Janeiro in 1992. The treaty aimed at reducing emissions of greenhouse gas in order to combat global warming.



The treaty as originally framed set no mandatory limits on greenhouse gas emissions for individual nations and contained no enforcement provisions; it is therefore considered legally non-binding.

Rather, the treaty included provisions for updates (called "protocols") that would set mandatory emission limits. The principal update is the Kyoto Protocol, which has become much better known than the UNFCCC itself.

ARTICLE 2: OBJECTIVE

The ultimate objective of this Convention and any related legal instruments that the Conference of the Parties may adopt is to achieve, in accordance with the relevant provisions of the Convention, stabilization of greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system. Such a level should be achieved within a time-frame sufficient to allow ecosystems to adapt naturally to climate change, to ensure that food production is not threatened and to enable economic development to proceed in a sustainable manner.

ARTICLE 3: PRINCIPLES

In their actions to achieve the objective of the Convention and to implement its provisions, the Parties shall be guided, INTER ALIA, by the following:

1. The Parties should protect the climate system for the benefit of present and future generations of humankind, on the basis of equity and in accordance with their **common but differentiated responsibilities** and respective capabilities. Accordingly, **the developed country Parties should take the lead in combating climate change and the adverse effects thereof.**
2. The specific needs and special circumstances of developing country Parties, especially those that are particularly vulnerable to the adverse effects of climate change, and of those Parties, especially developing country Parties, that would have to bear a disproportionate or abnormal burden under the Convention, should be given full consideration.
3. The Parties should take precautionary measures to anticipate, prevent or minimize

the causes of climate change and mitigate its adverse effects. Where there are threats of serious or irreversible damage, lack of full scientific certainty should not be used as a reason for postponing such measures, taking into account that policies and measures to deal with climate change should be cost-effective so as to ensure global benefits at the lowest possible cost. To achieve this, such policies and measures should take into account different socio-economic contexts, be comprehensive, cover all relevant sources, sinks and reservoirs of greenhouse gases and adaptation, and comprise all economic sectors. Efforts to address climate change may be carried out cooperatively by interested Parties.

4. The Parties have a right to, and should, promote sustainable development. Policies and measures to protect the climate system against human-induced change should be appropriate for the specific conditions of each Party and should be integrated with national development programmes, taking into account that economic development is essential for adopting measures to address climate change.

5. The Parties should cooperate to promote a supportive and open international economic system that would lead to sustainable economic growth and development in all Parties, particularly developing country Parties, thus enabling them better to address the problems of climate change. Measures taken to combat climate change, including unilateral ones, should not constitute a means of arbitrary or unjustifiable discrimination or a disguised restriction on international trade.

<http://en.wikipedia.org/wiki/UNFCCC>

<http://unfccc.int/2860.php>

Kyoto

Only applies to developed countries (the US and Australia haven't signed up to it, using "No China, No India" as an excuse). It allows all sorts of dodgy 'trading' under the 'flexibility mechanisms' (Clean Development Mechanism, Joint Implementation) And it simply isn't going to bring about the depths of cuts necessary. 8 to 12 per cent on 1990 levels? It's like a putting a sticking plaster on a machete wound.

http://en.wikipedia.org/wiki/Kyoto_Protocol

Kyoto promises are hot air New Scientist 22nd June 2006, Fred Pearce

So, now we have the

Washington Declaration

In February, our lords and masters met and admitted the need for a global deal, with cap and trade of emissions, to replace Kyoto by 2009. Expect to hear a LOT more about this before and at the G8 meeting in June in Germany. Tony Blair wants a legacy that doesn't involve missing WMD and hundreds of thousands of dead Iraqis. For him- and for human civilisation- this is the last throw of the dice...

<http://en.wikipedia.org/wiki/G8%2B5>

Globe International: <http://www.globeinternational.org/>

Other sequels to Kyoto

Contraction and Convergence (C&C)

- is a framework for reducing global emissions of greenhouse gases. It is based on the principles of equity and survival.
- is based on two principles: contraction of global carbon emissions and convergence of per capita emissions across the global population.

In **contraction**, the total annual emission of greenhouse gases reaches a ceiling, and then gradually contracts. During **convergence**, all countries move towards having an equal per person allocation of carbon emissions. At the end of the convergence period everyone has the same allocation. Developed countries are the first to make large cuts in their emissions levels, whereas developing countries are permitted to keep increasing their emissions levels for a period before also beginning to cut their emissions.

www.gci.org.uk

www.climatejustice.org.uk

<http://news.bbc.co.uk/1/hi/sci/tech/3866543.stm> "Church backing for climate plan"

A superb "farting cows explain C & C" cartoon is available on line here:

<http://throboblins.blogspot.com> Scroll down to the February 4th 2007 entry

Kyoto 2

Kyoto2 is a framework for a new Climate Protocol under the UN Framework Convention on Climate Change (UNFCCC) for 2012 and beyond. It aims to be:

- **global** - its scope is global and all countries are included within the framework
- **economically efficient** - using auction and open markets for optimum allocation of resources
- **equitable** - addressing the needs of the poor, and mitigating the impacts of climate change
- **practical** - designed to minimise accounting and compliance overheads
- **acceptable** - by seeking to address the needs and concerns of all countries

<http://www.kyoto2.org/page0.html>

Greenhouse Development Rights

C and C and a demand that developed countries pay a price for their previous carbon emissions

www.ecoequity.org/GDRs/

See also

www.postkyoto.com/

Global Roundtable on Climate Change (2007) The Path to Climate Sustainability.

www.earth.columbia.edu/grocc/

So if C&C is so great, why isn't it more popular?

1. It allows Carbon Trading- this is a major ideological problem for some on the left (The Cornerhouse, etc.)
2. It doesn't address historical inequalities- according to some (Ecoequity, FoE International etc.) it doesn't address these sufficiently.
3. It is silent on Nuclear Power- for some this is a 'deal breaker'.
4. It doesn't bash America enough- Bashing the US is cathartic, but not particularly useful- America-bashing allows us to get off the hook ourselves...
5. There are too many numbers/too much science- people seem happier with a '*let's all cut back a little bit*' message. Graphs and calculations take them back to when they were humiliated by sarcastic maths teachers...
6. It gives too much power to the state- a problem, obviously, for anarchists and for actual conservatives (not many of the Edmund Burke kind remain- as Noam Chomsky points out, most self-proclaimed 'conservatives' are actually radical/reactionary statists)
7. It denies voluntaristic/personal solutions as effective- a bit like reason 5.
8. It means REAL cuts in the west, at least until our wonderful technology invents zero-emission cars/planes and widgets.
9. The critic didn't think of it themselves- just good old fashioned intellectual jealousy. It leaves them no wiggle room to show their brilliance. So they invent wrinkles and bells and whistle to it.
10. Admitting it was correct would mean eating humble pie and losing face, and explaining why the Kyoto Protocol was such a dead end. I suspect this is a semi-buried reason. No-one wants to admit to themselves that they are petty and vindictive when the fate of the planet hangs in the balance...
11. It's too simple a solution for such a complex problem
C and C, like all brilliant ideas (natural selection etc.) is so compellingly elegant and parsimonious. All our lives we've believed that complex problems must have complex solutions. I think that smart/educated people can love complexity FOR ITS OWN SAKE. It lets them bamboozle those less educated/confident than themselves.

Of course, our 'self-interest rightly understood' as de Tocqueville would put it, would show that C and C would be hugely beneficial to the Majority World, would create new markets for western corporations and might just save our species. Which is of some benefit to the average Western consumer. (It gets less and less likely with each passing year, but that's not the idea or GCI's fault)

Things to think about

Hubris or **hybris** (Greek $\eta\upsilon\beta\acute{\rho}\iota\varsigma$), according to its modern usage, is exaggerated self **pride** or self-confidence (overbearing pride), often resulting in fatal retribution. In its modern usage, hubris denotes overconfident pride and arrogance; it is often associated with a lack of knowledge, interest in, and exploration of **history**, combined with a lack of **humility**. An accusation of hubris often implies that suffering or punishment will follow, similar to the occasional pairing of hubris and **Nemesis** in the Greek world. The proverb "**pride goes before a fall**" is thought to sum up the modern definition of hubris.

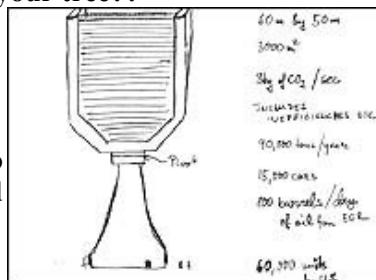
Are you completely out of your tree??

Synthetic Trees could purify Air

by Molly Bentley Feb 21, 2003

news.bbc.co.uk/1/hi/sci/tech/2784227.stm

A scientist has invented an artificial tree designed to do the job of plants. But the synthetic tree proposed by Dr Klaus Lackner does not much resemble the leafy variety. "It looks like a goal post with Venetian blinds," said the Columbia University physicist,



Elizabeth Kubler-Ross, a Swiss psychiatrist, came up five stages of accepting impending death. Not everyone goes through all five stages, and you can keep returning to one.

Denial - The initial stage.: *"It can't be happening."*

Anger .: *"How dare you do this to me?!"* (either referring to God, the deceased, or oneself) **Bargaining** .:

"Just let me live to see my son graduate." **Depression** .:

"I'm so sad, why bother with anything?" **Acceptance** .:

"I know my son will be in a better place"

We seem to be oscillating wildly between denial and bargaining. The fun will start when the West gets Angry. You wouldn't like it when it's angry...



Things to read

Heat by George Monbiot

Field Notes from a Catastrophe by Elizabeth Korbort

The Last Generation by Fred Pearce

www.realclimate.org

Calendar

March

Thurs 29th 7.45pm Greenpeace meeting in Ape and Apple, John Dalton St

Sat 31st Campaign against Climate Change stall. Contact Roy 07801 263 265

April

Sunday 1st FoE Quiz Night in Wigan Contact Ali for more info

Weds 4th 6.30pm Climate Camp meeting, The Basement 24 Lever Street

Saturday 14th 1st National Grass Roots conference on carbon neutrality, Aston

Hayes www.goingcarbonneutral.co.uk

Friday 20th Climate Camp film: showing at Manchester University Students

May

Sunday 6th NVDA training in the Basement, 24 Lever Street

Saturday 19th "Climate Change: Information for Action". Day of Workshops and discussions on climate change. Methodist Hall, Oldham St, Manchester

June

Weds 20th Filmed debate between Climate Campers and skeptics. Manchester.

Venue to be confirmed

Saturday 30th Campaign against Climate Change National Day of Local Actions

Action for Sustainable Living	www.afsl.org.uk info@afsl.org.uk , Tel: 0845 634 4510
Climate Camp (Manchester Neighbourhood)	www.climatecamp.org.uk manchester@climatecamp.org.uk
Campaign against Climate Change	www.gmcacc.org.uk Ewa Barker 0161 881 1070; ewa.silverlode@ntlworld.com
Climate Justice	www.climatejustice.org.uk manchester@climatejustice.org.uk
Friends of the Earth	www.manchesterfoe.org.uk , Ali on 07786 090520, or ali@manchesterfoe.org.uk
Greenpeace	manchestergreenpeacegooglemail.com Abigail Pound 0161 226 4744 (leave a message!)
Green Party	www.manchestergreenparty.org.uk Brian Candeland, 0161 8810510 chair@manchestergreenparty.org.uk

