

Ratcliffe Power Station Conspiracy Trial

Nov 2010 - Jan 2011



Court Reporting: ALAN LODGE

**114 people were arrested at the Iona School, Sneinton,
Nottingham on the 13th April 2009.**

Nottinghamshire Police : Operation Aeroscope

**They intended to shut down the Ratcliffe-on-Soar Power
Station for a week, to protest at its CO2 emissions**

**On 22nd November 2010, 20 defendants go on trial charged
with Conspiracy to Commit Aggravated Trespass, Contrary
to section 1(1) of the Criminal Law Act 1977.**

Nottingham Crown Court

Nov 2010 – Jan 2011



Ratcliffe Power Station Conspiracy Trial

Nottingham Crown Court

Court 1 before

His Honour Judge Teare

Nov 2010 - Jan 2011

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Indymedia reports from the original incident

Mass Arrest of 114 Climate Activists in Raid in Nottingham

<http://indymedia.org.uk/en/2009/04/427471.html>

<http://indymedia.org.uk/en/2009/04/427496.html>

114 activists were arrested in a 1am police raid on a community centre and school on Sneinton Dale, Nottingham, early on Easter Monday, 13th April 2009.

It is believed that a demonstration was planned at the E.On powerstation at Ratcliffe-on-Soar as a spokesperson for the company claimed that it was the "planned target of an organised protest". The Ratcliffe-on-Soar coal-fired power station is the 3rd largest source of carbon dioxide emissions in the UK and has been previously targeted by activists. Similar to past police actions, some of the homes of those arrested have been raided while they were held in custody. It has been confirmed that 6 homes have been raided in Nottingham, including the Sumac Centre, and personal paperwork and computers have been seized. Activists are now being released on bail, to appear in court between the 14th - 21st July, with a variety of conditions. More raids are expected.

The initial action was at a school / community centre in Sneinton Dale, and eastern suburb of Nottingham. After all present were arrested and dragged in chains to many and various police stations, the police mounted a long and protracted search of the building, where the meeting had been held. Nothing was happening on the street for ages, much to the medias discontent. Thus, they started to interview each other, and passing locals, just to add a bit of colour, of course. At about midday, there was a flurry of activity, with the arrival of more police vans, and scientific support / scenes of crime and assorted mystery vehicles. Taken together, this amounted to a really significant police presence. you can only image what sort of evidence, and of what, they expected to find. Wardens patrolled the street to reassure the community of course.

Access was really hard, to see anything occuring of interest. However, getting away from the front of the building were all others were filming from, managed to find a friendly local who offered me the use of their garden for an overview. Thanks muchly! Police didn't like it of course, and sent a man away to find a sheet of sommat, to hide behind.

The addressess of some of those held in custody, were then to be seached under warrant. While chasing about, I knew of 6 locations in Nottingham, and probably many others around the country. I was asked and invited to be at the Sumac Centre, ahead of the expected arrival of the police teams.

After visiting other locations, at about 6pm, three van loads of police dressed in full fatigues and large boots, arrived at the gates of the Sumac. The warrant was for particular room upstairs at the centre. The majority of the squad remained on the street. Police could clearly see, that this photographer found the imagery quite oppressive, and the inspector ordered all his troops, back into the vans. Was asked to look into the searches upstairs, to discover there was much interest in the persons paperwork, [including much study of that well known anarchist and subversive free sheet, SchNews]. They stayed for about 30 minutes, leaving with an assortment of papers, and a computer.

After some were released, folks headed back to the Sumac centre, to recuperate, and be fed and watered. A debrief. Crash spaces arranged and a deal of sympathy. On leaving, I found 2 police serials continued to cruise the area. I followed about for a bit [wondering what they're up to]. One then parked outside a housing co-op, and stayed about a bit, generally being menacing. This was one of the location of the previous house searches. They then paid particular interest at the continued comings and going from the Sumac Centre. I guess they're not finished yet.







Introduction

114 climate campaigners arrested were on suspicion of conspiring to commit aggravated trespass and criminal damage.

In the early hours of April 13th 2009 a highly expensive and widely condemned policing operation [Operation Aeroscope] saw 114 climate campaigners arrested on suspicion of conspiring to commit aggravated trespass and criminal damage. In what has been deemed the largest ever 'pre-emptive' arrest, hundreds of police burst into a meeting room where plans were being made to safely shut down Ratcliffe-on-Soar, the UK's third largest coal fired power station.

Had the action gone ahead it would have stopped around 150 thousand tons of carbon emissions from being released into the atmosphere, while drawing attention to the failure of provided democratic channels.

Through invasive surveillance police had gathered information on the activists, pinpointed their location, and interrupted the meeting, meaning the action never went ahead. The campaigners were held for over twenty hours before being released onto the streets of Nottingham in the middle of the night, many with their phones and money confiscated.

All charges were dropped for the majority of the 114, but 26 have been committed to Nottingham Crown Court on a charge of conspiracy to commit aggravated trespass. The maximum sentence for this offence is three months in prison, a fine of £2,500, or both. All entered a plea of not guilty.

Six of the defendants hadn't yet decided whether or not to take part in the action when the police arrived on the scene. They were arrested anyway, just for thinking about a climate action!

Their trial starts on January 10th 2011, and will be an important case with regard to freedom of protest in the UK. Watch this space for more information closer to the time.

The remaining 20 defendants admit that they planned to shut down the power station, but argue that they are not guilty because they were acting to prevent the greater crimes of death and serious injury caused by climate change. This is called a 'defence of necessity'.

Their trial started on the 22nd November 2010.

Why Necessity?

In addition to slowing Ratcliffe Power Station's carbon emissions, this action was to be part of a wider movement for global environmental justice. You only have to look at the floods in Pakistan and the droughts in Russia to see that climate change is hitting those least responsible for it the hardest while putting all of our futures in jeopardy.

Around the world governments are failing to address the climate crises.

There is a 'democratic deficit'. Instead they protect business as usual as they continue to compete for endless economic growth. This is in spite of increasingly stark warnings from the scientific community of the cost of inaction. By allowing the coal to keep burning at dinosaurs like Ratcliffe-on-Soar, the UK government continues to evade its legal duty to cut emissions by 80% by 2050.

As we face the worst spending cuts in decades we have to ask why so many resources are being ploughed into monitoring climate campaigners, while so little is being done to create an environmentally and economically just future.

From the suffragettes to the civil rights movements, direct action has long been the pathway to change the world for the better. Those on trial are ordinary people experiencing the failures of our present political system, who remain determined to see action taken on climate change.



“On the issue of coal-fired power stations they are right ... carbon emissions will kill us all ... As politicians we do not grasp the urgency of scientific warnings about how little time we have left to radically transform our whole thinking about sustainable energy systems. Inevitably, this leaves the challenge to be picked up by the public rather than by parliament. In doing so, it just doesn’t help if we end up locking up those who would save the planet rather than those who drive us towards climate crises.”

Alan Simpson [former MP Nttm South]

Indictment



INDICTMENT

IN THE CROWN COURT AT NOTTINGHAM

THE QUEEN - v - DAVID ROBERT BARKSHIRE, SARAH SHORAKA, PAUL KAHAWATTE, EMMA SHEPPARD, BRADLEY ROBERT DAY, BEN JULIAN, SPENCER COOKE, CHRIS KITCHEN, JESSE HARRIS, MARTIN SHAW, OLAF JOHN BAYER, BEN JOHN STEWART, PHILLIP ASHLEY MURRAY, JONATHAN DAVID LEIGHTON, ANNA RUDD, DANIEL JOSHUA GLASS, JACQUELINE ANN SHEEDY, CLARE FRED A JOANNA WHITNEY, LISA MARIA KAMPHAUSEN and ADAM KEITH WAYMOUTH

DAVID ROBERT BARKSHIRE, SARAH SHORAKA, PAUL KAHAWATTE, EMMA SHEPPARD, BRADLEY ROBERT DAY, BEN JULIAN, SPENCER COOKE, CHRIS KITCHEN, JESSE HARRIS, MARTIN SHAW, OLAF JOHN BAYER, BEN JOHN STEWART, PHILLIP ASHLEY MURRAY, JONATHAN DAVID LEIGHTON, ANNA RUDD, DANIEL JOSHUA GLASS, JACQUELINE ANN SHEEDY, CLARE FRED A JOANNA WHITNEY, LISA MARIA KAMPHAUSEN and ADAM KEITH WAYMOUTH are charged as follows:

STATEMENT OF OFFENCE

CONSPIRACY TO Commit Aggravated Trespass, Contrary to section 1(1) of the Criminal Law Act 1977.

PARTICULARS OF OFFENCE

DAVID ROBERT BARKSHIRE, SARAH SHORAKA, PAUL KAHAWATTE, EMMA SHEPPARD, BRADLEY ROBERT DAY, BEN JULIAN, SPENCER COOKE, CHRIS KITCHEN, JESSE HARRIS, MARTIN SHAW, OLAF JOHN BAYER, BEN JOHN STEWART, PHILLIP ASHLEY MURRAY, JONATHAN DAVID LEIGHTON, ANNA RUDD, DANIEL JOSHUA GLASS, JACQUELINE ANN SHEEDY, CLARE FRED A JOANNA WHITNEY, LISA MARIA KAMPHAUSEN and ADAM KEITH WAYMOUTH between the 1st day of January 2009 and the 15th day of April 2009 conspired together and with others unknown to commit aggravated trespass.

Officer of the Court

URN: 31XO0165709

Daily List for Monday 22 November 2010

FINAL 1

CANAL STREET

Court 1 - sitting at 10:00 AM

HIS HONOUR JUDGE TEARE

DUTY JUDGE

Breach of Order

S20100762 FISHER Matthew A

For Trial

T20097626	BARKSHIRE David R DAY Bradley R SHORAKA Sarah KAHAWATTE Paul SHEPPARD Emma	31X00165709 31X00165709 31X00165709 31X00165709 31X00165709	NOTTM
T20097631	JULIAN Ben HARRIS Jesse COOKE Spencer KITCHEN Chris	31X00165709 31X00165709 31XB4101009 31X00165709	NOTTM
T20097632	STEWART Ben J BAYER Olaf J SHAW Martin	31X01657009 31X00165709 31XB4103107	NOTTM
T20097642	MURRAY Phillip A RUDD Anna SHEEDY Jacqueline A GLASS Daniel J LEIGHTON Jonathan D	31X00165709 31XB4133009 31XB4176009 31X00165709 31X00165709	NOTTM
T20097645	WHITNEY Clare F	31X00165709	NOTTM
T20097663	KAMPHAUSEN Lisa M		NOTTM
T20097670	WAYMOUTH Adam K	31X00165709	NOTTM

Court 2 - sitting at 10:30 AM

THE HONOURABLE MRS JUSTICE COX

Trial (Part Heard)

T20107438	SHELBOURNE Nicolas J JACKSON Mark A ELLISON Kyle JONES (AKA PICKSLEY) Daryll J O'ROUKE Jordan R ELLIS Stephanie WOODLEY-MAUND Abby J	32D90383610 32D90383610 32D90383610 32D90383610 32D90383610 32D90383610 32D90383610	LINCM
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Order made under s39, CYPA 1933



Ratcliffe Trial Day 1 - conspiracy to trespass trial opens today

22 November 2010

8 months after 114 people were initially arrested at the Iona School in Sneinton, 20 climate change activists have begun a month-long trial today. They were originally arrested on 13th April 2009.

On Monday 22 November 2010, they have appeared to answer charge at Nottingham Crown Court: that they conspired together to cause aggravated trespass at the Ratcliffe Power Station. The trial is expected to last 4 weeks.

Mass Arrest of 114 Climate Activists in Raid in Nottingham

<http://indymedia.org.uk/en/2009/04/427471.html>

<http://indymedia.org.uk/en/2009/04/427496.html>

Today has largely been taken up with agreeing a timetable for the progress of the case. Argument about whether legal representatives are to visit the Ratcliffe site. The defence would like to, to get a 'feel for the location'. The prosecution thinks this un-necessary, since no one was arrested there. E-on didn't want to co-operate with this visit, health and safety implications etc ... The swearing in of the jury has also now been completed. Opening statement from counsel will begin tomorrow.

Statement from their blog:

Supporters gathered outside Nottingham Crown Court holding signs which read, "I would stop emissions too".

Anyone in the Nottingham area who would like to meet the defendants or help out can come along to the SUMAC centre (NG7 6HX) each evening after the trial at 7pm for dinner at People's Kitchen.

The arrests were thought to be the biggest ever pre-emptive arrest of environmental activists. The defendants are charged with Conspiracy to Commit Aggravated Trespass for planning to safely shut down Ratcliffe-on-Soar power station for a week and in doing so stopping 150,000 tonnes of CO2 from being emitted. While they admit the intent, they maintain that they are not guilty of a crime.

The defence will show that the activists acted out of necessity, to prevent death and serious injury. According to official sources, 300,000 people per year already lose their lives due to the effects of climate change and half a billion are at "extreme risk".

(<http://www.preventionweb.net/english/professional/publications/v.php?id=9668>)

Rebecca Quinn, 32, who was one of those arrested in April but later had the charges dropped, said, "Climate Change is hitting those least responsible for it the hardest. Low-lying island nations are already seeing salt water encroach on their farm land, and in recent years we have seen an increasing frequency of extreme weather events. Coal is the dirtiest method of electricity generation, and must be stopped. To avoid a climate crisis, we must put people before profit. In the face of government apathy and the failure of the Copenhagen conference, it

is ordinary people taking direct action who are desperately trying to avoid a bleak future of flooding, drought, crop failure and water shortages."

James Hansen, the high profile scientist who is the Head of NASA's Goddard Institute, is one of the many expert witnesses who will testify during the trial at Nottingham Crown Court. The leading climatologist will guide the jury through the complexities of climate science and explain how coal burning is jeopardizing the lives of millions.

Caroline Lucas MP, Leader of the Green Party will give expert evidence about the failure to achieve action on climate change domestically and within the EU parliament through more conventional political means. It will be argued that the defendants had no alternative but to physically stop the power station emitting CO₂, having exhausted other channels such as lobbying, campaigning, and attending marches.

The defendants are a diverse mix of people of varying ages from 21 to 45. Living across the UK, they work in teaching, science, computing, and many other areas. 114 people were originally arrested on 13th April 2009, but most subsequently had their charges dropped.

the trial continues etc.....



Ratcliffe Trial Day 2 - Prosecution's Opening Statement

23 November 2010

After yesterdays administrations and argument, today started with the jury being introduced to the prosecutions main elements of the case.

The indictment reads:

The Queen V 20x names. are charged as follows:

Conspiracy to Commit Aggravated Trespass, Contrary to section 1(1) of the Criminal Law Act 1977.

That .. between the 1st day of January 2009 and the 15th day of April 2009 conspired together and with others unknown to commit aggravated trespass.

Opening for the Prosecution, Miss Felicity Gerry invited the jury to write down "conspiracy, trespass, disruption, lawful activity". Suggesting that if they find the defendants to have done this, then they are guilty of offence.

During the Easter weekend on 13th April 2009, 114 people were gathered together at the Iona School, Sneinton, Nottingham to plan and engage in a conspiracy to trespass at Ratcliffe-on-Soar power station.

Executing search warrants, Nottinghamshire Police mounted a major action Operation Aeroscope. Resulting in the arrest of all present. People had travelled from all over the country. Documents recovered at the scene showed there was an agreed plan. To drive to the Ratcliffe power station, to climb the plant there and to display banners. Thus they would disrupt the 'lawful activity' of the plant, it was hoped, for a week. The crown claim the planned disruption was plainly a conspiracy. The police had recovered a press release prepared in advance demonstrating the intention of the defendants involved in this conspiracy. Other documents found referred to food and supplies for the weeks occupation.

At this time the [then] Secretary of State for Energy Ed Miliband had application on his desk from companies wishing to build another power station.

This group had no intention of engaging in a democratic discussion on these issues and thus became involved in unreasonable direct action. The press release included journalist contact list, thus to derive the maximum possible publicity for their actions.

Further, other documents were found to be distributed to workers on the site to explain the groups actions in restricting to power stations operations.

The crown claim it is admitted by all, what their motives and intentions were. specialist equipment seized included:

10 vehicles

D-lock and steel rope cycle locks

climbing ropes and slings

heavy duty plastic carriers for food supplies etc

hard hats, Hi-vis vests

face masks

ladders
power tools
rucksacks
4x banners

Miss Gerry was critical saying defendant should address their remarks to MP's on not in direct action with banners. Legal briefings were also discovered at the school, showing they knew they were committing crime. All defendants admit to being there. There is no dispute between the parties.

Many believe the burning of fossil fuel is putting the planet in jeopardy. But that is not what the trial is about. It's about what is a reasonable way to express their beliefs. When arrested, they didn't say that, but largely remained silent.

During her opening speech to the jury Miss Gerry kept eluding to the thought that direct action might be more fun than democracy. There are many ways to disagree with policy.

"Is it really necessary to close down a power station when there are so many democratic means available?" – referencing a political process that has allowed the first member of the Green Party to become a Member of Parliament. 'Was it more fun' she asked, to plan this action or to vote for Zac Goldsmith? Did the defendants do all this, because they didn't have a Glastonbury ticket?

At this point – a member of jury passed a note with three questions to the Judge. The prosecution finished their opening and the Judge left it to the Defence Counsel to answer.

Opening for the defence barrister, Edward Rees QC said: "Zac Goldsmith? Man Utd? Glastonbury? What is the relevance of these?" asked the Jury. The Mr Rees answered that there was none!!

The Defence referred back to the Prosecution's 'fighting talk'. I won't go as far to say that the Prosecution's remarks about the defendants were offensive – but to allege that the defendants don't engage with the democratic process is not the case.

Ratcliffe-on-Soar was responsible for over 9 million tonnes of CO2 in 2007 and that this amount continues to rise. Don't worry ... politicians and energy companies have it all in hand.

They haven't. The defendants believe authorities were failing to deal with the issue. In their view there was inadequacy in the processes of dealing with climate change. It is agreed the protesters had a well ordered plan, suggesting that during the period of the planned occupation 150,000 tons of CO2 emissions would have been prevented.

The issue here is whether what they planned and intended to do, was in fact a crime.. The test is that action was reasonable in all the circumstances. The jury are not to be asked to decide on competing climate change facts themselves. As a matter of law, looking at what the defendants believed to be reasonably true.

There are matters such as tipping points that we simply don't know the facts. The defendant wish to err on the side of caution on these matters. There is in fact, a 'democratic deficit' in any action on climate change. Looking at the test of reasonableness, it was necessary to act. In fact it might be considered that the discharge of CO₂ is itself a crime. The defence of necessity [duress of circumstances] is about preventing a greater damage. It is not for the defendants to prove that they were reasonable, but for the crown to prove it was not.

Starting with the prosecution evidence, Miss Gerry takes the jury through the contents the bundle they had each been given. It contained assorted papers, plans, photographs, vehicle routes and catering arrangements. A special mention of a company called 'Veggies' that had been contacted, asking for high calorific foods to be supplied.

She then went on to give a 10 min very basic description of the technical operation of a coal-fired power station and how it produces electricity.

She then called the first witness. Mr Raymond Henry Smith. At that time, he was plant manager of the Ratcliffe power station, employed by E-on. He said he was called by police at 3am on 13th April 2009 to say that a police operation had prevented the arrives of the demonstrators at the plant. Asked if they had arrived, what would the effect have been? He said the plant may have operated at reduced power or shut down, This was the decision of the plant or duty manager on what to do in the circumstances.

Beginning his questioning, defence barrister, Edward Rees QC asks if the plant was in fact offline at that time. Mr Smith said it was. He was questioned about E-on company decisions in its operations regarding market conditions, system demands, price of coal, all trying to elicit the idea that it was largely profit considerations in the companies operations. Mr Smith said he couldn't answer as he was not qualified in these aspects. Mr Rees keeps suggesting that he does in fact know about such market conditions. E-on also owns a number of gas turbine stations, and it was commercial considerations for the company to consider on which to operate for its best economy. Its coal or gas stations could thus maintain supply as it likes. Mr Rees does get Mr Smith to agree that it is largely market conditions dictating its operations and profitability but within current legislation.

Then questioned about carbon capture. It was suggested to him that E-on had pulled out of competition stating that it was not profitable. In fact 30 of the most polluting stations, half were located in the UK. But Mr Smith doesn't know. He also wouldn't say if he or the company believes that CO₂ emission result in the effect of global warming.

Ratcliffe built in 1968 / 42 years old. But £ millions have been invested to improve efficiency. However Ratcliffe emissions had continued to rise. Mr Smith says that although efficiency has improved, more generation does result in still greater emissions.

Mr Smith said he had previously been aware at least 5 days before the activist planned actions. But he didn't know if an injunction had been sought. The witness stands down

For the prosecution again Miss Gerry introduces a video shot by police after all the defendant had been removed and the building had been searched. Now in daylight, we were shown room after room with some outside shots to give a sense of place and to demonstrate the buildings layout. the jury had a map, correlating to the references on the video. The place looked well dishevelled and I thought, were trying to show mess, damage and a lack of care of the building. A door hanging off the hinges, holes in walls and doors etc. Papers and property were displayed. I have to say that it was one of the most boring videos I've seen in a while! Some of the jury yawned ... the judges' eyes seemed to me to get heavier.

After this view, I found it hugely encouraging when the jury passed a note to the judge. When read out, they asked was the mess and damage to the door building etc caused by the protesters, or, the police during the conduct of the operation. Prosecution agreed that yes, it was the police!!

She then went onto photos in the bundle, of food supplies in vehicles, more equipment, sleeping bags etc.

the case continues etc



Ratcliffe Trial Day 3 - Prosecution case continues

24 November 2010

Barrister for the prosecution, Miss Felicity Gerry continued to outline their case. Taking the jury further into the huge bundle of paper they'd been given to consider, she spent much time on the press release that had already been prepared ahead of the action intended.

She points out the press release notes describe the actions intended. They include element such as peaceful protest, trespass, the intent of climbing structures and securing access. Notes about the Ratcliffe power stations operations. Then there was another section drawing attention to the issues the then Energy Secretary Ed Miliband MP, who was considering an application for the construction of another coal-fired power station by E-on at that time.

Notes suggested that the protesters had researched issues for several months before their arrest to ensure the health and safety of themselves and others before engaging in the action. Further, to minimize power disruptions.

By reading out the press release, almost in its entirety to the court, I was struck in thinking that this was perhaps doing a lot of the defences work for them! I formed the impression of the great amount of care, consideration and research that had been put into the whole project. But i think the motive here is clearly to demonstrate the amount of premeditation and possible conspiracy that the prosecution allege had taken place.

Miss Gerry continued onto the question & answers leaflet that had also be found at the school. She again seemed to me to be suggesting that the depth of research, thought-out consequences, again demonstrated the premeditation and a conspiracy.

Another leaflet was introduced titled: 'Important notice for people working at Ratcliffe Power Station' intended to provide an explanation to workers about the action. On then to a media contact list prepared with the contact and phone number of a number of TV and newspaper journalist and newsrooms.

Further into the bundle, she introduces an assortment of papers, some torn up and reassembled by the police, found within various rooms in the Iona School. A flip chart paper and a couple of other bits and bobs. All describing aspects of the proposed action, amounting in fact, to an operational plan.

Miss Gerry spent some time describing the operation of a flow chart. Its object was to lay out what to do on arrival at the plant if challenged by worker or security / or not challenged. The arrangement of people into 'task groups' and how to proceed when confronted with a variety of obstacles.

The presence of 'what to do if' and arrest advice papers suggested that they intended to engage in illegal activities. Another note discovered referred to a company called Veggies "Please supply high calorific high density durable foods"

individually packed but sometimes would be available for sharing. Food bags were discovered with days of the week written on them.

Great emphasis was put of another leaflet titled: Ecological Show Stoppers. Street theatre, Sunday 12th April 2009 Iona School, Sneinton, Nottingham.

After lunch we continue with a oh so long listing of equipment. The back bench of the court has a large array of exhibits in plastic bags, all carefully presented by a court officer resplendent in blue sterile gloves. Unnecessary I thought, when holding ropes, bits of metals and wood which are all contained in plastic. But, me thinks, it all gives an air of crime, danger, presentation etc.

Although not absolutely everything seized, Miss Gerry tells the court that it is a sample to give a flavour of the materials involved. She has the court officer display to the jury:

D-locks

Cycle steel rope locks

Climbing ropes, clips and harnesses [a variety of all-sorts]

Hard hats, masks and ear-defenders

A roll-able metal climbing ladder

'Lock-on' tubes [constructed from fire extinguisher casings, a steel tubes encased in concrete

Police photographs then presented in the bundle showing:

A hired gas detector

Steel device with handles to block a door

Assortment of power tools inc. cutting equipment, drills etc

Miss Gerry suggests that all this equipment would enable the defendants to carry out their stated aims to shut down the power station for a week.

Banners of varying sizes including the words:

For climate justice

2000 tons of carbon saved

Coal = Climate Disaster

No more coal

A sketch was also found showing how to hang a banner with ropes and weighting down with sandbags.

Crumbs! Today was very much about lists. Lists of papers, equipment & kit, personal items, sleeping bags, bedding etc etc etc etc we are now onto vehicles. Hired from a variety of companies and locations.

An assortment of receipts for kit, tools, fuel, maps and routes.

It then took a while for her to describe the number of mobile telephones and an assortment of SIM cards. Also some radio equipment. They were found in

various places about the school and on people present there. All were unregistered and recently purchased. Effort was made in then explaining some of suggested links between them and numbers that had called each other.

We all adjourned until 10.30am tomorrow.

the case continues etc



Ratcliffe Trial Day 4 - Prosecution case concludes

25 November 2010

Continuing from yesterday, Barrister for the prosecution, Miss Felicity Gerry continued to hack her way in reading through the significant sized list of papers, maps, equipment and property. Laying out the sophistication of the plans.

We now got to the technical kit including:

3x walkie-talkie radios [460hz] with approx. 3km range

Camcorders and batteries

A microwave transmitter. [Police experts suggesting that this equipment was for a directional video 'downlink'. The signal to be able to be received at a distance in line-of-sight. A compass was also listed, used to assist in this process.]

Assorted digital cameras

Laptop computers found secreted in various rooms within the school.

A 'dongle' to enable an internet connection. The judge helpfully unplugged and held his dongle up for the jury to see!

{Yesterday, a bit of a chuckle went round the court, when the judge gave a short weather forecast; as there was concern about the bad weather today. Pointing out that that he was the only one in court allowed to google!! }

Taken together with the equipment and preparation listing from yesterday, the prosecution's comments have unveiled the extent of the 114's safety measures. For example using gas detectors, respiratory protection, ear protection, as well as first aid kits. These details demonstrate the hard work and planning that went into an action that the prosecution have been trying to portray as 'a bit of a laugh'.

On now to catering matters. There was fair amount of equipment found there, not belonging to the school. Miss Gerry introduces documents that mention 'Veggies' [yet again] and an order to supply 120 people over a week. Noted "don't tell anyone about it" There is another paper presented quoting "At Veggies, we like a challenge" ☺

A while was now spent on a description of fingerprint evidence. This was presented such to describe the positioning of the defendants dabs that had been found on assorted papers and folders and phones..

Miss Gerry now moves onto the positions and circumstances of the arrests made on the morning of the 13th April 2009 at the Iona School, Sneinton, Nottingham. All 20 defendants were arrested cautioned and mostly remained silent. They were taken to a variety of police stations across the region.

Although there would have been taped interviews, none were played in court.

She read to the jury, the words of the police caution:

“You do not have to say anything but it may harm your defence if you do not mention, when questioned, something which you later rely on in court. Anything you do say may be given in evidence”.

Now, as the defendants had largely said nothing on their arrest or interviews, she seemed thus to be asking the jury to make an inference of their guilt.

Now, back into ‘list mode’ she starts to list the defendants arrest location, reference to the ‘no comment’ interviews of each and very long lists of seized personal property taken and returned. Right down to assorted screws, pens, water bottles, biscuits, portions of cheese !! Descriptions of the police processing of times dates and places. We get through the first few. Mr Rees for the defence rises and asks if we need this level of details, but Miss Gerry says she has already summarised the material And perseveres for another hour or so!!

On a personal note, I was a bit perturbed during all this to discover that there was a police officer involved in the processing, called one, Detective Constable Lodge. Uummmm! I guess we might meet in the street sometime.

The monotony of this listing was broken briefly when Miss Gerry quoted the response of MS replying under caution said:

*“There may be a bail-out for the banks,
but not for humanity with climate change. Nature doesn’t do bail-outs”*

Out of the corner of her eye, she saw me suddenly spring into action with my pen to get that down. She said that Mr MS has helped the press with the ‘quote of day’.

After lunch, further mention is made of legal advice papers. Listing documents such as the climate camp ‘bust card’ and papers including reference to ‘no comment’ advice.

In sum, Miss Felicity Gerry says that all 20 people were arrested at the Iona School on the 13th April 2009 as part of the larger group of 144 detained. That they conspired to carry out the action described. The prosecution closes.

The defence will open its case at 10.00am on Monday 29th November 2010.

Their first witness will be Dr. James E. Hansen, Head of National Aeronautics and Space Administration NASA’s Goddard Institute. He will be arriving from the United States and is expected to give his opinions on climate change and mans influences on these processes.

the case still continues etc

Ratcliffe Trial Day 5 – Defence case opens

29 November 2010

At 11.00am barrister, Mr Edward Rees QC opens the case for the defence. He calls the first witness, one of the defendants SS.

She has been employed by Greenpeace for 8 years, although, this was not an 'official' Greenpeace action. In fact she took a short holiday in order to do it. Money had been raised by an assortment of donations. She said that her attitudes about climate change had developed over the last 10 years but her involvement with Greenpeace and other influences. She cited a pamphlet she remembered reading in 2001 titled 'Millions at Risk' that was one of her first awakenings about the nature of the likely consequences of climate change.

SS mentions Dr. James Hansen as another influence and an earlier publication 'Climate Change and Trace Gases' as impressing on the need for change.

She says she was part of a team that presented climate change issues to political party conferences, sometimes including the head of the Meteorological Office.

For her, there is little doubt that there is a link between different amounts of carbon in the atmosphere and the resultant climatic changes. Another work cited to illustrate these concerns: Mark Lynas - Six Degrees: Our Future on a Hotter Planet.

Mr Rees asks her, what are climate changes causes?

The emitting of far too much CO₂ by burning fossil fuels since the industrial revolution. Coal is the biggest contributor to these changes and the most polluting. The resulting CO₂ causes changes in the composition of the atmosphere. Interacting with the CO₂, the sun's rays then create a 'greenhouse effect' as more heat is absorbed.

SS goes on to explain the additional concern of 'tipping points'. These are thresholds beyond which climate change spirals out of control. Instead of linear relationships, conditions change beyond predictions and control. Reductions in carbon emissions are thus required now. We could be within 10 years of tipping points being reached before irreversibility. Within the 8 years with Greenpeace as a climate campaign assistant, she has been a political advisor to politicians of all parties. Greenpeace however is non-political and supports no particular parties.

She goes on to explain meeting with groups like the Environmental Audit Committee and party conferences. Mr Rees is showing that SS had engaged in the political process and not engaged in the 'bit of the jolly' the prosecution were trying to suggest. SS had previously met with environment ministers, Gordon Brown, the then Chancellor. Members of the European Parliament MEP's in meetings about European Environmental Targets, and the attempts to influence politicians to engage in CO₂ limiting processes. But as far as she could see, little change was affected. She now works as a forest campaigner dealing with issues of de-forestation.

Mr Rees asks what has that got to do with climate change? Forests by absorbing CO₂ assist in keeping the balance. Forest burning contributes to CO₂ emissions and a 'domino effect' is brought about. Trees store and absorb carbon, thus less trees = less CO₂ absorbed. Half of all species in the world are to be found in the Amazon. Effects of climate changes would be unknown in the region.

SS says she is also aware of frightening projections in the reduced scale of the ice caps, perhaps in her lifetime. Again, there is a potential tipping point. The ice will thus reflect less heat. The resultant 'darker oceans' will absorb more heat, accelerating the process of further melting. The consequences are unknown, of the excessive heating of the oceans. The collective processes are leading to organisms 'soaking up' less carbon.

Climate change is leading to an increase in flooding worldwide. She has had some personal experience of this. The burning of coal and the resulting carbon emitted is causally linked to this increase in flooding. It is an alarming prospect and it is necessary to think about alternatives like, wind and solar power.

E-on are burning coal because it's cheaper. When dealing with politicians she is very pessimistic about their political will to bring about the required changes. Going on to the Kyoto Treaty, the international agreement to limit greenhouse gases., she points out that it has not bought about the required restrictions. With limited ratifications, the USA had watered down meaningful requirements and politicians remained intransigent. SS says this had made her very pessimistic about the ability of politicians to affect change. On to the Copenhagen Conference, there is still no optimism in setting target or agreements of the required changes that are needed.

The proposed Ratcliffe action occurred before Copenhagen but she was aware of limitations on the build up to the Conference. Of course the conference didn't result in any agreement on targets. To this day, this remains the case. She says politics is clearly hopeless in bringing about changes and she remains pessimistic about bring about the required changes by political argument. Politicians are 'carrying on' without view to the consequences.

Thus, she takes direct action. She did so to save 150,000 tons in carbon, that Ratcliffe emits a week. Every ton counts towards effects and deaths. Thus stopping emission even for this short time, will saves lives, species, flooding, peoples' livelihoods and property. Dealing with the proposed action, SS was part of the planning. Since Mid January 2009 to their arrest in April planning continued with the associated timeline. Later, she gives a briefing at the Iona School, in the legal system and advice on arrest. This is based on the Climate Camp 'bust card' with advice to remain silent on questioning. The defendants followed this advice.

On the day, people were to split into groups, some would lock onto the coal conveyors, some to climb a chimney. Entrance was to be achieved by simply driving through the front gate, only minimal opposition was to be expected since this would have been on the Bank Holiday weekend.

The Black team were to head for the conveyor, press the emergency stop button and occupy that plant.

Green team would climb a chimney, SS said she was part of that team. The object was to prevent the re-starting of the station. She said her main object was to stop emissions but realised there would be press interest and would make the most of it.

Orange group to occupy the gates.

Silver group to surround the chimney.

Gold group to go to the control room and to explain action to staff. With a view to advising on safety measures.

Mr Rees takes her back to the school and the police action. The police broke in casing the damage previously described to the school. Those present caused none of the resulting damage. Police would not let supporting groups back into the school to clean up after events. Preferring that the owners claimed on the insurance, adding to the costs of the operation of course.

Miss Felicity Gerry for the prosecution starts her cross examination. Confirming SS was involved in elements of the planning of the operations. Agreeing she was and confirming she was conspiring to close down the power station. Gerry seeks to divide the defendants into 'chiefs and indians' but this wasn't accepted.

Miss Gerry went on to the 'Ecological Show Stoppers' Leaflet. This document was a complete sham. A cover to assemble the group. Just going to a workshop if challenged. Some people knew what they were going to without specifics, others were curious.

The prosecution tries to suggest no carbon would in fact be saved ! SS replies that if they had been successful a gas-fired station might have been started instead with less CO₂ resulting. The object was also to highlight the proposed construction of the Kingsnorth Station. But the reason for going to Ratcliffe was because it was owned by E-on and the second largest emitter of CO₂ in the UK.

Miss Gerry then goes on to highlight efforts that people made in hiding laptops, SIM cards phones etc, and trying to flush materials down the toilet. Defendants did all this because they knew their action were unreasonable. Legal briefings were necessary because they knew they were committing a crime. SS responds that there is a difference between trespassing as against the crimes against the lives and conditions of millions of people.

Attempts to say activists were on the fringes of society and actions can result in disengaging the public. By taking such direct action, there is a risk of losing public support for an issue. She seeks to marginalise their efforts.

The prosecution returns to criticising the defences argument of an existing 'democratic deficit'. Miss Gerry suggests all are remiss in not taking every opportunity in engaging with the public in argument in a variety of groupings.

The prosecution then went on to suggest a bizarre list of ways that the activists could better have spent their time.

- Woman's Institute
- Scout Groups
- Police Federation
- School
- Universities
- Factories
- Trade Unions
- Conservative Party meetings
- Canvassing for politicians
- Bingo Halls

Establishing her own credentials Miss Gerry does this by letting the jury know that she bought second hand clothes and had a compost toilet, before the judge told her that her personal life wasn't relevant to the court case.

She cited Paul McCartney and Coldplay's Chris Martin as examples of effective environmentalism, through their involvement with 'Meat Free Mondays'. Instead of closing down power stations, she suggested that the defendants would be better off searching for celebrity endorsements for the likes of 'Turn-off Tuesdays' or "Switch-Off Sundays." Finally, she suggested that the money that was spent on the action would have been better off hiring Cheryl Cole to model second hand fashions!!!!!!

SS does agree that people do need to take individual action in their own lives. But this is simply not enough, next to the size of the issues / problems.

For the defence, Mr Rees again get SS to reiterate the scale and magnitude of the required changes. That celebrity endorsement and action that people, just as individuals can make is not enough.

Witness SS stands down and court retires till after lunch.

IPCC Report: Millions At Risk Of Hunger And Water Stress In Asia Unless Global Greenhouse Emissions Cut

<http://www.sciencedaily.com/releases/2007/04/070410134724.htm>

James Hansen - National Aeronautics and Space Administration,
Goddard Institute for Space Studies

http://pubs.giss.nasa.gov/abstracts/2007/Hansen_etal_2.html

Mark Lynas - Six Degrees: Our Future on a Hotter Planet

<http://www.marklynas.org/books>

From Cancún to Copenhagen: A year in climate change : As delegates from around the world descend on Cancún, Mexico, we reflect on 12 months of climate talks

<http://www.guardian.co.uk/environment/gallery/2010/nov/29/cancun-climate-change-talks-copenhagen>

In the afternoon, the defence calls Dr. James E. Hansen, Head of National Aeronautics and Space Administration NASA's Goddard Institute. Mr Rees takes the jury through his large number of accolades and his experience since 1977. He advised the Climate Task Force during the Bush administration on the role of humans in accelerating climate changes.

He published work titled 'Storm of my Grandchildren', Mr Rees asks about the reference to grandchildren? It takes decades for full effects of any changes to take place. But it's put to him you can't predict the weather a week ahead in Nottingham, so how on earth can we predict these climate effects decades ahead.

There are trends. For the planet to be in equilibrium, energy radiating would be equal to the energy received. Human processes have been upsetting this balance. CO₂, methane and other gases absorb infra-red. There is little effect on the radiation coming in but it does prevent heat leaving at the same rate, acting like a blanket around the earth. That all is getting warmer, there is no significant challenge to these concepts.

Additionally, there is an amplifying feedback. As the planet becomes warmer, the ice surface diminishes. Thus the larger area of 'darker oceans' heats up faster. A slow change but inexorable and would take millennium to return to an equilibrium. As oceans become warmer, it gives up CO₂ to the atmosphere, another amplifying feedback.

Mr Rees asks how we know this process is anything to do with human interventions. It is now clear that human influences far exceed natural changes. 10,000 times faster than changes before the industrial revolution. Referring to changes since the last ice age, there will of course be natural changes, but humans are contributing to these cycles.

Asked what if nothing is done, what's the impact? Dr Hansen says disintegration of the ice sheets, extermination of species and taking tens of thousands of years to regenerate. Thus, our grandchildren will inherit a more desolate planet than we have inhabited. We are approaching tipping points when these processes will become alarming. There is disagreement about the rates of change, but, large agreement about it consequences. Being shown many maps, graphs and charts, Dr Hansen interprets ranges of effects leading to ocean rising levels. In Europe, there are higher human populations living next to coasts because of historical maritime commerce. There are of course grave effects awaiting the millions of Bangladesh and numerous islands. The IPCC says that 'business as usual' will result in catastrophic rises in ocean levels within this century.

Mr Rees says we now come to 'King Coal' why is this fuel significant? Dr Hansen say that it's because the stocks are so much larger than oil and gas

reserves in the earth. Further all resources are finite, with the approach of 'peak oil', oil and gas will become more expensive as it becomes more problematic to extract dwindling reserves. Burning coal is the dirtiest of fuels and should be left in the ground. We simply must phase out coal burning for energy generation.

Why is urgent to take action now? It's because it's plain that we are approaching these tipping points, and we need to limit amounts of additional CO₂ emissions or it won't be possible to avoid passing them. Thus causing distress to future generations. Resulting in imbalances in processes for a very long time. Current governmental targets are meaningless without phasing out coal burning. 'Business as Usual', might lead to 5degC increase in this century and the planet won't look like it has for the last 10,000 years.

Dr Hansen says it is obvious that unless coal is not burnt, then governments are lying in what they say are their stated aims. I can see why young people are upset when faced with such deception. Referring to the fluctuations in climate described in the many graphs, charts and maps it is apparent humans are changing what is normal.

Miss Gerry cross-examines. Dr Hansen says he's done his best to educate the public on shortcoming governments. They are mainly influenced in policy by fossil fuel industries. The public needs to be better informed to thus bring about political pressure. He appears pessimistic that governments are listening to people's concerns.

If we shut all the power stations, and coal mines, what are the alternatives? At present, we don't have an alternative. Simply improving energy efficiency is not enough. What can ordinary people do? Influence politicians. Burning materials slower won't do it. People see companies lobbying for 'business as usual' as having a disproportionate effect on policy. Deniers and contrarians are given equal weight, but they shouldn't be since opinions are well out of proportions in numbers believing there is nothing to worry about.

He says the media is failing to give the public an explanation on these issues. Sometimes they are funded by corporations with their own agendas. The public cannot hold the politician to account if they are under informed.

Miss Gerry asks if we carry on, are we all going to die? Dr Hansen says yes, we are all going to die anyway. But during the lifetime of our children, there will be many changes to our planet's distress.

Governments continue to ignore their responsibility to young people.

There was then a ripple of applause from the public and disapproving looks from court officials. You're not supposed to do this in courts!

Dr. James E. Hansen : Storms of My Grandchildren:
The Truth About the Coming Climate Catastrophe and Our Last Chance to Save
Humanity. ISBN-13: 978-1608192007

Dr. James E. Hansen, Head of National Aeronautics and Space Administration
NASA's Goddard Institute <http://www.giss.nasa.gov/staff/jhansen.html>

The case continues a bit more etc



Ratcliffe Trial Day 6 – The Defence Continues

30 November 2010

Snowing much today, resulting a couple of jury members being late to court. We eventually start after a couple of hours delay.

Edward Rees QC for the defence calls another defendant to the witness box. Mr SC.

After introductions he reminds us of the prosecutions remark yesterday Miss Gerry “suggested that the money that was spent on the action would have been better off hiring Cheryl Cole to model second hand fashions”. SC standing in the witness box and looking quite dapper, he says that his tweed suit and all his cloths were in fact purchased from second hand charity shops.

SC has worked as an freelance environmental researcher for the last 10 years. He had also been on the Greenpeace employed staff for 2 years. He has a degree in Applied Biology. Additionally, he has served as a Parish Counsellor in Bradwell in the Peak District, Derbyshire for 4 years. He has been speaking on environmental issues to schools and public meetings. To Mr Rees’ surprise he says he also had organised tree planting weekends. Explaining, he said ‘Treesponsibility’ provided a hands-on community involvement to take practical action on an environment matter. Trees help bind soil and help prevent erosion and assist in minimising flooding. There are intense pressures on the Peak District, with the volume of visitors and had worked on public transport issues there.

While working with Greenpeace, during 4 -5 years, he had been concerned with and researched energy generation employing different fuels and supplies to the National Grid. Mr Rees asks, what do you conclude from your research? SC says that he believes that we are close to a number of the tipping points that Dr Hansen had described yesterday, accelerating climate changes. The consequences? Well unless we take measures to reduce CO2 emissions we will reach such tipping points.

SC says having been at the very first COP in Berlin in 1995 [United Nations Framework Convention on Climate Change]. All conferences were doing was people simply engaging in an ‘on-going process’ without end. Moving onto Kyoto, there were no binding agreements achieved and did not include USA and China. President Bush would not ratify any such agreements. SC says that unless big emitters like the USA etc join in, then all efforts will fail to achieve any of the required effects. From Kyoto to Copenhagen, he explained that his experience of the COP process had left him disillusioned with its effectiveness, and how when the Ratcliffe occupation had been planned in the run up to the Copenhagen summit, the activists already had a very pessimistic outlook on the likelihood of it achieving much. This pessimism was unfortunately proven to be well-placed.

We are now at the point with a conference meeting again at Cancún, Mexico. But politics remains impotent. With such intransigent s, nothing is going to happen at least for another 2 years to the next presidential election

When Mr Rees asked why he had attempted to shut the station down. He responded, “to achieve the largest savings in emissions that we physically could”. He referred to the Stern review figure of the damage of one tonne of carbon at £50 and that therefore if they managed to stop 150,000 tonnes of carbon, it would amount to savings of £7.5 million. He didn’t see what else he could do to effect this much of a saving. 150,000 tons might not be much when compared globally, but it is a significant amount none the less.

Mr Rees turns to the police raid on the Iona School. SC saying that even though on their arrival, the police were offered access and keys, they continued to batter at outside and the inside doors causing damage. He had earlier given a briefing to the groups, reassuring them that the action will have little effect on the total grid. The lights will remain on.

The plan was to split into groups. He describes the operation of the coal conveyors, taking coal to the plants for crushing and pulverising and onto its storage in hoppers. There is held there about 6 – 8 hours of coal burning capacity. This would therefore allow for the controlled shutdown of the plant ,rather than having it brought to a crashing stop. There was no intention to do that.

The conveyors were to be stopped and people would be locked onto the equipment using the tubes. Climbers would also mount plant. Another group would also have gone to the control room to explain the action to staff. All groups would have the relevant safety equipment, hard hats, hi-vis vests and the rest, and all had received an appropriate safety briefing.

After court returned from lunch, Mr Rees asks SC about what it means that the Ratcliffe Power Station had a ‘black start’ capacity. That it had a small power station adjacent to start the main station in the event of a complete failure of the National Grid.

Cross-examining, Miss Gerry asks if closed down the station, would that not have an influence on the grid? A minor loss in scale, the light would remain on. If that was the case, Miss Gerry suggests that it would not have saved the 150,000 tons claimed. All that would happen would that another station would be fired up to replace lost generation, also creating yet more emissions. SC claimed that it would be reasonable to expect the replacing stations to be gas fired, since as coal would be cheaper in generation, those stations would already be running.

Moving onto the press release, Miss Gerry keeps trying to suggest that shutting down a ‘black start’ facility was alarming to the public if they had known about it. This was not mentioned in the press release. SC says there are many other such stations, so grid security was maintained.

When the police arrested and questioned you, why not tell them more of your motives and background that you have told us today? He says we had all received legal briefing to make ‘no comment’ to questions in interview.

Gerry then refers to SC previous experience with campaigning about open cast coal mining. She implies this was a model of reasonable behaviour in public engagement on an issue. But, that this Ratcliffe action was conducted in secret and certainly wasn't reasonable.

With more snow falling outside and travel chaos assured ... the court rises early

The case continues a bit more etc

United Nations Framework Convention on Climate Change

<http://unfccc.int>

Stern Review on the Economics of Climate Change

http://www.hm-treasury.gov.uk/sternreview_index.htm



Ratcliffe Trial Day 7 'Snowed off'

1 December 2010

No Ratcliffe trial today, snow seizes everything up. A few jurors couldn't make it in we all go home.

Caroline Lucas MP tomorrow via a video link.

[I have been wondering If the jury think it's all about global warming, then their personal observations at the moment, might make them question this. However, if they think that there are climate changes ... well then it seems to me to be obviously so ...!!!].

Ratcliffe Trial Day 8 – Defence Calls MP's

2 December 2010

Mr Edward Rees QC for the defence, calls the first witness of the day. He is Alan Simpson, former MP for Nottingham South between 1992 to this last election 2010. During this time, he campaigned for a more serious response to climate change issues, by the UK government. He didn't contest the last election in May 2010 wanting to devote his time on climate change and renewable energy policies. He remains pessimistic in bringing about required changes through his previous post. He is now the renewable energy policy advisor, to the Friends of the Earth. He does however, continue to have parliamentary contact, advising the coalition government on the consequences of runaway climate change, and the required shift to renewable sources.

At a total of 39% of all carbon emissions produced by the UK, coal is by far the biggest single contributor. This must not remain so and measures need to be taken.

Mr Rees asks him "is there a democratic deficit?" Mr Simpson insists yes there is, absolutely!!

During the Labour government, what was their attitude to the projected tipping points? Ed Miliband, the then Energy Secretary, pioneered the Climate Change Act 2008. This was world leading legislation. Together with the current coalition government, there is a virtual cross party agreement on the need to reduce global CO₂ emissions. This act and a number of other important steps have been taken by government. But none however match the scale of the problems that we face. The future threats to life and our wellbeing are posed to future generations.

There is again agreement in the need to at least remain under a 2degC increase in temperatures. He refers to Dr Hansen of NASA research on these issues and the possible climate tipping points that can be predicted to occur between 2013 – 2015 if nothing is done. At this threshold, there could be the start of massive changes, for example once the Arctic tundra ice gives up methane on its melting, beyond that point it is clear we will not be able to do anything about it. Many climate protestors legitimately question whether there is anything in current government action plans that would see UK annual carbon emissions declining by this point in time.

Mr Rees takes Alan Simpson back to the Climate Change Act. He says the object was to change the relationship of individuals and communities to attempt to contribute to solutions. Thus, since the Act came into force in April this year, people and communities who are able to generate electric power by wind turbine, or solar panels etc can contribute to the grid. It should no longer be a one-way system. However the energy companies opposed and campaigned against such moves. E-on lobbied against such similar changes in Germany. They object claiming 'intrusion into trade'. The European Union eventually found against the company on enquiry.

Simpson says there are six big energy companies and they do have a disproportionate influence in opposing any measures they disapprove of. The ideas behind the passing of the act had cross-party support. But, at the administration bit of the process where the legislation gets poured over by committees and civil servants, the levels of the caps proposed were obstructed at a variety of stages. The energy companies were able to lobby decision makers at various levels. It's an unequal process. Their money means they can open offices near to government, they can employ research and lobbying companies to put a shine in their case. They can find 'experts' to argue to keep operations as they are for maximum profits and dividends for shareholders. Further to frighten politicians with job losses.

They are wrong. In Germany for example, they have created more than 300,000 jobs in renewable industries, more than those lost in older industries. The UK efforts are lamentable. Mr Rees asks him about Vestas a company that used to operate on the Isle of Wight and left the UK because the market wasn't sufficient for their turbine blade products. Mr Simpson sites another example of ineffectual policy. There are large wind farms on the Scottish coast, that cannot have their outputs connected to the grid for another 10 years!! This is because of energy companies negotiating with government to give traditional generation priority for connection to the grid, over these renewable sources. Because they operate exclusively on their profit motive.

Energy companies are not even required to record and report power station emissions themselves. They are not doing this, because they are aware of possible public concerns. Mr Simpson says that governments aren't insisting on such recording, even though there is an existing legal framework requiring them to do so. The Secretary of State for Energy now says he is intending to insist on reporting emission levels on new power stations. But ... this is no good since nearly 40% of carbon emissions are produced from the existing old coal-burning stations

On another issue, he says there were four carbon capture projects being considered in the UK. Now that's down to one and that has a question mark over it. E-on had pulled out as it being uneconomic to operate.

Mr Simpson says he was trying to get parliament to understand that it is government that should set standards and expect industry to follow them. Currently, things are the other way round. Further we must move to a statutory duty for companies to comply with regulations and for the public to have a right to know.

Mr Rees in finishing his examination asks, is there a shortfall on what is needed and what is done? Yes, it's why I stepped down from parliament. Government are not taking the measures required to protect us, our children or our grandchildren.

Miss Garry cross-examines. Referring to the Climate Change Act and Energy Acts 2008 & 2009, they set targets. Thus the various science committees and parliament 'got it right' in that session? Yes, it was trailblazing legislation and these and other measures were looked at by other governments, as examples of

good practice. But, the starting point of the UK was from the bottom, not much better than our position in the Eurovision Song Contest.

Can you say in terms of what individuals can do? I have built an eco-house and produce more energy than I consume. Of course, this is beyond the capacity of many of us. Mr Simpson then goes onto site the example of the Meadows estate in Nottingham. Saying that as a community, we helped to organise collectively to fit solar panels on roofs of houses and then selling power back to the grid.

Miss Gerry again seeks to point out that Mr Simpson took the community 'with him' through public consultation and engagement through organising many meetings. Her effort seems to be to seek to draw a distinction between these democratic methods and the direct action engaged in by the defendants. The Meadows community had to organise to overcome opposition and obstacles to achieve progress by engaging people in the locality, within their abilities.

Mr Simpson says that we have lots of information available to us, however, if we were on the Titanic, the main info we need is how to get off the boat. What people could do individually, just doesn't match the 40% of emissions that power companies are creating.

She gets Simpson to agree that most of these efforts were achieved by knocking on lots of peoples' doors. A team to canvas to communicate any message and to hold constituency meeting, surgeries etc... He insists however, that people are so limited in what they can do individually, without parliament and government creating a framework that they can be effective within. It is so unequal. Energy companies are so much bigger and more able in lobbying than any individual or community group could handle. It is clear that to successfully lobby on an issue, people need to organise travel to London [sometime Europe], obtain science facts from experts, much time on research and parliamentary meetings. It is beyond the capacity of the ordinary individual. He sites the Suffragette movement and their campaign to get parliament to take measures on the wrong that needed to be put right.

Not responding to this point, Miss Gerry tries a few more examples to get Mr Simpson to agree that public engagement is best. He replies yes, it is best. But since politics sometimes ignores them and their concerns, people need to protest as well !!!

Mr Rees re-examines: What CO2 emission reduction have power companies actually made? None, to very little. There was some reduction because of the loss of manufacturing, the older industries. More recently, the recession means a reduction in the manufacturing output and this can expect to lead to a reduction also. But not, due to any intervention by the energy companies. Because of European Union directives, some of the older power stations may be forcibly closed, but this may result in a 'dash for gas'.

Mr Rees asks Alan Simpson: Nothing personal ... but in your experience do politicians do what they say they'll do? Do they sometimes lie? Grins all round ☺

Its obvious that so many times, targets and policy remain politically aspirational, not what they'll actually do.

Concluding with this witness, Mr Rees asks: will knocking on doors, really change any opinions of the power companies. No, of course not.

He made a statement in finishing:

"There is, in my opinion, an indisputable democratic deficit in [government] having power, but refusing to use it, even to require power stations to audit their annual carbon emissions and the energy efficiency of each power station. It is simply not coherent to argue that any of the governments commitments amount to a coherent plan for carbon emission reductions. This is particularly true within the timescale in which emissions reductions have to be made. Climate change protestors are in my view, absolutely right to argue that we cannot continue with a 'business as usual' approach to UK carbon emissions, without threatening the very prospects of existence for future generations".

Alan Simpson [former MP, Nottingham South] <http://www.alansimpson.org>

Friends of the Earth <http://www.foe.co.uk>

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After lunch, a live video link is established from the Crown Court to the House of Commons. Mr Rees for the defence then introduces Caroline Lucas MP for Brighton and Leader of the Green Party of England and Wales.

She is a member of the all party Environmental Audit Committee, responsible for evaluating governments operations in meeting its objectives.

Prior to the UK elections in May 2010, between 1999 - 2010 was a Member of the European Parliament, Green MEP for The South East Region. She is also the Green Coordinator on the Climate Change Committee to reduce the impact of the aviation industry on the environment

Mr Rees get her to confirm that there is no serious challenge by elected members in either the UK or European Community that climate change is happening and that it is human driven. But, there is a huge difference between what politicians say and what actually happens. He asks are the targets that are set, commensurate with the perceived threat by emissions and the need for reductions. She says no. We know of the need to keep well within the 2 degC rise beyond which a tipping point will be reached. However, with businesses desire to maintain their activities, there is now no prospect of this if 'business as usual' continues.

Rees asks Ms Lucas, in Europe through its political structures, is it easy or difficult to get policy changes? Very difficult she says, it is a very unequal battle. Large companies lobby successfully and have such privileged access to committees and the European Parliament, than individuals or groups, and even the UK parliament gets.

Renewables and cleaner alternatives are currently more expensive and money is sometimes even found coming from a countries aid budgets. Further, sometimes doesn't even arrive after being pledged.

Moving on to the emission trading schemes. These operate by making allocations to different industrial sectors. In practice these are open to much abuse since a rich company can buy their way out of their agreed obligations. Credits bought from poorer countries. When the European Union require a reduction in emission by X%, much of that will be bought from developing countries, all resulting as 'business as usual'.

Ms Lucas is asked: Are there penalties for exceeding agreed targets? No, such plans have never had a sufficient majority in the European Parliament and such ideas have always been defeated.

She moves onto describing the situation about Vestas, a company making wind turbine blades, that was based on the Isle of Wight and closed. The company couldn't make a viable return on selling their product. There was simply a lack of a market for turbine blade in the UK. This of course is symbolic of government efforts in encouraging alternatives. A comparison in the use of renewables in other countries demonstrate out inadequate response. Further, the National Grid is centralised and makes it so difficult for renewable alternatives to adequately contribute.

Kyoto agreements are about to expire and there is no architecture in place to replace it. Without the United States on-board, any proposals will be ineffective. Copenhagen was very disappointing, there was a complete absence of any binding agreement and will not deal with emission reductions within the required timescale. With regard to Cancún, Mexico happening now, expectations are rock-bottom. Agreements to reduce emissions are not even on the agenda, simply not on the table.

Mr Rees asks about current political interest. Lucas says that at a recent UK parliamentary debate, 12 MP's attended. She is disparaging about this. No politics seems to be taking notice of these immediate tipping points and demonstrates a national complacency on such issues.

Miss Gerry cross-examines [well I think that's what it was, she seemed to me to reinforce this last point]. She opens in pointing out that the Prime Minister David Cameron, David Beckham and Princes William are all in Zurich, Switzerland, presenting the British bid for a football match, instead of being in Cancún, Mexico. Newspapers and television are full of Zurich and not Cancún. She says that more of the public interest appears to be on football, rather than on climate change. Lucas explains that people feel a remoteness, in that individuals ability to influence European policy processes

Caroline Lucas MP, Leader of the Green Party <http://www.carolinelucas.com>

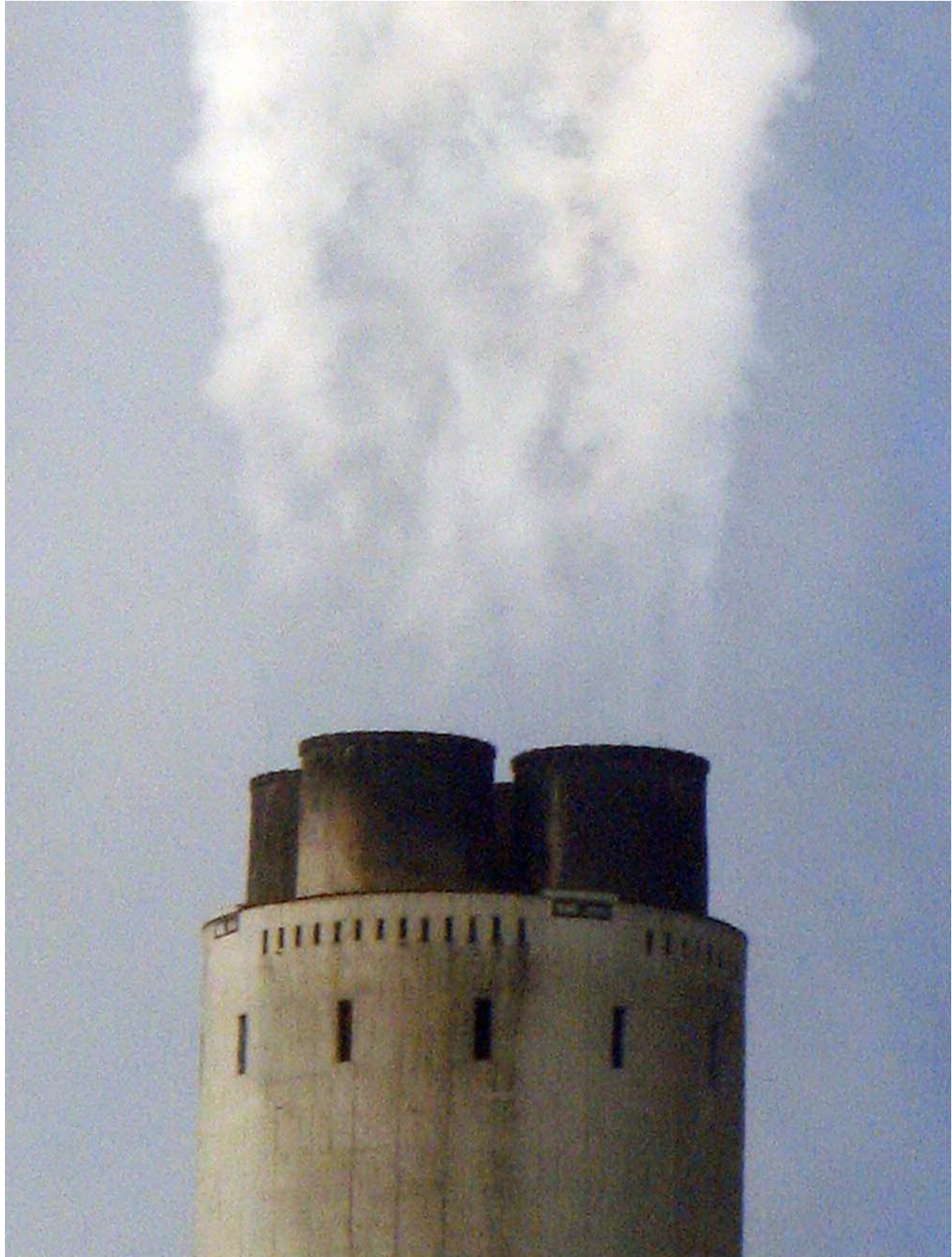
Green Party <http://www.greenparty.org.uk>

UK Parliament Environmental Audit Committee

<http://www.parliament.uk/business/committees/committees-archive/environmental-audit-committee/eacom>

Snowing much outside, court rises a little early. [14:45]

The case continues and progresses a bit more



Ratcliffe Trial Day 9 – Defence Calls More Experts

6 December 2010

Mr Edward Rees QC for the defences calls Prof. Ian Roberts. He is Professor of Epidemiology and Public health at the London School of Hygiene and Tropical Medicine. Widely published and contributed to issues on health issues and debates worldwide. Active research interests in the links between fossil fuel energy use, climate change and human health, contributing work to the World Health Organization WHO.

Accumulating scientific evidence suggests that man made climate change, primarily resulting from the burning of fossil fuels, has had and will continue to have serious adverse effects on the health of human populations.

Asked about his health estimates of what are the consequences of global climate change, he says in 2000 150,000 years of life lost, a measure of premature deaths each year due to such changes. Together with 5.5 million disability adjusted life years because of injury, disability and incapacity. Taken together, these amount to a generic measure of human suffering. These measures are certain to increase, evidenced by the clearly increased incidence of diseases aggravated by climate change.

When trying to understand the evidence, a first step would be to make a classification of diseases that are sensitive to climate change can be divided thus:

- Malnutrition
- Diarrhoea
- Deaths due to flooding
- Drought and its consequences
- Temperature related Cardio-vascular diseases

Dr Roberts mentions the difficulty in predicting extremes. Pointing to the European heatwave of 2003 that directly resulted in 70,000 excess deaths in France.

The second step involves estimating from the science literature how changes in climate factors, influence the occurrence of disease. There is much uncertainty here, taking into account the surprises of extreme events [like 2003] probably resulting in vastly underestimating the consequences.

The third step involves making estimates of the effects of man made greenhouse gases on human health. Again, hardly an exact science, but the links between climate changes and food production, air and water quality and hence human health have all strengthened.

These global changes are resulting in mass migrations of people, the consequences of which are directly leading to lack of food, shelter and water. Land areas are being rendered uninhabitable and such mass migrations are leading to war and conflict, all clearly detrimental to populations' health.

Dr Roberts continues that climate changes are leading to higher incidents of diarrhoea, bacterial and viral infections, food poisonings and malaria. As global temperatures have increased, the spread of cover for malaria gets wider. All accentuated further by extreme weather events. The effects on food yields are already apparent, and that they have a disproportionate effect on those areas that are already suffering food insecurities.

Population migrations due to sea level rises are on the increase . For example, look at the pressures on Bangladesh and Pacific island populations. Migrations and food riots leading to violence, obviously has health implication for personal injuries and death.

Moving onto a short discussion about bio-fuels. Plant crops grown to produce ethanol fuels for both vehicles and power stations. The priorities in land use for these over previous crop growing has a direct effect on food prices and is leading to crop displacements. Problems occur in eco-systems if species can't adapt to new conditions, leading to life distress. Many species of plants and animals cannot adapt to the unprecedented rapidity of man made climate change. It can be expected to find effects such as species extinction occurring and in a worst case the eco-systems complete collapse on which life and human existence depends.

Many species have areas of presence and timing. For example it matters when plants flower and the availability of insects of the right sorts to enable pollination to be effected. Thus, concern about the interdependence of species and their actions, within the 'web of life'.

Concluding, Dr Roberts says that there is a public health imperative in reducing and in fact stopping, CO2 emissions. There is in fact a public health emergency and we are sleepwalking into disaster. There is and will be much increase in interpersonal violence: a generation genocide.

Miss Felicity Gerry for the prosecution cross-examines. She has no dispute about Dr Roberts evidence. She asks in relation to public health emergencies .. what do you do about it? He says he publishes research, he teaches and continues research on energy use and influences on human health. She seeks to get him to explain how to go about changing public attitudes. He again says research and publishing, explains these concerns to the media, Lancet etc. The dissemination of information to raise the public awareness.

Dr Ian Roberts, London School of Hygiene and Tropical Medicine
<http://www.lshtm.ac.uk/prospectus/profiles/roberts.html>

Mr Rees calls his second witness today, one of the defendants Mr BD

By way of introduction, says he's had involvements with various climate issue related charities. Has been a volunteer researcher for Greenpeace. Since 2005 has been doing some research of human impacts on climate changes and their

effects. An obvious example being regions like Darfur and its associated water stress.

Mr Rees [in dealing with prosecution continued accusations], what efforts at public engagement has BD had previously made? He replies he has made talks to a variety of groups including,

- Rotary club
- 6th Form groups
- Christian Youth Groups
- Factories
- Parish council within Oxfordshire
- Vale of White Horse District Council organised meeting, inviting his local MP Ed Vaizey and the Manager of the Didcot power Station.

Moving onto the intended action, why did you go? BD replies that he was aware in 2009 of the lack of agreement being achieved at Copenhagen. The collapse of any post-Kyoto agreements. Thus he wanted to take part in some direct action himself to prevent coal-fired emissions because it did not seem to be happening by any other means. He became involved in the action from around January 2009. Initially the group only consisted of 5 people but within weeks has grown to over 100. BD say he was much involved in the planning of these operations. Safety being a prime consideration. He helped to shop for essential equipment. Produced documents already discussed in evidence.

Mr Rees goes to the 'Environment Show Stoppers' leaflet. Agreeing that it was a sham, BD says he designed and printed this. It contained directions and preparations for the action. He also helped with the 'Important notice for those working at the power station' leaflet. Distributed to all involved in the action. Included within this is mention of the required transition to a low carbon future. Reassuring existing staff about job creation in 'green industries'. Not just about wrecking their prospects for those already employed. BD say he had also dealt with the 'operational plan', distributed to the Green team, whose task it was to ascend the chimney and to safely deal with all eventualities.

BD had been involved in briefings at the Iona School to help and ensure a 'safe and effective' action. He added that it was a condition of those taking part that no violence would be shown to police in attendance or to power station staff.

Turning to the mobile phones, discovered at the School during the police raid, he agreed he had been involved with their organisation, adding relevant numbers and labels to ensure the right groups got the right phone. To explain which phones were for what purposes.

Miss Gerry rises for cross-examination. BD, if you took the trouble to engage with meeting in Oxfordshire, why didn't you do this in Nottinghamshire? He replies that in this instance, out purpose was to simply stop CO2 emissions at Ratcliffe. He adds that his efforts in Oxfordshire, had been in a more optimistic time. She continues with the notion that without public meetings in Nottinghamshire, he could have had no idea on what the effects of organising the action could be [thus still suggesting irresponsibility].

BD had made 'no comment' during interviews with the police. She says that you knew that police would have to respond, hence publicity for your action was intended for after your arrival. Thus, all was secret before. You could have said to police much of what we have learned during this trial. People of Nottinghamshire should have been informed through public meetings if you wanted to act responsibly. BD says that the object of this exercise was to reduce carbon emissions from the 2nd largest coal-fired power station in the UK, Drax being the biggest. It was owned by E-on, but that was a secondary concern.

Miss Gerry says, but you made no effort to think of reasonable alternatives? He says but this action was reasonable. I say you made no investigations on what else could have been done in Nottinghamshire. He again disagrees saying much else had been done, but those at this action and many people in this locality for years previously.

Miss Gerry sits down very abruptly, without further acknowledgement. To all, it's not obvious she'd finished!

Mr Rees re-examines: You've just been sneered at! That criticism, was any of that fair? BD says no, it wasn't. We and others had tried at every stage to stop substantial CO₂ emissions and had also taken other alternative actions and public engagements.

Witness is excused and court adjourns

After lunch, Mr Rees calls Dr Geoffrey Meaden now retired, recently been Principle Lecturer in the Department of Geographical and Life Science at Canterbury Christ Church University in Kent. Additionally, he provides consultancy to the United Nations. His specialties are specifically:

- Biogeography – The study of the distribution of plants and animals around the planet.
- Local physically geography of Kent, including coastal geography and water supplies in the region.
- Geographical Information Systems [GIS]. Computer based mapping and analysis. Helpful in siting a variety of service and systems.

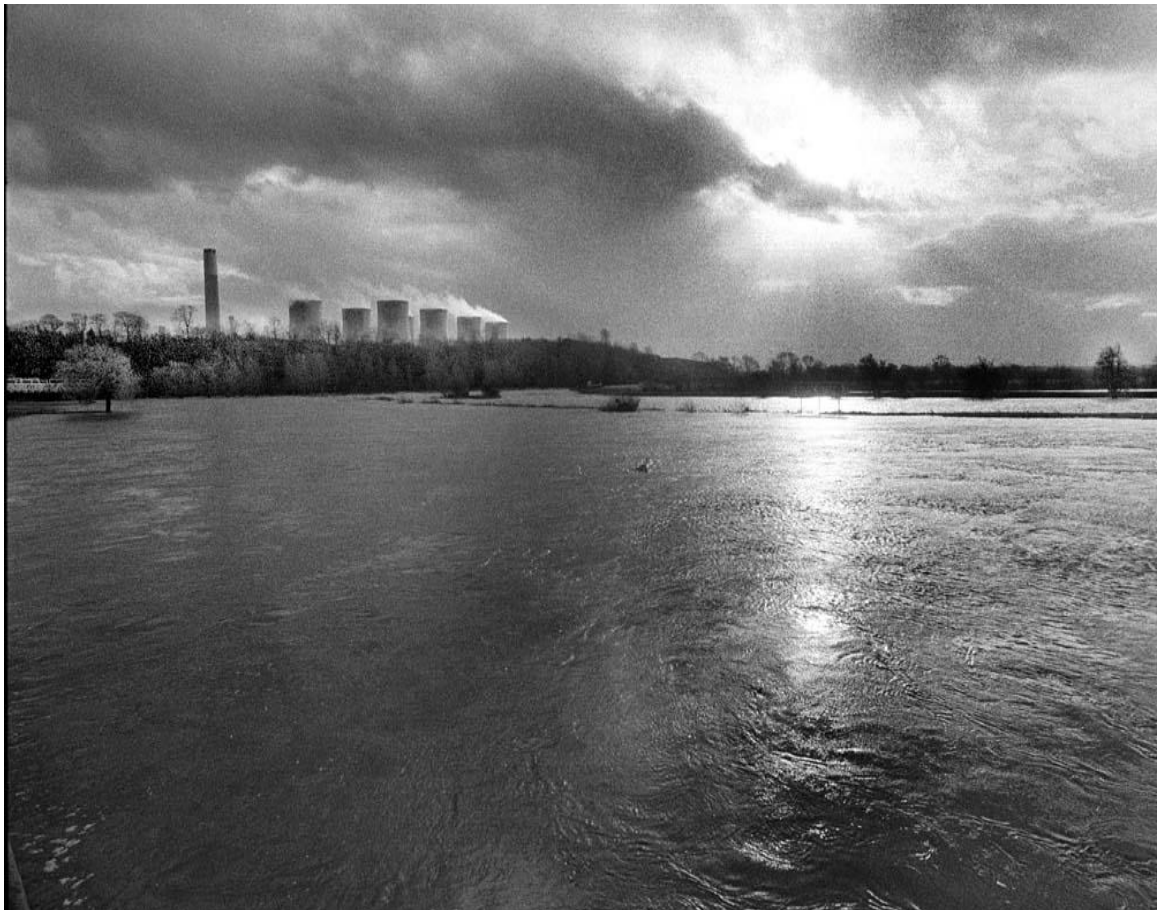
He says that there is an increasing body of evidence, backed by the Royal Society, to suggest that the world temperatures are significantly raised compared with the last 10,000 years. More recent rises are unprecedented in history. Mr Rees says it cold outside, more snow and ice for a November in more than 70 years, can you help the jury [and the rest of us] why this is so if the planet is getting hotter? Dr Meaden, I'm glad you asked me that ☺ The current difference between sea and land temperatures are quite exaggerated, at the moment there is much evaporation. This results when passing over colder lands, tuning to snow. The point of this current weather forecast is of course to illustrate that climate change and weather are two different things. Throughout seasons and years, we have allsorts of changes up and down a scale, but implied by the average trend, the planet is warming.

The use of coal is growing on a world-wide scale and now contributes about 40% of power generation and about 20% of the total carbon emissions.

There are a number of climate change indicators that help us qualify observations we're looking at:

- | | |
|--------------------------------------|-------------------------------------|
| 1. Greenhouse gas emissions | rising exponentially |
| 2. Generally increasing temperatures | in 85% of the earth |
| 3. Drought heat waves & forest fires | becoming more frequent |
| 4. Rainfall | concentrated precipitation events |
| 5. Severe storm events | rise in energy within storms |
| 6. Sea temperatures | increasing, but far more recently |
| 7. Ocean acidification | killing plankton base of marine web |
| 8. Sea level rise | increasing & more rapidly recently |
| 9. Polar ice cover | 25% reduction of arctic in 30 years |
| 10. Melting of glaciers | 30% loss in volume in 40 years |
| 11. Day of snow [or ice] cover | Ski resorts season shortened |
| 12. Total length of growing season | increase can be both pos & neg |
| 13. Earlier leafing or flowering | can affect species feeding patterns |
| 14. Species migrations | changes in animal migration habits |
| 15. Increased human mortality | cover this in Dr Roberts evidence |

During this listing, in noted Dr. Meaden said increasing or exponential rise and increase, lots.



Mr Rees then takes him onto the effects of climate change on sea levels. As far as the UK is concerned, a rise of 1cm per year had been observed but this is increasing exponentially.

More locally, the Ratcliffe power station is located close to the confluence of the River Trent and River Soar. There are several characteristics of the Trent basin making it particularly susceptible to flooding. Area has impervious rock structures. Further, there are large areas of urbanised towns and cities. Again, these provide for larger areas of impervious structures from which vast amounts of 'run off' could be expected, rather than ground absorption.

Nottingham and area can expect that flooding will occur more frequently and such events will become more severe and problematic. A 1 in 100 year event, might result in 40% of the city flooded. We might not have to wait for 100 years for such an event, it might be next year or quite soon. It is becoming more likely because of the rise in urbanisation, building on flood plains etc

Climate is moving to warmer summers and very wet winters that may include what I've called 'concentrated precipitation events'. These are likely to lead to severe flooding and more likely in prevalence. Insurance figures are showing these trends. Flood defences are become more vital, but are going to be progressively more expensive to build or maintain as the heights required to deal with become progressively higher. As I said ocean level rises are accelerating.

The coast of Britain has a 'shoreline management plan'. Drawn up by local authorities and the Environment Agency and reviewed every couple of years. But priorities have to be made in which areas are to be chosen for protection. Urban over rural etc .. But, losing increasing areas of low lying farmland would thus result in diminishing food production.

Miss Gerry cross-examines. Has anyone of the defendants in the dock asked you to come to Nottingham before. No. She then says what if the UK took measures to 'go-eco', what would that do to global changes you've described. Not very much!

Dr. Geoff Meaden Canterbury Christ Church University, Kent
<http://kentgreenparty.org/geoffmeaden.php>

Later in the afternoon, Mr Rees for the defence now calls another of the defendants to the witness box. Mr OB. He has a doctorate in Prehistoric Landscape Archaeology. He say he first became concerted around 86-87 about climate change matters. His concern had been enlarged on reading 'Heat; How to stop the Planet Burning' – George Monbiot [2006],

Mr Rees says dealing with the prosecution usual suggestion that no emissions would have been saved by the action, it this true. No he says, the book describes the slack and spare capacity inherent in the grid. Its resilience in fact. When the power stations manager, Mr Raymond Smith said that other stations might have

been fired up to replace Ratcliffe loss in generation, these would also produce emissions. But coal-burning stations provides the baseline of supply in the UK, since the fuel is cheaper. Replacements would thus most probably come from gas-fired stations, since the coal-fired ones would already be online and generating.

Mr Rees asks what would your action have achieved? OB says a quantifiable amount of CO₂ emissions would have been prevented by stopping the burning of coal at the Ratcliffe power station. The Stern Report says that every ton of CO₂ emitted has a knock-on effect. It equates to a measureable cost and effect on lives lost.

With respect to this specific action, OB say he had first been involved from about March 2009 on hearing of the plan to try to shut down the plant. Convinced it would offer him the best chance of reducing emissions personally. Mr Rees reminds the court that the prosecution suggests the whole thing was a bit of a jolly! No, certainly not. This was very serious.

OB says he's been a climber for about 10 years. He is skilled in 'single rope' techniques. Was part of the 'black team', the object of which was to shut down the coal conveyor. People would have pressed the emergency stop buttons and locked-on to the plant there through the arm-tubes. These would have prevented their easy removal. As a climber, he would have been suspended in a position to prevent the operation of the coal conveyor and again to make their removal harder.

The climbing harness is displayed to the jury and OB makes quite a lengthy explanation of its operation, components and purpose. Much of which was about the safety features in the equipment to avoid injury during the action.

Miss Gerry for the prosecution cross-examines. She asks about the purpose of being there? OB replies the same as all the other defendants, to do his best to save emissions from the power station. She says the banners you had with you were all about coal. The people of Nottingham are not shown any alternatives are they?

Moving on to a publication, she initially asks if an address in Cherwell Street, Oxford means anything to him. Yes it's the offices of Corporate Watch. Did you author a report from there called 'Broken Promises: why the nuclear industry won't deliver'. She is seeking to demonstrate OB media experience, since there previously been much questioning of others about the press release, prepared ahead of the action. Although he replies his was a minor role in the Corporate Watch publication, Mr Rees objects, since this appeared to be a 'back-door method' of introducing the document. He had been ambushed. This had not been initially disclosed to the defence. There was then a bit of legal argument, but the prosecution say that nothing is outstanding to be introduced.

Miss Gerry goes back to the events. This action wasn't about saving carbon was it, It was just a media stunt? OB says no, it wasn't. That because of the scale and immediacy of the situation, we need to take action on CO₂ emission right now. She questions if he had tried canvassing the public on these issues. He said he

had, but had seen the limitations of such a process. Next to the scale of the present situation, it could be nowhere near as effective in stopping these emissions.

The case continues

‘Heat; How to stop the Planet Burning’ – George Monbiot 2006, Penguin Press
<http://www.monbiot.com/archives/2006/11/07/heat>

‘Broken Promises: why the nuclear industry wont deliver’. Corporate Watch 2007
<http://www.corporatewatch.org.uk/?lid=2968>



Ratcliffe Trial Day 10 – Defence Calls more Defendants to the Stand

7 December 2010

The defence continued their case. Mr Edward Rees QC called a further two defendants to the witness box. LH is a marine biologist. She described how she had observed dying coral reefs in the Middle East and Australia; this is, she says, undoubtedly due to ocean acidification and warmer water as a result of increased carbon emissions. This has a devastating effect on the eco-systems which rely on the coral reefs, as well as the local economy.

She described her energy and climate outreach work with Greenpeace in Australia and other organisations in the UK, educating the 'ordinary members of the public' that the prosecution repeatedly had claimed that defendants had not adequately engaged with and 'abandoned' in favour of the secret direct action that they had done, to close down the power station.

Her main role in the action was to be one of the lead climbers in the Green team, whose task it was to ascend the chimney of Ratcliffe-on-Soar power station. Her extensive and professionally recognised climbing experience gave her confidence that all safety procedures were in place for that part of the action.

Cross-examined by the prosecution, Miss Gerry, continued to ask why, instead of educating people, LH had supposedly avoided taking steps to educate the general public. She responded that it wasn't an 'either/or' – it was truly possible to continue education at the same time as planning an action, of which the sole purpose was to stop carbon emissions. [Ratcliffe Blog]

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Mr Rees calls the next defendant Mr BS. He was initially asked by the defence to respond to a number of the prosecution's queries in her initial opening statement about whether defendants had spoken to civil society groups like the Women's Institute in order to raise awareness of climate change. BS was able to state that he had in fact worked with the Women's Institute, along with a number of other charitable organisations and unions, in order to raise awareness of climate change for the UN climate summit in Nairobi 2006.

When asked why he had decided to take part in the Ratcliffe action, BS said that the World Health Organisation report estimating that 150,000 people die per year due to the effects of climate change. For him, this is a human rights issue; cheap fuel is used to cut corners saying "it's too expensive [for energy companies and governments] not to let these people die."

He continued to explain using Dr. Jim Hansen's statistic that a species is made extinct every 6 weeks due to climate change. Looking at the jury, BS asserted that "we don't have the right to eradicate species our kids will never see."

After lunch BS is recalled, to continue his evidence. Turning to the press release, he's asked what it's primary purpose was? Although the main objective of the

action was to cut CO2 emissions, he thinks that it's likely that there would be a lot of media interest. It would probably be a main story. He had been responsible for earlier drafts of the press release and included much about climate change issues at large.

The content was a 'work in progress' and had to be edited further to take all the participant views into account. It needed to be a democratic document. Reference is made to E-on building a new coal-fired power station at Kingsnorth and peoples opposition to this. E-on had pulled out of the project and carbon capture there due to escalating cost of compliance with government conditions.

He agreed he was a press officer for the enterprise and part of the Green team intending to climb the chimney.

Cross-Examining Miss Felicity Gerry says, in climbing the chimney, climbers would go up first with photographer, video cameraman and media liaison [him up next]. Taking him through the list of equipment he had with him including camcorder and the microwave downlink with compass. He agreed that this was all his. She that went on to conclude that the object of the action was thus clearly a media stunt. Nothing to do with emissions and necessity action at all, was it? BS says he wanted to film the progress of the action, to illustrate its non violent nature. He thought this might have been necessary and useful, since at an earlier Climate Camp at Kingsnorth power Startion, Vernon Coaker MP a Home Office Minister at the time had alleged violence against the police by those in attendance in the vicinity of the camp. On a later investigation, it turned out that police injuries had turned out to include a graze shine, when climbing a fence, toothache and bee stings etc. He was interested in gathering evidence in case of other such untruths. The downlink provided a means of transmitting the information ahead of any confiscation by the police.

Minister Vernon Coaker apologises for misleading MPs over police injuries
Home Office minister says sorry to parliament after Guardian reveals most police injuries from climate protest were from insects or heat
John Vidal, environment editor
Monday 15 December 2008
<http://www.guardian.co.uk/politics/2008/dec/15/greenpolitics-police>

Moving on to the press release, again, BS agrees he was involved. She takes him through it again, to the passage including reference to the section about Ed Miliband MP the then Energy Secretary. The object was to put pressure on the minister? He say his object was mainly to prevent emissions from this power station.

Miss Gerry continues to suggest that this was part of a campaign against E-on. But he says Ratcliffe is the 2nd most polluting power station in the UK and if it was owned by another company, then that would have been a stated objective. It doesn't matter who owned it.

Yet again, he has to tell Miss Gerry as she continues to suggest this was a media stunt, that [as all the times before] that the needs for action are immediate and this opportunity was taken to reduce such a large amount of emissions that could

not be achieved by any other means. He had been to Copenhagen and was very disillusioned at the complete lack of progress and continues to feel that immediate action is required.

As ever Miss Gerry asserted that instead of the action, BS and other defendants should have considered other action to 'get the message across', such as a slogan or illustration of 'the earth wrapped in a blanket', to get the attention of the masses. BS refuted this, stating that there was no slogan which would stop 150,000 tonnes of carbon emissions. He pointed out that the easily understandable image of the earth wrapped in a blanket, getting hotter, was used by Hansen in Al Gore's 'An Inconvenient Truth', a film that attracted millions of viewers, won Oscars, but has failed to contribute significantly to emissions reduction. Global emissions of CO₂ continue to rise, as BS pointed out.

His evidence summed up the experiences he had, as a climate change campaigner, which led him to decide to circumvent the more conventional channels in which he has been involved for over a decade.

The trial continues ... progresses and continues a bit more ...



Ratcliffe Trial Day 11 – Defence Concludes its Case

8 December 2010

Mr Edward Rees QC for the defence says that there will be no more 'live' evidence presented.

A number of expert reports, summaries on previous evidence, and written submissions are read to the jury. These are presented in some detail with a view to demonstrate the effects and advance of climate change. Reference being made to the effects on the atmosphere, oceans and the ecosphere at large. The consequences are inferred and reported on human health, on populations and migrations. Reference is further made to many of the climate effect to be expected, here in Nottinghamshire.

Additional witness statements are read to the jury. The Judge directs them that they should be treated with the same weight as if they had been calling in person to court and that they were under oath.

These include more expert evidence on climate change effects. A rather frightening statement from a resident of Boscastle in Cornwall. In 2004 the site of one of the worst [and sudden] floods in recent history. A prime example of a 'concentrated precipitation events' previously referred to as becoming more likely by Dr. Geoff Meaden. There were other statement from people who had personal experiences and suffered other extreme weather event in the UK and the effects on their lives at the time and since.

Concluding this section of the evidence, there was a statement from a resident of the Tuvalu Islands in the Pacific, these are losing land to the ocean rather rapidly, and describing their environmental alarm and the effects on their lives, society's cohesion and their economy. Then another statement is read from a resident of Tamil Nadu, India. He describes the impact of coastal erosion and influence on his livelihood as fishing declines.

The court rises early. Closing speeches will be started tomorrow

The case continues And is now in closing stages

Environment Agency Boscastle Flood Findings

<http://www.boscastlecornwall.org.uk/Regenminutes/regenfindings.htm>

Tuvalu Islands

<http://www.tuvaluislands.com>

Tuvalu and Global Warming

<http://www.tuvaluislands.com/warming.htm>

Tamil Nadu : Global warming, climate change pose threat to coral reefs in Gulf of Mannar

<http://www.thehindu.com/news/states/tamil-nadu/article419957.ece>

Ratcliffe Trial Day 12 – Concluding Speeches

9 December 2010

Miss Felicity Gerry for the prosecution begins her speech to the jury. She says the actions of these defendants was not necessary but unreasonable and hence criminal in character. Throughout much of the trial, the evidence and facts have been agreed by both sides.

On the 13 April 2009, police prevented a large scale aggravated trespass that was to have taken place at Ratcliffe Power Station. It was not necessary to carry out this action since in a free and democratic society, many other methods are available. Direct action was not a necessity but a choice, a main object of which was to highlight issues and actions to the media. You've heard that the action cost £15,000. I ask you to image what that money could have bought in public engagement. An iPhone application, celebrity endorsements, an air ticket to Cancún, Mexico.

She agrees that the science presented was all correct. There is little dispute that the world is getting warmer and that the causes are man-made. It's not for the jury to decide if these changes are in fact man-made or a produce of the natural cycles of the earth. The public need to be reasonably informed, but these defendants chose not to take this course.

Miss Gerry says that this action was not about saving carbon emissions but about publicity and hence was not reasonable or necessary. There was no necessity for this action. She sits down.

For the defence, Mr Edward Rees QC begins his speech to the jury. He says, the principle issues in this case, it's about if the defendants conduct was unlawful. Further, whether in the absence of any violence on their part, their actions were criminal. We say that their intended conduct was necessary in all the circumstances. It is for the prosecution to prove that their conduct was not necessary to gain their conviction. This is the burden of proof and is so in all trials. Our law does make an allowance for necessity in action.

Mr Rees mentions the Suffragette movement. Recounting a conversation with prosecution counsel earlier, she had said that those defendants were a 'load of wimps' next to the Suffragette example. They would have thrown themselves at the chimneys with skirts billowing!! He invites the jury to remember that this was happening not so long ago. It seems ridiculous to us now that women didn't have the vote. Looking back, future generations would look kindly on these people and their actions.

A large and expensive police operation that must have been planned much earlier and must have been intelligence lead in character. Therefore, with this advance notice, why didn't the police or the company obtain an injunction to prevent any action? You've heard about the police breaking down doors of the school and refusing people the facility to repair and tidy the premises. A complete inversion on what you might have expected.

Returning to the core word 'reasonableness'. Action need to be proportionate to the threat perceived. This of course will vary to the circumstances. The jury will want to know, what is the test of this? If attacked, defensive action would be self-defence and thus a person would be not guilty. Likewise, if a person thought he was going to be attacked and that thought was in the circumstances, reasonable. Again, in those circumstances, he would be not guilty.

Mr Rees says that the prosecution say that the action was not necessary since the defendants knew emissions wouldn't have been saved. This hare was set running by Mr Smith, the Ratcliffe Station Manager in his evidence. They produce no evidence about this. The fact was that coal stations were already running. So it is in fact true that the more efficient [if expensive] gas-fired might be the ones to have been started up to compensate. Thus, the defendants did reasonably believe that a net saving of emissions would have resulted from their action. They did believe this and hence their actions were reasonable.

Consider the evidence of Dr. Hassen from NASA, contending that due to emissions, species were being lost and his descriptions of human distress. The Stern Review refers to economic and social costs and being the authorities in their subject that they are, the defendants reasonably believed this. All the expert evidence in this trial only adds to the weight of evidence and concern. All seems to suggest that immediate action is required. Amazingly, we are now burning more coal than in 1998. In 2007, Ratcliffe Power Station emitted 9.3 million and a year later in 2008 had increased to 9.9 tons.

Right at the heart of this case and the necessity of action is the notion of 'tipping points'. There remains no agreement on what's to be done. There is simply no political will to reduce emissions,

The prosecutions idea of knocking on doors to convey their concern, simply to inform the public locally ... it's nowhere near enough to deal with such continued emissions. The prosecution says they haven't engaged with the political process. But they have! They have done it all. No political change. No international agreement. 'Business as usual' remains the position. The defendants therefore remain pessimistic about any change without the need to deliver a good kick. He ridicules the prosecutions idea that going to Copenhagen to argue with American Republicans or to create a catchy slogan to illustrate climate change to the Chinese would have changed anything.

Energy Companies have a legal duty to their shareholders to maximise profits. This is not balanced by government insisting on emission reductions from their activities. Profit being the prime motive in their operations, energy companies including E-on, have abandoned carbon capture experiments because they say they're uneconomic.

Mr Rees says he has some experience of coal as he and his wife come from the South Wales valleys. The slag heaps are no longer there and those communities have gone. But in opposition to what you might perceive as a lack of the coal industry production, coal burning at Ratcliffe and others is in fact rising. Cheap imported coal is what is now getting burned. With international politics, Middle

East situations and oil price rising etc ... coal burning will continue to rise. The commercial imperative is driving the market. 'Business as usual'.

In contrast to politicians rhetoric and the associated lack of action, these people actually did something about it. Without targets being set, there is simply no foreseeable action to be taken by governments and companies. The limited progress of the conferences at Cancún, Mexico happening now is showing us this. These defendants are genuinely concerned. If that is so, it is proper to think you have to do something about it. Alternatively, is it in our experience of society that we should trust our betters or political representatives to take actions for us?

People had tried so many democratic means to express their concerns. But 'business as usual' has continued. Would they have achieved more reductions in emissions had they tried any other means?

This was not the jolly that the prosecution have tried thought this trial to suggest.

Mr Rees has finished all presentations for the defence, and sits down.

His Honour Judge Teare now sums up the case for the jury. He started by saying that on waking up on that day and hearing on the radio of the arrest of the 114 people at Iona School in Nottingham ... I wondered what poor devil is going to have to try this case ☺ Grins all round again.

You the jury are to decide the fact of the case, I am the judge and you must follow my directions on the law. The prosecution must prove the case referring to the indictment. Now, there is no dispute that they were going to commit aggravated trespass. But, they say, they were justified in that action by necessity. If you conclude, the defendants believed this, even mistakenly, then, they are not guilty. They must act responsibly and proportionately in all the circumstances. In deciding that, a crime may have been committed, but consider if their actions were reasonable and proportionate in preventing harm.

The case is to be considered by you against each of the defendants, individually. Reach a verdict on which you are all agreed on all. But if you can't then we go through a process for each of them.

The Judge mentions that the trial is taking place at an inopportune time, with much press discussion of the Cancún, Mexico talks. You are to put all that out of your mind and try the defendant on the evidence presented in this case.

With respect to the defendants 'No Comment' replies, during police interviews, the Judge says this should not be held against them. They had solicitors advice contained in the 'bust card' that all had read. As this advises 'No Comment' replies, he says the jury should not draw any inference from that silence.

Judge then went on to an extensive reminder of the facts of the case.

The jury will retire tomorrow and hence the case continues.

Ratcliffe Trial Day 13 – Final bits and Jury Retires

10 December 2010

His Honour Judge Teare concludes his summing up and directions. He reminds the jury that from the evidence presented, you might conclude that climate change is happening, it is human driven and the associated effects of it are as has been described. The burning of fossil fuels is mainly responsible and that coal is the biggest contributor. Further Ratcliffe is the 2nd largest producer of such emission in the UK.

The Judge suggests to the jury that to get any action on the issue the choice is between democratic methods, the difficulties of which have been presented Vs. the necessity of action.

So was it to save someone's life on the planet or not? Please return a verdict on which you are all agreed. A majority verdict is not acceptable in this case.

At 10.20am, the jury retires to consider their verdict.

Having spent the day deliberating, the court was reconvened twice during the day in order to answer jury questions. The first concerned the details of evidence given by former Nottingham MP Alan Simpson about EU directives. The second concerned defining exactly which lives the defendants needed to be protecting in order to justify their actions being necessary in law. The judge explained that the lives did not need to be local to the power station or Nottingham, but could be anywhere in the world. The trial has heard factual evidence from people suffering from the worst excesses of climate change, in locations ranging from Hull to Bangladesh.

The jury will return to court at 10am on Monday

The case continues ... progresses ... and continues a bit more...



Ratcliffe Trial Day 14 – Jury Still Retired

13 December 2010

10.00am and all back in court yet again.

Sitting in Nottingham Crown Court, His Honour Judge Teare reminded the jury that although the press was full over the weekend, of the progress [or lack of it], of the talks taking place in Cancún climate summit in Mexico, they were to discount all of it. He says the verdict they reach is to be on the evidence introduced here, during this trial.

Today was much of a re-run of Friday. The jury retired at 10.22am. Then, at 12.33 PM the court reconvened to answer a further jury question concerning the burden of proof. As with all trials, the judge reiterated that it is the duty of the prosecution to make the jury sure that the defendants were unreasonable in their actions, rather than the duty of the defence to make the jury sure that they were reasonable.

In common with the defendants, a few of us hopped from one foot to the other, just hoping. Then, at 3.46PM this afternoon the jury came back into the court room, looking tired, and passed another note to the judge asking to go home for the day.

Before they left, the judge said that he would now accept a majority verdict – this means that he will accept a verdict that 10 or more jurors are agreed on. Adding Friday and today, the jury will have now had some 10 hours of deliberations.

The case continues more onwards.



Waiting for the jury to decide the matter means more time, wondering and waiting. As before, I would like to offer my very best wishes to all involved in this enterprise and wish all the very best of luck in receiving the just outcome you deserve. Tash xx

Ratcliffe Trial Day 15 – Jury says Guilty

14 December 2010

All 20 defendants are found guilty of Conspiracy to Commit Aggravated Trespass at Ratcliffe-on-Soar Power Station in April 2009.

They are required to come back to court at 12noon on Friday for sentencing.

All in Nottingham Crown Court again at 10am Tuesday. After His Honour Judge Teare made his directions, the jury were first sent out on Friday. They came back to court a couple of times to ask questions. After the weekend, they came back yesterday [Monday] to continue their deliberations. Again a couple more questions, but it was becoming clear that they were quite divided. At 3.40pm yesterday, they were looking a bit tired and sent a note to the Judge, asking if they could go home for the day. They had been considering their verdict for 10 hours up to then. The Judge then told them that when they came back today ... he would accept a majority verdict.

Today [Tuesday], they retired again at 10.13am. At 11.10am they returned after a total of 11.07hours.

The clerk read out the indictment:

20x names. are charged as follows, That they:

Conspired to Commit Aggravated Trespass, Contrary to section 1(1) of the Criminal Law Act 1977.

Verdict - GUILTY. [for all the defendants]

Strangely, the verdict was unanimous, when you consider that the judge had said he would accept a majority after their earlier difficulty in reaching a decision.

The Judge said that he was not going to hand down prison sentences now. However, after hearing of some that had previous convictions he said he may be considering suspended sentences for those. Others were of previous 'good character' might be receiving community punishment order, to do unpaid work. He went on, that this trial had cost the country a vast amount of money. As their actions have been found to have been unnecessary, then I don't see why they can't contribute.

All are required to return to court at 12noon on Friday 17th December.

Personally. I don't think that their case could have been better expressed. Having sat through the whole case, I was privileged in hearing the expert evidence that was of some substance and alarming. After all that exposure to the facts, then if the jury can't see that urgency of a need for action, then I am of course pessimistic in how on earth we are going to convince the wider public of the need for action.

Perhaps we are all doomed :-)

I have added my best wishes to all the defendants throughout the progress of this case. As it turns out ... fuck all use my good wishes were. I am sad for the defendants in loosing and being found guilty, but I am also sad for my own health and everybody else's. If people are deterred from taking more direct action on these issues, nothing else substantial is going on. As the recent events at the Cancún climate summit in Mexico have clearly demonstrated, if we leave it up to companies and politicians to act, then we will be waiting a very long time. Certainly past the tipping points we heard so much about. Beyond which we might not be able to do very much about our demise.

Will the last one alive on the planet, kindly turn the lights out!



Ratcliffe Trial Day 16 – Return to court for Sentencing

5 January 2011

Defendants should have returned to Nottingham Crown Court for sentencing on 17th December 2010. However, it was deferred at short notice until today 5th January 2011.

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The Judge described Ratcliffe power station activists as "honest, sincere, conscientious, intelligent, committed, dedicated, caring". That they acted with "highest possible motives".

The story so far ..... At the conclusion of the trial on the 14th December 2010, all 20 defendants were found guilty of Conspiracy to Commit Aggravated Trespass.

They were arrested in April 2009 during the biggest pre-emptive arrest in UK history. The 114 people were detained at Iona School, Sneinton, where they were involved in planning an operation to shut down Ratcliffe-on-Soar Power Station for a week. The facts were not disputed. Giving evidence, this was clearly their intention and that they were equipped to do it. The defence of necessity was employed in that they were acting to prevent a greater harm; death and serious injury to others as a direct consequence of climate changes brought about by the burning of fossil fuels, most notably coal.

Since being found guilty, His Honour Judge Teare had deferred sentencing until today awaiting reports. Two defendants have been further deferred until the 18 January 2011. It is reported that this trial and police costs add up to £700,000.

Miss Gerry for the prosecution said that a number of defendants did have previous convictions for offences relating to social and environmental matters. None relating to violent or acquisitive crime. She asked the Judge to award £5,000 costs against each defendant. When asked, the prosecution said that the actual prosecution costs against each defendant were £20,000.  
[20x = £400,000 stone me!].

In mitigation, Mr Ed Rees for the defences seeks to make some general points pertaining to all the defendants:

- If the action had in fact been carried out, it would have been peaceful and safe in character.
- There is no suggestion of violence or disorder on any of the defendant part.
- There would have been unlikely to have been any damage.
- The planned event never took place.
- The motivation of those involved being of a caring and concerned character. He cites a Court of Appeal authority for this to be taken into account. Jones & Others R. v [2006] EWCA Crim 2942 (20 September 2006)

Mr Rees went on that all the defendants practice what they preach. All had engaged in the democratic and political process and not just in direct action and that this should further mitigate any sentencing. All the defendants have so many character and glowing personal testimonials by professions and peers and had many social concerns.

As to costs, Mr Rees says that the trial length was greatly reduced by defendants admissions. Hence only requiring one prosecution witness. He thus invites the court to take account of what is reasonable and just.

Some defendants were in receipt of a variety of benefits and disability / incapacity benefits and thus the prosecution asking for £5,000 would thus be unreasonable and unjust. Further, one prosecution work and costs would be common to the next trial to be heard and thus this should also be taken into account.

All three barristers representing the defence then gave individual mitigations for each of their clients.

Returning after lunch the Judge Jonathan Teare makes a brief summary of the facts of the case. He agrees he is thwarted in his wish to make the defendants pay a larger proportion of the costs of the case because of their limited means. Further, with respect to those with previous convictions, he had been minded to give suspended prison sentences. However, after a little discussion, it turns out that as the maximum penalty of three months imprisonment, a £2,500 fine, or both. That this short sentence cannot be suspended.

Thus, dealing with sentencing, five were given community orders [unpaid work] ranging from 18 to 90 hours to be carried out within 12 months.

The remaining thirteen all received conditional discharges ranging from 18 months to 2 years. Most had no order for cost awarded against them. However, two of the defendants had to pay £1000 and £500.

The Judge added as he sentenced them: I have read a great deal about all of you since the trial concluded. There is not one of you who cannot provide glowing references from peers or professionals. And, if I may select, some of the adjectives that recur throughout they are these: honest, sincere, conscientious, intelligent, committed, dedicated and caring. You are all decent men and women with a genuine concern for others, and in particular for the survival of planet Earth in something resembling its present form. I have no doubt that each of you acted with the highest possible motives. And that is an extremely important consideration.

Judge Teare went on and said the protest had been well-considered and well-prepared. You had come from every corner of the country. Transport, food, clothing, climbing and safety equipment had been organised, costing several thousand pounds. Mobile phones, walkie-talkies, gas detectors, hard helmets, sleeping bags and sanitary facilities had all been provided. You had been organised into teams and briefed on your actions.

But while accepting the protest had been intended as a legitimate action by people who genuinely believed in their cause, the Judge said that their motives could not absolve them from punishment.

In concluding, the Judge said that never before had he dealt with so many defendant who were polite, committed and punctual during proceedings.

Two defendants have had sentencing deferred until the 18 January 2011.

So, there you have it!

Over three and a half weeks, all present in the court were informed of the facts by leading experts in the field. I received a three and half week seminar on the subject. Although I knew a thing or two about the issues before my involvement in the trial, I came away knowing far more. Further, my own sense of alarm has been significantly increased. Something must be done!

The problem is that the jury weren't so convinced as I was and didn't accept the defence. They didn't accept the idea of the democratic deficit. They still clearly believed that democratic means are sufficient to bring about the required changes and that the actions of these defendants were thus un-necessary.

There was never any dispute about the scientific facts and opinions presented during the trial. The prosecution didn't take on any of the experts in their evidence. They were thus all agreed. Action is required within a very few years to avert our arrival at the 'tipping points' much referred to. Points beyond which almost anything industries and governments do will no longer have any effect, since the materials causing changes have such a lag before their effects come into being. I can only guess that the jury was as alarmed as I was about some of this evidence, but they still didn't accept the need for urgent 'direct actions' by individuals on these matters. What I would call social responsibly in fact.

The jury are of course, representatives of the public. To make a sufficient difference to these issues, people must be informed and convinced of the need for action in large numbers, and shortly. The jury at the earlier Kingsnorth case were so convinced and acquitted those defendants.

Now, we can all cry about it. It should have been otherwise in this case too. How can I listen to the same evidence as they did and come to completely the opposite conclusions?

Those of us with concerns about all of this should make a better effort at 'sharpening our pencils' and trying to take millions more people with us in the need for more significant changes than we currently see. Direct action has to be an increasing component of this greater picture.

One of the defendants in this trial, Bradley Day, has contributed this article to the Guardian and hope it will help others to see ways ahead. There is so much to do.

The climate movement is in desperate need of renewal –

Bradley Day Guardian 5 January 2011

*If a jury that received extensive education on climate change could not vindicate the Ratcliffe activists, then who will?*

<http://www.guardian.co.uk/environment/cif-green/2011/jan/05/climate-movement-renewal-ratcliffe>

Please also check out an article by Mike Schwarz. He is a partner in the Bindmans law firm and was instructing solicitor in this case.

Why did Ratcliffe defence fail where Kingsnorth Six succeeded? - Mike Schwarz  
Guardian 16 December 2010

*Two separate trials of environmental activists that both targeted coal-fired power stations produced different results. Lawyer Mike Schwarz examines the reasons why.*

<http://www.guardian.co.uk/environment/cif-green/2010/dec/16/ratcliffe-trial>

Another trial of 6 other people arrested during the police operations in April 2009. will be starting on Monday 10th January, 10am at Nottingham Crown Court. As ever, I wish them the very best.

**Will the last one alive on the planet, kindly turn the lights out!**



**Judgement:**

Sentencing Remarks of his Honour Judge Teare







JUDICIARY OF  
ENGLAND AND WALES

IN NOTTINGHAM CROWN COURT

R-V- BARKSHIRE AND OTHERS

SENTENCING REMARKS OF HIS HONOUR JUDGE TEARE

5<sup>TH</sup> JANUARY 2011

In the early hours of Easter Monday, the 13<sup>th</sup> of April 2009, the police arrested 114 people in a school in the suburbs of Nottingham. Of that 114, 20 of you stood trial for three weeks at this court last year charged with conspiracy to commit aggravated trespass. You all accepted that you had committed the offence, but advanced the explanation that you were justified on doing what you did in order to save the health and life of the world's population. The jury rejected that explanation and convicted all of you and I have to sentence the majority of you today.

The target of your plan was Ratcliffe-on-Soar Power Station. It is a coal-fired power station to the south west of Nottingham. It discharges carbon into the atmosphere on a massive scale, in the region of 150,000 tonnes emitted each week. Expert evidence was given that coal is the greatest contributor to climate warming of any fuel. It is, it follows, the greatest producer of carbon of any of the fossil fuels, and that if the burning of fossil fuels continues unchecked then the effect upon climate change will achieve a point where it will be irreversible. Your aim was to close down Ratcliffe-on-Soar Power Station for a week. It is right to emphasise that this would have had no practical effect on the electricity supply because another power station would have made up for the loss of supply to the National Grid, and it would have been, you expected, a much more efficient power station using a less polluting fuel.

The jury rejected your motive behind that aim. There was substantial material before them that closure of the power station would not only stop the emission of carbon into the atmosphere, but also provide a huge publicity stage for your ambitions, and I join with the jury's verdict, having heard the evidence, that this was at least an equal aim of your intention to stop emissions. It is sad to reflect that this very expensive criminal trial has probably more than fulfilled your ambitions for publicity.

Your crime, and I call it that because it has been proved, so that the jury were sure that it was one, was well-considered and well-prepared. You were going to invade Ratcliffe-on-Soar Power Station on Easter Monday, when about 20 employees would be engaged on site. You were going to immobilise the coal conveyors by stopping them via the emergency buttons and then putting them out of action by attaching yourselves to them with steel D-locks or locking arm-tubes which would have taken different cutting materials and many hours of labour to detach. But this was only a temporary measure, to exhaust the immediate reserve supplies of fuel so that your companions could achieve the main aim, which was to scale the exhaust chimney and to encamp there, unfurling publicity banners and addressing the media from an eerie at the top.

To this end there had been considerable preparation. You had come from every corner of the country. Transport, food, clothing, climbing and safety equipment had been organised, costing several thousand pounds. Mobile phones, walkie-talkies, gas detectors, hard helmets, sleeping bags and sanitary facilities had all been provided. You had been organised into teams and briefed on your actions. And legal advice had obviously been obtained in advance. You all knew that this was to be a concerted attack upon a public corporation.

I have read a great deal about all of you since the trial concluded. There is not one of you who cannot provide glowing references from peers or professionals. And if I may select some of the adjectives that recur throughout they are these: honest, sincere, conscientious, intelligent, committed, dedicated, caring. You are all decent men and women with a genuine concern for others, and in particular for the survival of planet Earth in something resembling its present form.



I have absolutely no doubt that each of you acted with the highest possible motives. And that is an extremely important consideration. But I am equally sure that each of you knew that you were at the extreme boundary of legality and were prepared to take the risk that you had crossed it. Those of you who have prior convictions for this sort of behaviour took a very deliberate decision to risk their liberty again. And acting with the highest motives does not absolve you from the penalties of the law.

Other matters that I take into account are as follows:

Firstly, it was your intention that this invasion should be peaceable and safe. Violence was to be avoided, and the safety of the workers at the Power Station was paramount. You were fully equipped to carry out your different roles safely, and at least one of your number was an experienced climber.

Secondly, it was not your intention to cause lasting damage. Any damage would have been incidental and unintended.

Thirdly, the invasion never took place. I regard this as a very minor factor, because the reason is not that you desisted, but rather that you were frustrated by the arrival of the police.

Fourthly, it was intended as a legitimate action by people who genuinely believed in their cause. It may be unique in recent years to try 20 defendants together in one trial, but it is certainly unique when neither judge nor jury need question the veracity and the motivation of any defendant.

Your actions – criminal actions – have cost the country hundreds of thousands of pounds in the police operation and investigation, and the subsequent criminal trial. I said, at the conclusion of that trial, that my main aim was to try and recoup some of that vast public expenditure. Sadly, my wishes are thwarted because nine of your number are either not in work or are living on public benefits, while the majority of the others are on modest incomes. For the small number amongst you who will have to contribute towards the costs of the prosecution, you may take comfort that the sums that I order have been reduced so that there is some feeling of parity between you.

The sentences that I am going to pass may seem to the public to be impossibly lenient. But I am constrained in the sentences that I pass firstly by pointing out that the maximum sentence permitted by law is one of three months imprisonment, and secondly by following the principles set out in the Court of Appeal in the case of Jones and others [2006] EWCA Crim 2942.





## Statement from the Defendants

As the UN climate talks finish in Cancun, and fail once again to come up with any legally binding framework to reduce emissions, the British legal system is still upholding business as usual. This can't continue. Burning coal has no future.

We are twenty of the 114 who were targets of the biggest pre-emptive arrest in UK history, as part of the increasing drive to stifle real action on climate change. We planned not only to stop carbon emissions from Ratcliffe but to be part of a much wider movement for global social justice. Dealing with climate change means looking at its root causes and we need to question why the profits of corporations such as e.on are being prioritised over people on the front line of our changing climate and the protection of our children's futures.

In the 3 weeks we've been on trial over 17,000 people have died from the effects of climate change, species have continued to disappear and a few energy CEOs have continued to line their pockets. It's the poorest and most vulnerable communities, those least responsible for this crisis, who are being hit the hardest.

Taking action on climate change is not an act of moral righteousness, but of self-defence. History is full of ordinary people who have acted to protect their fundamental rights and we need a strong movement of people doing just that. We want to reiterate our support for everyone fighting for climate justice.

We want to thank everyone for the amazing amount of solidarity we have received during this process from within Nottingham and beyond. It has been absolutely inspiring. We are keen to publish more information, but obviously need to wait until sentencing on Friday to do this.

Our supporters have been doing an amazing job in making a blog about us and you can check out our website.

<http://ratcliffeontrial.org>





## **Press release: Activists found guilty in Ratcliffe coal climate trial**

Twenty climate activists who planned to shut down one of Britain's most polluting power stations for a week were found guilty of conspiracy to commit aggravated trespass today.

The activists were among 114 people arrested in a dawn raid on Easter Monday last year in a widely criticised policing operation that saw officers smashing their way into a school in Nottingham. It was the biggest pre-emptive arrest in British history. Twenty of those arrested faced a crown court trial which opened last month and ended today. The activists openly accepted they wanted to force plant owners Eon to safely shut down the power station for a week in an effort to stop 150,000 tonnes of CO<sub>2</sub> entering the atmosphere – but they said they weren't guilty of a crime because they were acting out necessity due to the lack of an adequate response to climate change by corporations and politicians. This comes as the 16th UN Climate Change talks end in Cancun, where once again governments have failed to build a legally binding strategy to cut emissions.

Speaking after the verdict one of the defendants, Clare Whitney, said:

“During this trial we have heard from people on the front line of our changing climate, and from a company that is still burning the most dirty form of fossil fuel for their economic benefit. These worlds are not compatible. Taking action is not an issue of moral righteousness but an act of self-defence. If we're to stand a chance of avoiding irreversible climate change we've got to realise that to bring about a better world we'll need to do it ourselves.”

Defendant Chris Kitchen said

“We are in solidarity with all those around the world fighting for climate and social justice. Together we need to stop the root causes of climate change, we need to stop profit being put before people. It's big business and politicians are that are the real criminals and we will not stand by as we are robbed of our future.”

Dan Glass, another defendant in the case, said:

“This ruling won't stop emissions. But the huge support we have received from the people of Nottingham and internationally, does demonstrate that public opinion is increasingly turning against the liberties that governments are taking with our future.”

The court had earlier heard that a team of protesters would have pressed the emergency stop buttons on the coal conveyors which feed the boilers, while another team would have climbed the inside of the chimney before abseiling into the flues to prevent the plant re-opening for a week, saving 150,000 tonnes of CO<sub>2</sub>. Six defendants took to the witness stand. One, Ben Stewart, told the jury: “we did this to save human lives. I can't tell you if the lives we would have saved would have been my relatives or your relatives, but they would have been somebody's relatives.” All defendants spoke of huge amount of community

engagement they have carried out to raise the issue of action on climate change, whilst still seeing emissions continuing to rise unabated.

The defendants also called a number of internationally renowned expert witnesses. They included Professor James Hansen, acclaimed as the world's leading climate scientist. He told the jury: "It doesn't surprise me that young people are angry when they know that politicians are lying to them." When challenged by the judge as to the measurable effects of the defendants' proposed action, Hansen noted that the action could have prevented one, if not more, species from becoming extinct. Dr Ian Roberts, Professor of Epidemiology at the London School of Hygiene and Medicine detailed to the court the real and imminent threat to health posed by climate change, saying we risk a 'generational genocide' as we 'sleep walk into a nightmare'. Dr Roberts told the court that at least 150,000 people a year were dying as a result of man-made climate change.

Former local MP Alan Simpson also appeared as a witness for the defence. In his written testimony he said: 'Climate Change protestors are in my view absolutely right to argue that we cannot continue with a 'business as usual' approach to UK carbon emissions without threatening the very prospects of existence for future generations.' Green Party leader Caroline Lucas MP told the court politicians had failed in their duty to protect the public from climate change.

Ends

For more, contact 07834324840

Notes:

1. The conspiracy to shut down Ratcliffe-on-Soar power station in April 2009 is different from the Great Climate Swoop of October 2009 (<http://climatecamp.org.uk/actions/climate-swoop-2009> )



## **Final Statement from the Defendants: Post Sentencing**

We are twenty of the 114 who were part of the biggest pre-emptive arrest in British history as part of the increasing legal drive which prioritises the protection of polluting business, and not people. As the UN Climate talks in Cancun produced embarrassingly inadequate legal responses, it's time for people to stand up and take action. We planned not only to stop carbon emissions from Ratcliffe but to be part of a much wider movement for global social justice.

We know the road to a sustainable future will not be easy. Today it's hard to ignore the impacts of runaway climate change. Post sentencing we still feel our actions are a reasonable response to the irrational destructive situation we are in. It's a story which has been repeated time and again but in 2011 the show must go on. We will have to see huge shifts in the legal system to make the British judicial system set a global example – by redirecting their attention to the real criminals, the profit hungry fossil fuel industries. Dealing with climate change means looking at its root causes and we need to question why the profits of corporations such as e.on are being prioritised over people on the front line of our changing climate and the protection of our children's futures.

This scheme requires long term commitment and increasingly staunch political will – through creative direct action and other methods people can change the story of humans future. This is not an exercise in abstract science lessons - it requires us to stare hard into our communities and start joining up the dots. It's the same energy companies that cling to coal who force pensioners into deadly fuel poverty. It's the same government who fails to invest in green jobs that cut the UK flood defence budget. There are many avenues for making the links and connections and we are ever more determined to do all we can to stop emissions. As erratic weather patterns create more disasters, as people continue to choke on fumes and see their houses engulfed in floods – taking action on climate change is no longer an option – it's a necessity. We want to reiterate our support for everyone everywhere fighting for climate justice.



## **The Actors:**

Judge Jonathan Teare

<http://www.judiciary.gov.uk/about-the-judiciary/judges-magistrates-and-tribunal-judges/list-of-members-of-the-judiciary/circuit-judge-list>

### Defence team

Edward Rees QC

[http://www.doughtystreet.co.uk/barristers/edward\\_rees\\_qc.cfm](http://www.doughtystreet.co.uk/barristers/edward_rees_qc.cfm)

Sarah Elliott

[http://www.doughtystreet.co.uk/barristers/sarah\\_elliott.cfm](http://www.doughtystreet.co.uk/barristers/sarah_elliott.cfm)

Benjamin Newton

[http://www.doughtystreet.co.uk/barristers/benjamin\\_newton.cfm](http://www.doughtystreet.co.uk/barristers/benjamin_newton.cfm)

Mike Schwarz, Solicitor and Partner, Bindmans

<http://www.bindmans.com/index.php?id=mikeschwarz>

### Prosecution

Miss Felicity Gerry

[http://www.36bedfordrow.co.uk/new\\_CV.php?member\\_id=121](http://www.36bedfordrow.co.uk/new_CV.php?member_id=121)

Ian Cunningham,  
Crown Advocate  
East Midlands Complex Casework Unit  
Crown Prosecution Service  
2 King Edward Court  
Nottingham. NG1 1EL  
<http://www.cps.gov.uk>

## **The Expert Witnesses:**

Dr. James E. Hansen, Head of National Aeronautics and Space Administration  
NASA's Goddard Institute <http://www.giss.nasa.gov/staff/jhansen.html>

Alan Simpson [former MP, Nottingham South] <http://www.alansimpson.org>

Caroline Lucas MP, Leader of the Green Party <http://www.carolinelucas.com>

Dr Ian Roberts, London School of Hygiene and Tropical Medicine  
<http://www.lshtm.ac.uk/prospectus/profiles/roberts.html>

Dr. Geoff Meaden Canterbury Christ Church University, Kent  
<http://kentgreenparty.org/geoffmeaden.php>

## Statements of Support

"A system that prosecutes the eco-whistleblowers for drawing attention to the ecocide that is taking place is a system that is protecting the interests of those who are destroying the planet, not those who are speaking up on behalf of both humanity and nature. Until we recognise that damage and destruction of our world is a crime, the scales of justice remain imbalanced and out of kilter with received wisdom and fact that coal fire stations are a major contributor to climate change.

The Philippines have recently brought in new Environmental Rules of Procedure to protect their eco-whistleblowers, including their right to raise the valid defence of protecting nature, without cost implications. Instead of prosecuting activists, the courts can issue Environmental Protection Orders to prevent the continuance of the corporate destruction of our planet. All countries should be doing the same.

Without ecocide being recognised as a crime, we cannot effectively police those who are destroying the planet. I for one will work tirelessly until such a law is in place so that brave people such as these 114 climate campaigners will have the support of the judiciary and the police in preventing the corporate ecocide, not the other way round."

Polly Higgins

Barrister, international environmental lawyer, author of *Eradicating Ecocide: Laws and Governance to Prevent the Destruction of our Planet* and proposer of the crime of Ecocide to be made an international Crime Against Peace

\*\*\*\*\*

"Last year, the case for new coal-fired power stations in the UK crumbled, with the announcement that the first planned coal plant by Eon at Kingsnorth would be kicked into the long grass. This victory belonged to the grassroots direct action movement as well as the more traditional collection of NGOs that lined up against the biggest threat to our climate. Just as the Greenpeace action at Kingsnorth, for which 6 of our activists were acquitted on charges of criminal damage, came out of a deep frustration with political failure to act on climate change; the Ratcliffe 20 felt moved to take action themselves to stop emissions from the UK's second largest coal fired power station. The right to protest and to dissent is the lifeblood of any democracy and the UK has a long and proud history of this. The challenge of tackling climate change is too important for us to be silenced."

John Sauven,  
Executive Director of Greenpeace UK

\*\*\*\*\*

"Climate Camp Aotearoa sends a message of solidarity across the globe to the 20 climate justice activists found guilty of conspiracy to commit aggravated trespass in the UK. The activists were among 114 people arrested in a dawn raid on Easter Monday last year against activists who planned not only to stop carbon emissions from the Ratcliffe coal power station but to be part of a much wider movement for global social justice."

Aotearoa Indymedia

<http://www.indymedia.org.nz/article/79235/solidarity-south-pacific-uk-climate-just>

\*\*\*\*\*



"I totally support the activists on trial. We live in a perverse society: a society which condones the systematic damage and destruction of the environment. You have to stand trial for crimes against the Crown, whilst others who are responsible for this systematic destruction line their pockets and walk free. This is not just the age of stupid, it's the age of collective insanity."

Melanie Strickland  
solicitor

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Indeed, we are delighted to be able to express our solidarity to the brave 20 climate change activists at a moment when their sentencing has been postponed.

There is no doubt that climate change is one of the most important concerns to the majority of the population in the world today. People in the south have already begun to suffer from the climate change whilst the north is on its way to feel the effects. Both coal-fired power plants and the hazardous new nuclear plants are responsible for CO2 emissions. Due to increasing coal-fired power stations and nuclear plants the globe has warmed up to such an extent that the centre of business US declares, 'no need to build new US coal and nuclear plant'; the US President himself recognizes the needs for immediate tackling of the climate (Energy and Environment Publishing, 22 April, 2009). As inhabitants of the global south and the worst victims of the climate change, we support the idea of shutting down the third largest coal-fired power plant in UK. A non-violent action by conscious citizens of the country to safeguard environment must be supported and appreciated as timely and most appropriate decision. We believe that if the government of a modern state regretfully failed to make appropriate and necessary decision on climate allowing carbon emissions, it is the duty of the conscious citizens of the country to take necessary step before it is too late.

Hence, we would like to express our full solidarity to the brave climate defenders who could stand up and save the climate of the planet. We will be there to lend support to the brave defenders as/when needed.

Bangladesh National Committee to Protect Oil, Gas, Power, Port and Mineral Resources  
<http://www.sacw.net/article1116.html>

\*\*\*\*\*

"Veggies Catering Campaign is honoured to be able to give practical support during what may well be a historic and groundbreaking trial.

The time is fast approaching when those trashing the climate and causing real and escalating harm to people, other animals and the environment will be held legally as well as morally accountable for their actions. This trial will bring that day one step closer."

Veggies

## Links:

Section 1(1) of the Criminal Law Act 1977. <http://www.legislation.gov.uk/ukpga/1977/45/part/I>

Notes from the previous trial held at Nottingham Magistrates Court from 14 – 16th January 2008 : Ratcliffe Power Station : Court Case Reporting [additionally, this post contains some collected links to past coverage of the issues surrounding the Ratcliffe Power Station and concern about its operations] .PDF 13.5Mb <http://notts.indymedia.org.uk/zines/670>

2009 Nottingham Mass Arrest of 114 Climate Activists in Raid in Nottingham

<http://indymedia.org.uk/en/2009/04/427471.html>

<http://indymedia.org.uk/en/2009/04/427496.html>

2010 Nottingham Ratcliffe Conspiracy Trial Begins [Feature] <http://notts.indymedia.org.uk/articles/701>

2010 Nottingham Ratcliffe conspiracy to trespass trial opens today

<http://notts.indymedia.org.uk/articles/693>

2010 Nottingham Ratcliffe Trial Day 2 - Prosecution's Opening

<http://notts.indymedia.org.uk/articles/702>

2010 Nottingham Ratcliffe Trial Day 3 - Prosecution case continues

<http://notts.indymedia.org.uk/articles/710>

2010 Nottingham Ratcliffe Trial: Prosecution Opens [Feature 2]

<http://notts.indymedia.org.uk/articles/714>

2010 Nottingham Ratcliffe Trial Day 4 - Prosecution case concludes

<http://notts.indymedia.org.uk/articles/716>

2010 Nottingham Ratcliffe Trial Day 5 – Defence case opens

<http://notts.indymedia.org.uk/articles/735>

2010 Nottingham Ratcliffe Trial Day 6 – The Defence Continues

<http://notts.indymedia.org.uk/articles/744>

2010 Nottingham Ratcliffe Trial Day 7 - 'Snowed off'

2010 Nottingham Ratcliffe Trial Day 8 – Defence Calls MP's

<http://notts.indymedia.org.uk/articles/765>

2010 Nottingham Ratcliffe Trial Day 9 – Defence Calls More Experts

<http://notts.indymedia.org.uk/articles/786>

2010 Nottingham Ratcliffe Trial Day 10 – Defence Calls more Defendants

<http://notts.indymedia.org.uk/articles/788>

2010 Nottingham Ratcliffe Trial Day 11 - Defence Concludes its Case

<http://notts.indymedia.org.uk/articles/789>

2010 Nottingham Ratcliffe Trial Day 12 – Concluding Speeches

<http://notts.indymedia.org.uk/articles/796>

2010 Nottingham Ratcliffe Trial Day 13 – Final bits & Jury Retires

<http://notts.indymedia.org.uk/articles/799>

2010 Nottingham Ratcliffe Trial Day 14 – Jury Still Retired

<http://notts.indymedia.org.uk/articles/809>

2010 Nottingham Ratcliffe Trial Day 15 – Jury says Guilty

<http://notts.indymedia.org.uk/articles/811>

2010 Nottingham Statement from the defendants

<http://notts.indymedia.org.uk/articles/812>

2010 Nottingham Press release: Climate Activists found guilty

<http://notts.indymedia.org.uk/articles/813>

2010 Nottingham Guilty verdict in Ratcliffe trial [Feature]

<http://notts.indymedia.org.uk/articles/814>

2010 Nottingham Activist Speech On The Ratcliffe Trials

<http://notts.indymedia.org.uk/videos/798>

2011 Nottingham Ratcliffe Trial Day 16 – Return for Sentencing

<http://notts.indymedia.org.uk/articles/847>

2011 Nottingham Final statement from the Ratcliffe defendants

<http://notts.indymedia.org.uk/articles/848>

Ratcliffe on Trial Blog

<http://ratcliffeontrial.org/blog>

Ratcliffe-On-Trial – Twitter

<http://twitter.com/ratcliffetrial>

Ratcliffe-On-Trial - Facebook

<http://www.facebook.com/pages/Ratcliffe-On-Trial/109572312438910>

<http://www.facebook.com/pages/Ratcliffe-On-Trial/109572312438910>

Activist Speech on the Ratcliffe Trial

<http://notts.indymedia.org.uk/videos/798>

Contact: [info@ratcliffeontrial.org](mailto:info@ratcliffeontrial.org)

## *Related Links – Mentioned in evidence etc*

IPCC Report: Millions At Risk Of Hunger And Water Stress In Asia Unless Global Greenhouse Emissions Cut  
<http://www.sciencedaily.com/releases/2007/04/070410134724.htm>

James Hansen - National Aeronautics and Space Administration NASA  
Goddard Institute for Space Studies  
[http://pubs.giss.nasa.gov/abstracts/2007/Hansen\\_etal\\_2.html](http://pubs.giss.nasa.gov/abstracts/2007/Hansen_etal_2.html)

Mark Lynas - Six Degrees: Our Future on a Hotter Planet <http://www.marklynas.org/books>

Dr. James E. Hansen : Storms of My Grandchildren:  
The Truth About the Coming Climate Catastrophe and Our Last Chance to Save Humanity.  
ISBN-13: 978-1608192007

Dr. James E. Hansen, Head of National Aeronautics and Space Administration  
NASA's Goddard Institute <http://www.giss.nasa.gov/staff/jhansen.html>

Dr James E. Hansen CV <http://www.columbia.edu/~jeh1>

United Nations Framework Convention on Climate Change <http://unfccc.int>

Stern Review on the Economics of Climate Change [http://www.hm-treasury.gov.uk/sternreview\\_index.htm](http://www.hm-treasury.gov.uk/sternreview_index.htm)

Climate change protesters' anger was justifiable, says Nasa scientist  
Tim Webb Guardian 29 November 2010  
<http://www.guardian.co.uk/environment/2010/nov/29/climate-change-activists-trespass-charges>

United Nations Framework Convention on Climate Change <http://unfccc.int>

UK Parliament Environmental Audit Committee  
<http://www.parliament.uk/business/committees/committees-archive/environmental-audit-committee/eacom>

Committee on Climate Change advises UK to cut emissions 60% by 2030 –  
Guardian 7 December 2010  
<http://www.guardian.co.uk/environment/2010/dec/07/committee-on-climate-change-targets-uk>

WikiLeaks cables reveal how US manipulated climate accord - Guardian 7 December 2010  
<http://www.guardian.co.uk/environment/2010/dec/03/wikileaks-us-manipulated-climate-accord>

WikiLeaks cables: CIA drew up UN spying wishlist for diplomats - Guardian 2 December 2010  
<http://www.guardian.co.uk/world/2010/dec/02/wikileaks-cables-cia-united-nations>

'Heat; How to stop the Planet Burning' – George Monbiot 2006, Penguin Press  
<http://www.monbiot.com/archives/2006/11/07/heat>  
<http://www.turnuptheheat.org>

'Broken Promises: why the nuclear industry wont deliver'. Corporate Watch 2007  
<http://www.corporatewatch.org.uk/?lid=2968>

Nottinghamshire County Council: Green Issues <http://www.nottinghamshire.gov.uk/greenissues>

Nottinghamshire County Council: Climate change  
<http://www.nottinghamshire.gov.uk/home/environment/greenissues/climatechange.htm>

Climate Change in Nottinghamshire [PDF] <http://www.nottinghamshire.gov.uk/climate-framework.pdf>

Environment Agency Boscastle Flood Findings  
<http://www.boscastlecornwall.org.uk/Regenminutes/regenfindings.htm>

Tuvalu Islands <http://www.tuvaluislands.com>

Tuvalu and Global Warming <http://www.tuvaluislands.com/warming.htm>

Tamil Nadu : Global warming, climate change pose threat to coral reefs in Gulf of Mannar  
<http://www.thehindu.com/news/states/tamil-nadu/article419957.ece>

Green Party <http://www.greenparty.org.uk>

Friends of the Earth <http://www.foe.co.uk>

Friends of the Earth Press release: Weak outcome to UN climate talks 10 December 2010  
[http://www.foe.co.uk/resource/press\\_releases/cancun\\_agreement\\_reaction\\_11122010.html](http://www.foe.co.uk/resource/press_releases/cancun_agreement_reaction_11122010.html)

From Cancún to Copenhagen: A year in climate change : As delegates from around the world descend on Cancún, Mexico, we reflect on 12 months of climate talks  
[http://www.guardian.co.uk/environment/gallery/2010/nov/29/cancun-climate-change-talks-copenhagen?CMP=twf\\_fd](http://www.guardian.co.uk/environment/gallery/2010/nov/29/cancun-climate-change-talks-copenhagen?CMP=twf_fd)

Cancún climate change conference: Russia will not renew Kyoto protocol – Guardian 10 December 2010  
<http://www.guardian.co.uk/environment/2010/dec/10/cancun-climate-change-conference-kyoto>

Cancún, Mexico climate Summit 29 November - 10 December 2010  
COP16 is a two-week UN summit where delegates will continue to work towards an international climate deal - Guardian  
<http://www.guardian.co.uk/environment/cancun-climate-change-conference-2010>

Cancun talks: Friends of the Earth analysis 10 December 2010  
[http://www.foe.co.uk/news/cancun\\_final\\_analysis\\_26431.html](http://www.foe.co.uk/news/cancun_final_analysis_26431.html)

Cancún Climate Summit: Yet another opportunity lost - Any significance of the decisions taken vanishes when matched against the scale of things to come. Editorial Guardian 13 Dec 2010  
<http://www.guardian.co.uk/commentisfree/2010/dec/13/cancun-climate-summit-leader-editorial>

Ratcliffe activists found guilty of coal station plot - Guardian 14 December 2010  
<http://www.guardian.co.uk/environment/2010/dec/14/ratcliffe-coal-station-activists>

Ratcliffe coal trial: James Hansen gives court a crash course in climate change - Guardian 14 Dec 2010  
<http://www.guardian.co.uk/environment/2010/dec/14/ratcliffe-coal-james-hansen-evidence>

Rainforest Action Network - Judging Our Right To Protest Coal  
<http://understory.ran.org/2010/12/13/judging-our-right-to-protest-coal>

Power station protesters found guilty - Nottingham Post 14 December 2010  
<http://www.thisisnottingham.co.uk/news/Power-station-protesters-guilty/article-3002947-detail/article.html>

Why did Ratcliffe defence fail where Kingsnorth Six succeeded? - Mike Schwarz Guardian 16 December 2010  
Two separate trials of environmental activists that both targeted coal-fired power stations produced different results. Lawyer Mike Schwarz examines the reasons why.  
<http://www.guardian.co.uk/environment/cif-green/2010/dec/16/ratcliffe-trial>

Mike Schwarz is a partner in the Bindmans law firm and co-author of The Law of Public Order and Protest  
<http://www.oup.com/us/catalog/general/subject/Law/CriminalLawandProcedure/?view=usa&ci=9780199566143>

Cleared: Jury decides that threat of global warming justifies breaking the law [Kingsnorth case]  
Michael McCarthy, Environment Editor Independent Thursday, 11 September 2008  
<http://www.independent.co.uk/environment/climate-change/cleared-jury-decides-that-threat-of-global-warming-justifies-breaking-the-law-925561.html>

Climate activism: is the trial more important than the protest? - Ecologist 25th August 2010  
[http://www.theecologist.org/News/news\\_analysis/572294/climate\\_activism\\_is\\_the\\_trial\\_more\\_important\\_than\\_the\\_protest.html](http://www.theecologist.org/News/news_analysis/572294/climate_activism_is_the_trial_more_important_than_the_protest.html)

That snow outside is what global warming looks like - George Monbiot Guardian 20 December 2010  
<http://www.guardian.co.uk/commentisfree/2010/dec/20/uk-snow-global-warming>

The climate change wake-up call. End of year review Guardian 30 December 2010  
<http://www.guardian.co.uk/global-development/poverty-matters/2010/dec/30/climate-change-cancun-optimism>

Ratcliffe coal protesters spared jail sentences - Paul Lewis & Nidhi Prakash Guardian 5 January 2011  
<http://www.guardian.co.uk/environment/2011/jan/05/ratcliffe-coal-protesters-sentence>

The climate movement is in desperate need of renewal - Bradley Day Guardian 5 January 2011  
If a jury that received extensive education on climate change could not vindicate the Ratcliffe activists, then who will?  
<http://www.guardian.co.uk/environment/cif-green/2011/jan/05/climate-movement-renewal-ratcliffe>

Why we need a law on ecocide - Polly Higgins Guardian 5 January 2011  
Until we have a law to prosecute those who destroy the planet, corporations will never be called to account for their crimes  
<http://www.guardian.co.uk/environment/cif-green/2011/jan/05/ecocide-law-ratcliffe>

Polly Higgins: barrister, international environmental lawyer and author of Eradicating Ecocide: Laws and Governance to Prevent the Destruction of our Planet, published by Shepherd-Walwyn.  
<http://www.thissecocide.com/general/eradicating-ecocide-the-book>

Climate change protesters are sentenced - Nottingham Post 5 January 2011  
<http://www.thisisnottingham.co.uk/education/Climate-change-protesters-sentenced/article-3068314-detail/article.html>

Ratcliffe power station protest trial costs add up to £700k - Nottingham Post 6 January 2011  
<http://www.thisisnottingham.co.uk/courts/Climate-change-trial-costs-add-163-700k/article-3070719-detail/article.html>

Climate change: A Summary of the Science - The Royal Society  
<http://royalsociety.org/climate-change-summary-of-science>

BBC Radio 4 : Costing the Earth - Can Lawyers Save The World?  
<http://www.bbc.co.uk/programmes/b00v72r3>

26 charged with conspiracy to commit aggravated trespass: NETCU – National Extremism Tactical Coordination Unit  
<http://www.netcu.org.uk/media/article.jsp?id=531&chkx=08301292f62059fd2758740b6fc5e89e>

Nottinghamshire Police <http://www.nottinghamshire.police.uk>

#### **Ratcliffe Power Station : 10th April 2007**

Trial held at Nottingham Magistrates Court from 14 – 16th January 2008  
11 defendants go on trial charged with 'aggravated trespass' an offence under section 69 of the Criminal Justice and Public Order Act 1994. In that they trespassed and then disrupted people engaged in a lawful activity. Judgement delivered on 25th February 2008  
<http://notts.indymedia.org.uk/zines/670>

## **Ratcliffe Power Station 'Past' Links**

Nottingham Spring into Action :: Ratcliffe-on-Soar Power Station

<http://indymedia.org.uk/en/2007/04/367714.html>

<http://indymedia.org.uk/en/2007/04/367736.html>

<http://indymedia.org.uk/en/2007/04/367757.html>

Did Climate Change Cause Floods around Nottinghamshire?

<http://indymedia.org.uk/en/2007/06/374448.html>

'Clean' Coal On Trial [Feature]

<http://indymedia.org.uk/en/regions/nottinghamshire/2008/01/389386.html>

Ratcliffe Power Station Court Case : Nottingham Magistrates [day 1-3]

<http://indymedia.org.uk/en/2008/01/389467.html>

<http://indymedia.org.uk/en/2008/01/389535.html>

<http://indymedia.org.uk/en/2008/01/389654.html>

Ratcliffe Power station Climate Action, The Verdict

<http://indymedia.org.uk/en/2008/02/392323.html>

Ratcliffe Power station Climate Action, The Judgement

<http://indymedia.org.uk/en/2008/03/392833.html>

Fossil Fools Blockade E.On Offices in Nottingham

<http://indymedia.org.uk/en/2008/04/395382.html>

<http://indymedia.org.uk/en/2008/04/395403.html>

Fossil Fools Blockade E.On Offices Surveillance and Specialist Equipment

<http://indymedia.org.uk/en/2008/04/395429.html>

Police Searches Houses After Arrests At E.On Blockade

<http://indymedia.org.uk/en/2008/04/395366.html>

Fossil Fools Take On E.ON In Nottingham [Feature]

<http://indymedia.org.uk/en/2008/04/395424.html>

Nottingham's part of 48 hours of nationwide action against E.ON

<http://indymedia.org.uk/en/2008/11/413951.html>

Ratcliffe-on-Soar Power Station Still Steams Ahead

<http://indymedia.org.uk/en/2008/12/414383.html>

E-on Nottingham 'Fossil Fools' protest: prosecution offers no evidence

<http://indymedia.org.uk/en/2009/01/418610.html>

No case to answer after Notts E-on protest

<http://indymedia.org.uk/en/2009/01/419126.html>

Mass Arrest of 114 Climate Activists in Raid in Nottingham

<http://indymedia.org.uk/en/2009/04/427471.html>

<http://indymedia.org.uk/en/2009/04/427496.html>

Ratcliffe Power Station 'Climate Swoop'

<http://indymedia.org.uk/en/2009/11/441748.html>

<http://indymedia.org.uk/en/2009/11/441774.html>

<http://indymedia.org.uk/en/2009/11/441800.html>

Ratcliffe Power Station 'Swoop' [on Flickr]

<http://www.flickr.com/photos/tash/sets/72157622705168956>



## Expert Evidence Submissions

Dr. James E. Hansen  
Head of National Aeronautics and Space Administration Goddard Institute

Alan Simpson [former MP, Nottingham South]

Dr Ian Roberts London School of Hygiene and Tropical Medicine

Dr. Geoff Meaden Canterbury Christ Church University, Kent



**Dr. James E. Hansen NASA**  
Head of National Aeronautics and Space Administration Goddard Institute

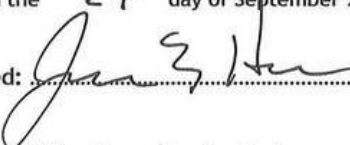
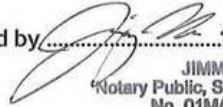


STATEMENT OF WITNESS (C.J.Act,1967, S.9;M.C. Act, 1980, S.102; M.C. Rules, 1981, r.70)

STATEMENT OF : James E Hansen  
AGE OF WITNESS (D.O.B) : Over 21  
OCCUPATION OF WITNESS : Director of the NASA Goddard Institute for Space Studies  
ADDRESS :  
  
TELEPHONE :

This statement, consisting of 21 page(s) each signed by me, is true to the best of my knowledge and belief and I make it knowing that, if it is tendered in evidence, I shall be liable to prosecution if I have wilfully stated in it anything which I know to be false or do not believe to be true.

Dated the 24<sup>th</sup> day of September 2010

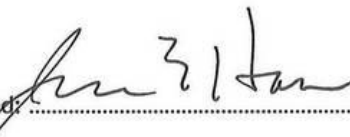

Signed:  Signature witnessed by  9/24/10

1. Identification, Credentials

JIMMY MA  
Notary Public, State of New York  
No. 01MA6116017  
Qualified in New York County  
Commission Expires Sept. 20, 2012

I am a United States citizen, director of the NASA Goddard Institute for Space Studies and Adjunct Professor at the Columbia University Earth Institute. I am a member of the United States National Academy of Sciences, have testified before our Senate and House of Representatives on many occasions, have advised our Vice President and Cabinet members on climate change and its relation to energy requirements, and have received numerous awards including the World Wildlife Fund's Duke of Edinburgh Conservation Medal from Prince Philip. I write now, however, as a private citizen, a resident of Kintnersville, Pennsylvania, USA.

My full curriculum vitae is available at [www.columbia.edu/~jeh1](http://www.columbia.edu/~jeh1)

Signed:  Signature witnessed by  9/24/10

JIMMY MA  
Notary Public, State of New York  
No. 01MA6116017  
Qualified in New York County  
Commission Expires Sept. 20, 2012

## 2. Mechanisms of Climate Change

***Dynamics of Weather and Climate: Organized Chaos.*** Public understanding and recognition of climate change is hindered by the great magnitude of day-to-day weather variability and year-to-year variability of the average weather. Such variability is an inherent property of our atmosphere and ocean. The atmosphere and ocean are fluids in continuous motion, driven by incoming energy from the sun and influenced by the rotation of the Earth and other factors. The fluid motions can be described as organized but chaotic - the fluids are continuously sloshing about. The chaotic component of the motion makes it impossible to predict the temperature in a specific place on a specific day next year or even next month - that depends mainly on what direction the winds will be blowing then, the cloud cover, etc.

On the other hand, if we were to move the Earth closer to the sun, or simply increase the brightness of the sun, we can say with confidence that the Earth would become warmer. It takes time for the Earth to respond to increased sunlight. The climate system has great inertia, mainly due to the ocean, which averages about four kilometers in depth, and thus can absorb a lot of heat. However, we can estimate how long it takes for the climate to respond, and we have tested our understanding of such basic phenomena in many ways. The claim that "we cannot predict next month's weather in London, so how in the world can we predict the effect of human-made greenhouse gases in 50 years!" is a nonsensical statement, failing to recognize the difference between chaotic weather fluctuations and the deterministic response of the Earth to a large change in the planet's energy balance.

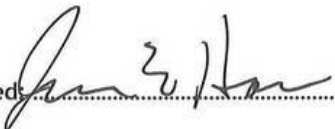
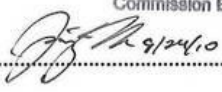
***Climate Forcings and Feedbacks.*** A climate forcing is an imposed perturbation of the planet's energy balance, which tends to alter the planet's temperature. Thus a change of solar irradiance is a climate forcing. An imposed change in the amount of long-lived atmospheric greenhouse gases (GHGs), such as carbon dioxide (CO<sub>2</sub>), is also a climate forcing.

GHGs absorb infrared (heat) radiation. Adding GHGs to the air makes the atmosphere more opaque at infrared wavelengths where the Earth emits heat radiation. Increased infrared opacity causes emission to space to come from a higher, cooler level in the atmosphere. Thus if GHGs are increased the planet temporarily absorbs more energy from the sun than it radiates as heat. This energy imbalance causes the planet to warm up until energy balance is restored.

Warming begins promptly, but it takes a few decades for the ocean surface temperature to achieve just half of its ultimate ('equilibrium') response, and a few centuries for full response. In the meantime, as the ocean warms, ice sheets begin to melt, becoming darker and smaller, thus further increasing the magnitude of the warming and the time needed to reach full response.

This amplifying feedback, well-studied based on the Earth's history, is discussed further below.

JIMMY MA  
Notary Public, State of New York  
No. 01MA6116017  
Qualified in New York County  
Commission Expires Sept. 20, 2012

Signed  Signature witnessed by  9/24/10



Climate forcings are measured in Watts per square meter ( $\text{W/m}^2$ ) averaged over the Earth. If the amount of  $\text{CO}_2$  in the air were doubled it would reduce infrared emission to space by  $4 \text{ W/m}^2$ . Thus doubled  $\text{CO}_2$  is a forcing of  $4 \text{ W/m}^2$ . The Earth absorbs  $\sim 240 \text{ W/m}^2$  of energy from the sun, so doubled  $\text{CO}_2$  is equivalent to increase of solar irradiance by almost 2 percent<sup>1</sup>.

Climate feedbacks are changes of the planet's energy balance that occur in response to climate change. The feedbacks can either amplify or diminish the initial climate change. The most powerful feedback is provided by water vapor. The atmosphere holds more water vapor as air becomes warmer, as is readily noticed by comparing summer and winter. Thus water vapor causes a 'positive' or amplifying feedback.

The principal long-lived GHGs,  $\text{CO}_2$  and  $\text{CH}_4$  (methane), can act as both climate forcings and climate feedbacks. When humans put  $\text{CO}_2$  into the air by burning fossil fuels (coal, oil and gas), that is considered a forcing, because it is an imposed change that tends to alter the planet's radiation balance and temperature. However, climate change itself further alters the amount of  $\text{CO}_2$  in the air. For example, as the ocean becomes warmer, it releases  $\text{CO}_2$  to the air, in part in the same way as the fizz escapes from a warm PepsiCola. Also as the planet warms  $\text{CH}_4$  is released by methane hydrates ('frozen methane') in melting permafrost. Both  $\text{CO}_2$  and  $\text{CH}_4$  provide positive (amplifying) feedbacks for climate change on century time scales.

Observed increases of  $\text{CO}_2$  and  $\text{CH}_4$  in the air during the past century are primarily a direct consequence of human emissions, but they include smaller feedback contributions. Indeed, one reason to minimize additional global warming is the likelihood that large warming would instigate greater amplifying feedbacks from the extensive deposits of methane hydrates in tundra and on continental shelves.

The fact that GHGs act as both climate forcings, which lead climate change, and climate feedbacks, which lag climate change, has been used by 'contrarians' to sow confusion about global warming. In reality, the leads and lags of GHGs and temperature have occurred just as expected. Indeed, empirical information on GHGs and climate change during Earth's history provides powerful confirmation of our understanding of climate change as well as quantitative evaluation of the level of GHGs that will constitute dangerous interference with nature.

***Natural Climate Changes over Millions of Years.*** A reasonable person, but one not fully cognizant of current knowledge about climate, might ask "Why should we bother to wrestle with human-made climate change? There have been huge climate

<sup>1</sup> Quantitative evaluation indicates that  $\text{CO}_2$  change is (of order at least 10%) more efficacious (in changing planetary surface temperature) than the same amount (in  $\text{W/m}^2$ ) of solar irradiance forcing. Variations in the 'efficacy' of different forcings are expected ([http://pubs.giss.nasa.gov/docs/2005/2005\\_Hansen\\_etal\\_2.pdf](http://pubs.giss.nasa.gov/docs/2005/2005_Hansen_etal_2.pdf)). Solar forcing is less efficacious than  $\text{CO}_2$  forcing because: (1) the  $\text{CO}_2$  forcing is almost uniform in latitude, while a change of solar irradiance is greatest at low latitudes - forcings at high latitudes achieve a greater response mainly because of the surface albedo feedback, (2) part of the anomaly in solar radiation is absorbed in the stratosphere, changing the temperature at that level but having little effect on surface temperature.

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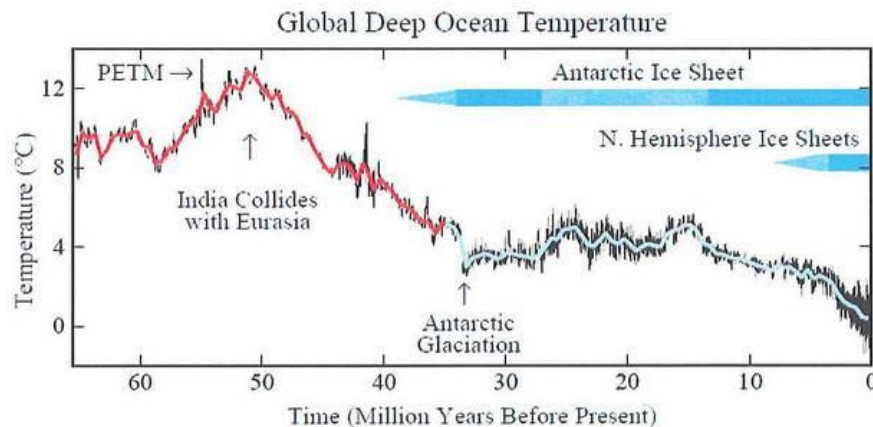
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changes during Earth's history. It is arrogant to think that humans can control climate or that we know enough to say that today's climate is the best one for the planet."

Indeed, Earth has experienced enormous climate variations. The history of how climate responded to changes of planetary boundary conditions provides an invaluable perspective for assessing the role of humans in shaping the planet's destiny. Extraction of information and insight into how climate works requires that we examine glacial-to-interglacial oscillations of recent millennia, but also the larger slower climate changes that occur over millions of years.

The past 65 million years, the Cenozoic Era, provides an example of the large changes over millions of years. Figure 1 shows the global deep ocean temperature through this entire era.



**Fig.1. Global deep ocean temperature, from Hansen et al. (<http://arxiv.org/abs/0804.1126>). Temperature is derived from the isotopic composition of the shells of microscopic animals that lived in the deep ocean. Blue bars show the times at which ice sheets were present in each hemisphere, dark blue being the times at which the ice sheets were as large as at present or larger<sup>2</sup>.**

The Earth was much warmer than today in the early Cenozoic. In fact it was so warm that there were no ice sheets on the planet and sea level was about 75 meters higher.

The large climate changes during the Cenozoic Era are especially germane, because tectonically driven changes of atmospheric CO<sub>2</sub> were clearly the dominant global climate forcing for much of that era. Competing climate forcings included the

<sup>2</sup> The temperature curve is based on the average from many ocean sediment cores around the global ocean. For the most recent 34 My, after Antarctica became glaciated, the approximation is made that ocean temperature and ice volume contributed equally to change of isotopic composition.

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brightness of the sun and the location of the continents, which can change substantially on such long time scales.

Solar luminosity is increasing on long time scales. Our sun is a well-behaved 'main-sequence' star, i.e., it is still 'burning' hydrogen, converting it to helium via nuclear fusion in the solar core. The sun's brightness is increasing at a rate such that solar luminosity today is ~0.4% greater than in the early Cenozoic. Because Earth absorbs ~240 W/m<sup>2</sup> of solar energy, climate forcing due to increased solar irradiance today is about +1 W/m<sup>2</sup> relative to the early Cenozoic.

The lower boundary of the Earth's atmosphere, the area and location of land areas, also changes on long time scales. The size and location of the continents is a climate forcing, because the 'albedo' (literally the 'whiteness' or reflectivity) of the Earth's surface depends on whether the surface is land or water and the latitude of the land area. However, by the early Cenozoic the continents were close to their present latitudes, albeit with the separation of the Americas from Europe-Africa less than at present. Thus the climate forcing due to location of continents has been small, <1 W/m<sup>2</sup> on global average, during the Cenozoic.

Changes of atmospheric CO<sub>2</sub>, in contrast to the small climate forcings due to changes of the climate system's upper and lower boundary conditions, caused climate forcing an order of magnitude larger, of the order of 10 W/m<sup>2</sup>. Atmospheric CO<sub>2</sub> reached values of 1000-2000 ppm (parts per million; 1000 ppm is 0.1%) in the early Cenozoic, falling to 150-300 ppm in the late Cenozoic (prior to human fossil fuel burning).

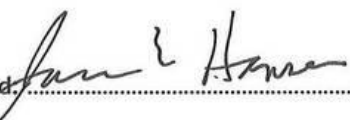

Over millions of years the amount of CO<sub>2</sub> in the air can change as a consequence of continental drift, which affects the exchange of carbon between the Earth's crust and surface reservoirs (atmosphere, ocean, soil and biosphere). Specifically, the source of carbon to the surface reservoirs (volcanic eruptions) is not always exactly in balance with the sinks of surface carbon (weathering of rocks, which deposits carbonate sediments on the ocean floor, and burial of organic material, which may eventually form fossil fuels).

The imbalance of carbon sources and sinks (thus the change of atmospheric CO<sub>2</sub>) depends upon plate tectonics (continental drift), because it is the rate of subduction of carbonate-rich ocean crust beneath moving continental plates that determines the rate of volcanic emission of CO<sub>2</sub>. Also the rate of weathering (the primary long-term sink of surface carbon) is a function of the rate at which fresh rock is exposed by mountain building associated with plate tectonics.

Specifically, during the period 60 My BP (60 million years before present) to 50 My BP India was plowing north rapidly (20 cm per year) through the Tethys Ocean and in the process subducting carbonate-rich ocean crust, causing atmospheric CO<sub>2</sub> to increase. Global temperature peaked 50 My ago when India crashed into Asia. Available proxy measures of CO<sub>2</sub> indicate that atmospheric CO<sub>2</sub> reached 1000-2000 ppm at that time. The Earth was at least 12°C warmer than today, there were no ice sheets on the planet, and sea level was about 75 meters higher.

With the collision of India and Asia the subduction source for CO<sub>2</sub> emissions declined, but the weathering sink increased as the Himalayas and Tibetan Plateau were pushed

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up. Thus the past 50 My have generally been a period of declining atmospheric CO<sub>2</sub> and a cooling planet.

An important point to note is the rate of these natural processes. The typical imbalance between tectonic sources and sinks of atmospheric CO<sub>2</sub> is about one ten-thousandths of a ppm of atmospheric CO<sub>2</sub> per year. In one million years this would be a CO<sub>2</sub> change of 100 ppm, which would cause large climate change. This natural rate of change should be compared with the present human-made increase of atmospheric CO<sub>2</sub>, which is about 2 ppm per year.

So, yes, it is clear that natural climate changes are huge over long time scales, encompassing even an ice free planet. But now the human-made rate of change of atmospheric CO<sub>2</sub> is ten thousand times larger than the natural rate that drove the huge climate changes. Humans are now in charge of atmospheric CO<sub>2</sub> amount and global climate, for better or worse.

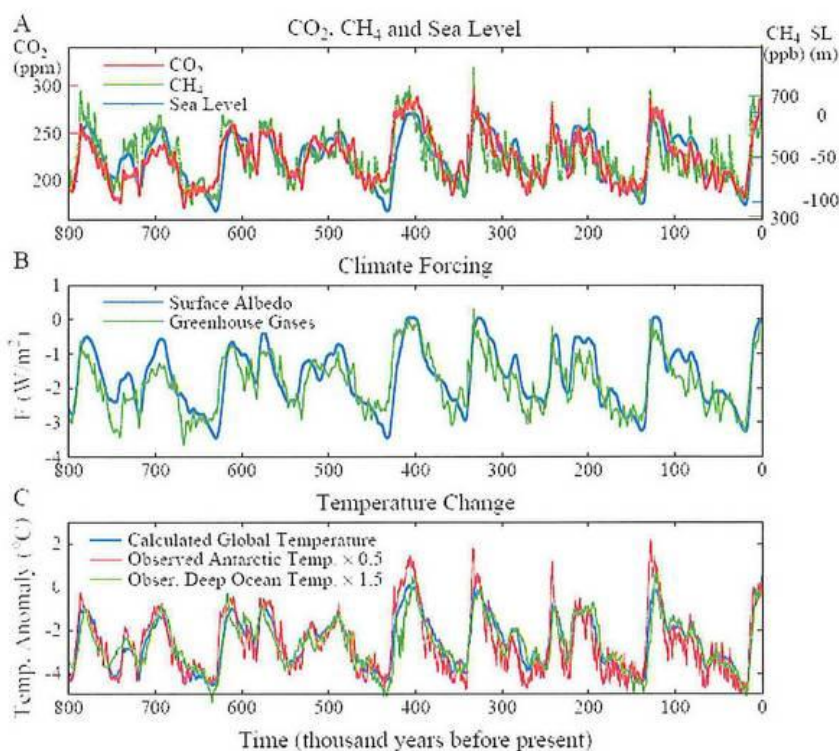
The single most pertinent number emerging from Cenozoic climate studies is the level of atmospheric CO<sub>2</sub> at which ice sheets began to form as the planet cooled during the past 50 million years. Our research suggests that this tipping point was at about 450 ppm of CO<sub>2</sub> (<http://arxiv.org/abs/0804.1126> and <http://arxiv.org/abs/0804.1135>). The history of the Earth's climate shows that global ice cover is reversible, although climate inertia slows the response. If humanity is so foolish as to burn all fossil fuels, thus more than doubling atmospheric CO<sub>2</sub> from its pre-industrial level of 280 ppm, we will have set the planet on an inexorable course to an ice-free state, with all the disasters that such a course must hold for man and beast.

**Natural Climate Changes over Millennia.** The large climate changes discussed above, occurring over millions of years, are usually slow, because they involve transfer of carbon between the Earth's crust and the surface reservoirs (atmosphere, ocean, soils, and biosphere). But graphs of global temperature (Fig. 1) also show, superposed on these large climate swings, more rapid and regular oscillations of temperature, the familiar glacial-interglacial oscillations that occur over tens and hundreds of thousands of years. The large glacial-interglacial climate swings are synchronous with and instigated by small changes of the Earth's orbit<sup>3</sup>. The orbital changes alter the seasonal and geographical distribution of sunlight on Earth. The effect of insolation variations is magnified by two strong feedback mechanisms. First, seasonal insolation changes can cause melting or buildup of high

<sup>3</sup> Changes of the Earth's orbit are the eccentricity of the orbit, the day of year at which the Earth is closest to the sun, and the tilt of the spin axis relative to the plane of the orbit. These orbital elements fluctuate due to gravitational tugs of Jupiter, Saturn and Venus as they alternately move closer or farther from the Earth. The orbital perturbations have negligible effect on the amount of solar energy falling on the Earth averaged over the year and planet.

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**Figure 2.** (A)  $\text{CO}_2$ ,  $\text{CH}_4$  and sea level for the past 800 ky, (B) climate forcings due to changes of GHGs and ice sheet area, the latter inferred from sea level change, (C) calculated global temperature change for a climate sensitivity  $3/4^\circ\text{C}$  per  $\text{W/m}^2$  compared with temperatures obtained from an Antarctic ice core and global ocean sediment cores. Polar surface temperature change is about twice global temperature change as a result of feedbacks that amplify high latitude change; deep ocean temperature change is less than the surface temperature change, because Pleistocene deep ocean temperature change is limited by the freezing point (<http://arxiv.org/abs/0804.1126>).

latitude ice sheets, bringing into play the powerful ice-albedo feedback. Second, when the planet warms (cools) the ocean, soil and biosphere release (absorb)  $\text{CO}_2$ ,  $\text{CH}_4$  and  $\text{N}_2\text{O}$ , these GHGs providing another powerful amplifying feedback<sup>4</sup>. Glacial-interglacial changes of ice sheet size and  $\text{CO}_2$  amount are large (of order 100 meters of sea level and 100 ppm of  $\text{CO}_2$ ) and practically coincident (Fig. 2A).

<sup>4</sup>  $\text{CO}_2$  provides most of the GHG feedback.  $\text{CO}_2$  is released by the ocean as the climate warms because of the temperature dependence of  $\text{CO}_2$  solubility and increased ocean mixing in a warmer climate, which flushes out deep ocean  $\text{CO}_2$  and alters ocean biological productivity.

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The direct forcing due to orbit changes is negligible, the annual mean perturbation of the Earth's energy balance never exceeding  $0.2 \text{ W/m}^2$  averaged over the planet. But the ice-albedo and GHG feedbacks each cause (approximately equal) perturbations of several  $\text{W/m}^2$  (Fig. 2B). Together these two feedbacks fully account for the global temperature swings from glacial to interglacial conditions (Fig. 2C), with a climate sensitivity of  $3/4^\circ\text{C}$  per  $\text{W/m}^2$  of forcing, or  $3^\circ\text{C}$  for doubled  $\text{CO}_2$  forcing. This empirical climate sensitivity confirms the climate sensitivity estimated by most climate models<sup>5</sup>.

Close examination of glacial-interglacial data reveals that temperature change usually leads the GHG change. This is as expected, because the GHG change is a feedback to the temperature change. The average lag is a few hundred years, the time required for  $\text{CO}_2$ , which is the dominant GHG feedback, to be flushed from surface reservoirs, mainly from the ocean<sup>4</sup>.

Despite longstanding knowledge that GHGs changes are a feedback amplifying glacial-interglacial global temperature change, and thus GHG changes necessarily lag temperature change, global warming 'contrarians' point to this lag as proof that GHGs are not an important cause of climate change! This deception, whether a product of ineptitude or slyness, serves to confuse the public or at least make it appear that there is an argument among theorists.

Natural climate changes on millennial time scales are instigated by Earth orbital changes, but the mechanisms causing planetary energy imbalance and global temperature change are the ice-albedo and GHG feedbacks. Both mechanisms are now under control of humans: GHGs have increased far above levels that existed during the past few million years and ice sheets are disintegrating in both hemispheres. Humans will determine future climate change.

But shouldn't Earth now, or at some point, be headed into the next ice age? No. Another ice age will not occur, unless humans go extinct. Orbital conditions now are, indeed, conducive (albeit weakly<sup>6</sup>) to initiation of ice sheet growth in the Northern

<sup>5</sup> This empirical sensitivity, as opposed to the model result, has the advantage that it surely includes all physical mechanisms, because it is based on real world data. Note that this empirical sensitivity does not include the slow amplifying feedbacks that occur on times scales of centuries as ice sheets melt, forests migrate, and GHGs are released by the soil or ocean, because the surface albedo and GHG amounts were treated as specified boundary conditions in evaluating the empirical climate sensitivity.

<sup>6</sup> The eccentricity of the Earth's orbit is unusually small now, i.e., the orbit is very close to being circular. Thus orbital perturbations of seasonal insolation are smaller than in cases when the orbit is more elliptical. Because of the small ellipticity of the orbit it is possible that, absent humans, the current interglacial period may have lasted 30-40 ky, analogous to the interglacial period about 400 ky ago, rather than having the more common duration of 10-20 ky. That question is now rhetorical and moot, as humans have taken over the carbon cycle and determination of atmospheric GHG amounts.

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Hemisphere But only a small amount of human-made GHGs are needed to overwhelm any natural tendency toward cooling. The long lifetime of human-made CO<sub>2</sub> perturbations assures that no human generation that we can imagine will need to be concerned about global cooling. Even after fossil fuel use ceases and its effect is drained from the system an ice age could be averted by chlorofluorocarbons (CFCs) produced in a single CFC factory. It is a trivial task for humanity to avert an ice age.

**Recent Human-Dominated Climate Changes.** One key difference between the climate changes over the Cenozoic era and contemporary climate change is the speed of change. Currently the rate of change of CO<sub>2</sub> increase in the atmosphere is over 10,000 times as fast as that over the Cenozoic era. This is a particular concern as plants and animals will not have experienced such rapid changes in their evolutionary history.

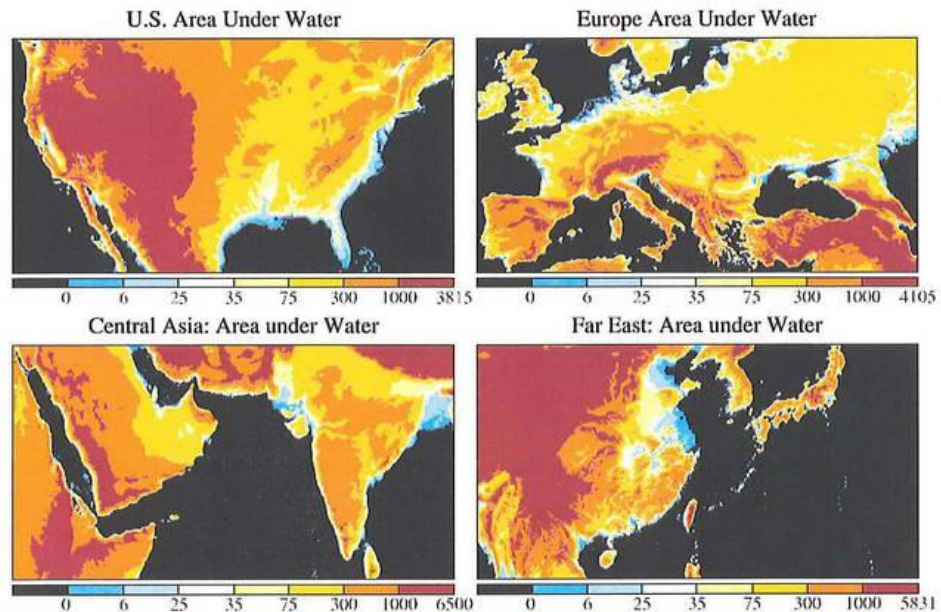
### 3. Implications of Climate Change

Potential consequences of global warming, should fossil fuel use continue unchecked, are enormous. I begin with two impacts that are irreversible on time scales of interest to humanity: (1) sea level rise due to ice sheet disintegration, and (2) extermination of species. Some regional impacts of fossil fuel burning, discussed below, are happening faster, are more obvious today, and also strongly affect life, limb, property, and quality of living.

Yet sea level rise and species extinction illuminate best the generational inequity of present policies and actions of governments, utilities, and the fossil fuel industry. This inequity is the source of consternation for young people and others concerned about the future of young people and the unborn, and the future of the Earth and life on the planet.

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**Fig.3.** Dark and light blue areas show regions that will be inundated with sea level rise of 6 and 25 meters, respectively. The last time sea level was 25 meters higher was in the Pliocene, about 3 million years ago, when the deep ocean was about 1°C warmer than today (Fig. 1); global surface temperature exceeded deep ocean temperature change in this period, but by less than a factor of two.

**Tipping points.** Present rates of sea level rise and species extinction are already rapid compared to rates of change in recent millennia. However, there is special danger posed by the ‘non-linear’ nature of some physical and biological processes, a danger that is described as ‘tipping points’ of the climate and life systems<sup>7</sup>.

A tipping point in the climate system occurs when there are large, ready positive (amplifying) feedbacks, such as Arctic sea ice, West Antarctic and Greenland ice sheets, and frozen methane hydrates. These feedbacks can partner with the inertia of the oceans and ice sheets to create a situation in which the warming ‘in the pipeline’, due to human-made GHGs already in the air, can carry climate to large rapid changes without any additional forcing.

<sup>7</sup> “Tipping Point: Perspective of a Climatologist”:  
[http://pubs.giss.nasa.gov/docs/2008/2008\\_Hansen\\_1.pdf](http://pubs.giss.nasa.gov/docs/2008/2008_Hansen_1.pdf)

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Biological systems, too, have tipping points, because the interdependency of species means that habitat disturbance and species loss can reach a point that causes ecosystem collapse<sup>8</sup>.

The Earth's history reveals numerous cases in which sea level rose rapidly, at a rate of several meters per century, and also cases of mass extinctions in which more than half the species on the planet went extinct in conjunction with global warming of several degrees.

**Sea level rise.** Sea level is now increasing at a rate of about 3 cm per decade or about one-third of a meter per century. This rate of sea level rise is about twice as large as the rate in the twentieth century<sup>9</sup>. At this rate, sea level changes will lead to salt water intrusion into fresh water aquifers and increase the damage of storm surges.

The main concern about sea level, however, is the likelihood that continued global warming could lead to ice sheet disintegration and much greater sea level increase. The prior interglacial period was warmer than the current one by at most 1°C on global average, yet sea level was as much as 4-6 meters higher. The last time that global surface temperature was as much as 2°C warmer than now was in the Pliocene, 3-5 million years ago, when sea level was about 25 meters higher. If all fossil fuels were burned, more than doubling the amount of CO<sub>2</sub> in the air, the eventual global warming would be expected to exceed 3°C, possibly leading to an ice-free planet, as in the early Cenozoic (Fig. 1), with sea level about 75 meters higher.

The greatest scientific uncertainty concerns the time required for the ice sheets to respond to global warming. Estimates for 21<sup>st</sup> century sea level rise (about a quarter to half a meter) by the Intergovernmental Panel on Climate Change (IPCC)<sup>9</sup> excluded any possible contribution from disintegration of the Antarctic and Greenland ice sheets, perhaps leaving the impression that they believed there would be little ice sheet response in a century.

Regardless of their intention, accumulating evidence from both the Earth's history and current events occurring on the ice sheets and in the oceans bordering the ice sheets, provide strong evidence that continued global warming is likely to initiate substantial ice sheet response. This evidence is a cause of great concern among glaciologists, even though there are several reasons for 'scientific reticence'<sup>10</sup> to sound an alarm about a matter that is inherently difficult to predict because of its non-linear character.

What we can say is that when ice sheets have gone unstable in the past sea level rise at rates as large as 3-5 meters per century have occurred, indeed, such rates have occurred in conjunction with climate forcings much smaller than the expected

<sup>8</sup> C. Parmesan, "Ecological and evolutionary response to recent climate change", Annual Review of Ecology and Evolution of Systems 37, 637-669, 2006.

<sup>9</sup> IPCC 2007, Climate Change 2007: The Physical Basis, <http://www.ipcc.ch/SPM2feb07.pdf>

<sup>10</sup> 'Scientific reticence and sea level rise' [http://pubs.giss.nasa.gov/docs/2007/2007\\_Hansen.pdf](http://pubs.giss.nasa.gov/docs/2007/2007_Hansen.pdf)

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human-made business-as-usual climate forcing of the 21<sup>st</sup> century. We can also say that there is evidence of accelerating activity on and around the ice sheets. Marine ice shelves that buttress the West Antarctic ice sheet are melting at rates of several meters per year. Summer surface melt on the ice sheets is increasing in area and moving higher up the ice sheets. Both Greenland and West Antarctica now have net annual mass losses exceeding 100 cubic kilometers of ice.

My opinion<sup>11</sup> is that IPCC business-as-usual climate forcing scenarios are so huge and unprecedented that sea level rise of at least 1-2 meters within century, with more unavoidably in the pipeline, would be practically a dead certainty. A measure of the range of scientific assessments can be garnered from the response elicited from one of the principal IPCC authors to my statement "...if these IPCC projected rates of sea level rise (excluding ice sheet contributions) are taken as predictions of actual sea level rise, as they have been by the public, they suggest that the ice sheets can miraculously survive a business-as-usual climate forcing assault for a period of the order of a millennium or longer"<sup>10</sup> - his response being strong denial that they believed the ice sheets could survive a millennium.

So estimates of the time required for a large ice sheet response seem to range only from a century or less to a few centuries. Thus the issue is only whether disastrous consequences will be visited upon our children or their descendants. Once ice sheet disintegration is underway it can proceed under its own momentum and is unstoppable - we cannot tie a rope around or build a wall around a disintegrating behemoth ice sheet.

**Species extermination.** Plants and animals are accustomed to climate fluctuations. What has changed recently is the steady global warming, at a rate of about 0.2°C per decade, which has brought global temperature close to the peak level of the current interglacial period. This trend is shifting climate zones and isotherms (lines of a given average temperature) poleward, at a rate of about 50-60 kilometers per decade, and upward. Given that the strong warming trend is only about 30 years, so far, it has not yet had a big impact on species extinction. However, business-as-usual scenarios would have this warming rate continuing through the century and even increasing in its rate.

Such a business-as-usual scenario surely would lead to a great increase of extinctions and the possibility of ecosystem collapse. The Earth's history shows that past global warmings of several degrees caused mass extinctions of more than half the species on the planet, even though the natural climate changes were generally slower than the human-made change. Of course new species came into being over paleoclimate time scales, but mass extinctions now would leave our descendants with a much more desolate planet for as many generations as we can imagine.

**Regional climate impacts.** Global warming causes intensification of both extremes of the hydrologic cycle. On the one hand, stronger heat waves, droughts and forest

<sup>11</sup> 'A slippery slope: how much warming is dangerous?' [http://pubs.giss.nasa.gov/docs/2005/2005\\_Hansen.pdf](http://pubs.giss.nasa.gov/docs/2005/2005_Hansen.pdf)

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fires, are associated with the generally higher temperature. On the other hand, because a warmer atmosphere holds more water vapor, there will be heavier rains and greater floods. Stronger storms fueled by latent heat, including thunderstorms, tropical storms and tornados will be experienced in a warmer world.

Theory and models indicate that subtropical regions expand poleward with global warming<sup>12</sup>. Data reveal a 4-degree latitudinal shift already<sup>13</sup>, larger than model predictions, yielding increased aridity in southern United States<sup>14</sup>, the Mediterranean region, Australia and parts of Africa. Impacts of this climate shift<sup>15</sup> are already substantial on the world's poor as well as in developed countries.

Mountain glaciers are in near-global retreat<sup>16</sup>. After a flush of fresh water, glacier loss foretells long summers and autumns of frequently dry rivers, including rivers originating in the Himalayas, Andes and Rocky Mountains that now supply water to hundreds of millions of people. If business-as-usual fossil fuel use continues, most mountain glaciers of the world will be lost within 50 years.

Regional climate change and shifting climate zones will be a general problem, because civilization and life on the planet are adapted to climate zones of the Holocene. If business-as-usual continues, with most fossil fuels burned this century, the rate of climate change is likely to be unprecedented with consequences that are difficult to forecast in detail.

<sup>12</sup> I.M. Held & B.J. Soden, J. Climate, 19, 5686-5699, 2006.


<sup>13</sup> D.J. Seidel & W.J. Randel, J. Geophys. Res., 111, D21101, 2006.

<sup>14</sup> T.P. Barnett et al., Science, 319, 1080-1083, 2008; B.G. Levi, Phys. Today, April 16-18, 2008.

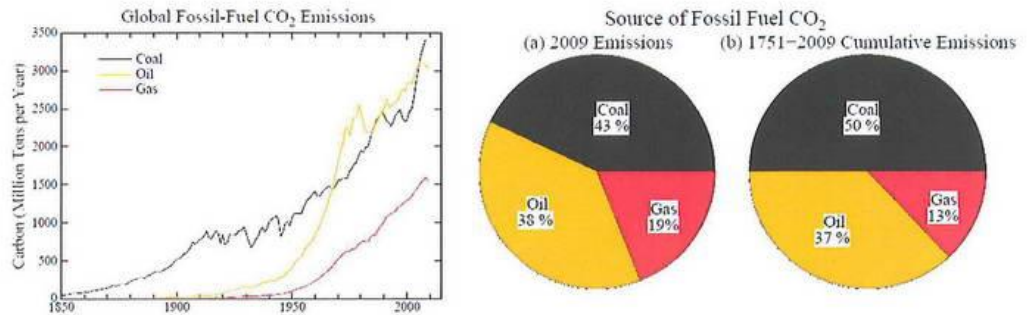
<sup>15</sup> IPCC Climate Impacts volume, ed. M. Parry et al., Cambridge Univ. Press, New York, 2007.

<sup>16</sup> T.P. Barnett et al., Nature, 438, 303-309, 2005.

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**Fig.4. Left: fossil fuel emissions versus time. Right: proportions of fossil fuel emissions in 2007 (a) and integrated emissions (b). Climate change is proportional to integrated emissions<sup>18</sup>.**

#### 4. Coal's Contribution to Climate Change

Coal was almost the only source of fossil fuel CO<sub>2</sub> emissions until about 1920 (Fig. 4, left side). CO<sub>2</sub> emissions from oil accelerated rapidly after WW II, passing coal emissions in the early 1960s. Coal use accelerated in the past several years, and by 2007 global CO<sub>2</sub> emissions from coal (40%) had almost caught those of oil (41%), with gas at 19%. Given evidence that the world is approaching peak oil production, and the fact that recoverable resources of coal are much larger than those for oil, coal will surely become the dominant source of future atmospheric CO<sub>2</sub>, unless a conscious decision is made to limit emissions from coal.

Coal, specifically prompt phase-out of coal emissions, is the one critical element in solution of the global warming problem, in preservation of a planet resembling the one on which civilization developed. That fact is clear, if one accepts two facts that are difficult to contradict: (1) coal has the largest reservoir of carbon among the fossil fuels, as summarized by the bar graph in Fig. 5, and (2) the readily available reserves of oil and gas will be exploited and most of their CO<sub>2</sub>, which mainly comes out of tailpipes, will not be captured. It does not matter much how rapidly the oil and gas are used because of the long lifetime of emitted CO<sub>2</sub>, much of which remains in the air more than 1000 years.

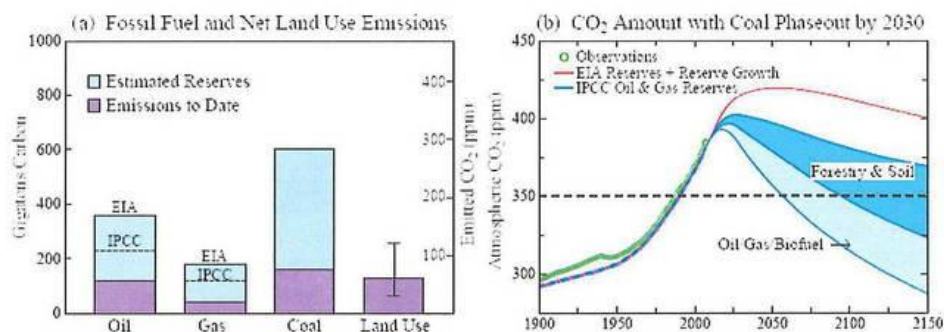
Purple areas in Fig. 5a are emissions to date; reserves (blue) are uncertain. Expert opinion suggests that we are now close to "peak oil" production, which implies that about half of the oil has been used already. Thus reserve estimates labeled IPCC probably are more realistic than those of EIA, the latter including large estimates for undiscovered reserves. There are uncertainties in coal reserves as well, but it is known that there is sufficient coal to get CO<sub>2</sub> to 500 ppm and higher, well into the dangerous level of atmospheric CO<sub>2</sub>.

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## 5. Urgency of Taking Action

It will be necessary to return atmospheric CO<sub>2</sub> to 350 ppm or lower on a time scale of decades, not centuries, if we hope to avoid destabilization of the ice sheets, minimize species extinctions, and halt and reverse the many regional climate trends discussed above<sup>17</sup>. There is just barely still time to accomplish that, but it requires an immediate moratorium on new coal-fired power plants that do not capture and sequester CO<sub>2</sub> and as rapid as possible phase out of existing coal plants.



**Fig. 5. (a) carbon sources, and (b) CO<sub>2</sub> scenarios if coal emissions are phased out linearly over 2010-2030 period; return below 350 ppm can be hastened via reforestation and carbon sequestration in soil, and further via capture of CO<sub>2</sub> at gas-fired power plants.**

Fig. 5b shows that if coal CO<sub>2</sub> emissions were phased out over 2010-2030, atmospheric CO<sub>2</sub> would peak at 400-425 ppm. In that case it would just be feasible to get atmospheric CO<sub>2</sub> back beneath 350 ppm via the carbon uptake potential of improved forestry and agricultural practices, which could draw down atmospheric CO<sub>2</sub> by as much as about 50 ppm. If it turns out that actual oil and gas reserves are toward the higher end of the estimated range, then it may be necessary to capture and sequester CO<sub>2</sub> at some of the gas-fired power plants, or to burn appropriate biofuels (not food crops) at power plants that capture and sequester CO<sub>2</sub>.

Such actions to correct modest overshoot of the safe atmospheric CO<sub>2</sub> level are feasible, under the assumption that the maximum CO<sub>2</sub> level is kept not too far from 400 ppm. That result is possible only if there is a prompt stoppage of construction of coal-fired power plants, which is the reason for the urgency of a moratorium on new coal-fired power plants.

If, instead, coal use continues to expand (as it is now, see below), CO<sub>2</sub> will be headed to the 500-600 ppm range, or higher if unconventional fossil fuels such as tar shale are developed. In this "Damn the consequences! Full speed ahead with all fossil fuels!" case (a.k.a., business-as-usual), we will hand our children a planet that has entered a

<sup>17</sup> 'Target atmospheric CO<sub>2</sub>: Where should humanity aim?' <http://arxiv.org/abs/0804.1126>

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long chaotic transient period with climate changes out of their control, as the planet heads inexorably toward an ice-free state.

A critical fact is the long lifetime of fossil fuel CO<sub>2</sub> emissions. Half of a fossil fuel CO<sub>2</sub> pulse disappears within 20-30 years, mostly into the ocean. However, much of the CO<sub>2</sub>, about one-fifth, is still in the air after 1000 years. Because of this long CO<sub>2</sub> lifetime, we cannot solve the climate problem by slowing down emissions by 20% or 50% or even 80%. It is the cumulative emissions that count for humanity in the long-term. Every tonne of CO<sub>2</sub> counts. Therefore, instead of a percent reduction in the rate of emissions, we must identify a portion of the fossil fuels that will be left in the ground, or captured upon emission and put back into the ground.

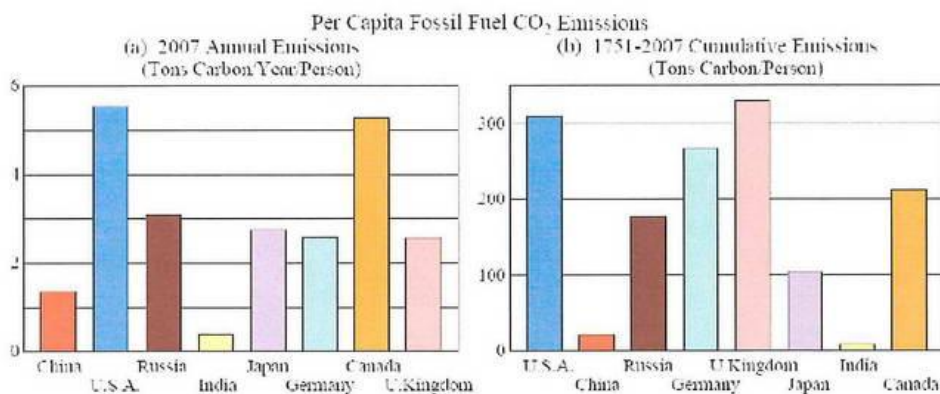
Current targets discussed by governments as part of the UN climate change negotiations are levels of carbon dioxide at 450 parts per million, and 2 degrees Celsius above pre-industrial global mean temperature as the safe upper limit to avoid catastrophic climate change. The business as usual path we are on will take us beyond both of those targets in less than 30 years. To meet those targets will require our world to change dramatically. However, new scientific conclusions make it clear these are the wrong targets: the safe level of atmospheric carbon dioxide is no more than 350 parts per million, and it may be less. Carbon dioxide amount is already 389 ppm and rising about 2 ppm per year. Thus the stated goal of the UK government, EU and others to keep global warming to less than 2 degrees Celsius above pre-industrial levels is a recipe for pass tipping points and serious repercussions for human life and property. It is not a policy for a safe future.

To summarize: the issue is how to keep maximum CO<sub>2</sub> close to 400 ppm, thus retaining the possibility to get CO<sub>2</sub> back below 350 ppm in a reasonable time, thus preserving life and a planet similar to the one on which civilization developed. Readily available oil (the big pools, being tapped already) surely will be used, and this oil-CO<sub>2</sub> will end up in the air, because it is used in vehicles, where CO<sub>2</sub> cannot be captured. To argue otherwise requires asserting that Russia, Middle East countries, and others will be willing to leave their oil in the ground.

In my view we have already passed the safe proportion of carbon dioxide in the atmosphere, and we need to roll it back, or the consequences will be severe. We can still avert the most serious consequences, but only if we get coal out of the energy system as quickly as possible, which means no new coal-fired power stations, and the urgent phase out of current coal-fired power stations.

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**Fig.6. Per capita (today's population) fossil fuel CO<sub>2</sub> emissions by the eight countries with largest 2007 emissions (a) and largest 1751-2007 cumulative emissions (b), with the countries ranked in order of emissions. Data sources: CDIAC (Carbon Dioxide Information Analysis Center) and BP (British Petroleum).**

## 6. Implications

Why is phasing out unabated coal use in the UK so important, when China and India are building a large number of power plants? The answer is provided by data on the history of fossil fuel emissions, and logical inferences therefrom. Per capita emissions in the UK today are about twice those of China (Fig. 6a). However, the climate change induced by these emissions is proportional to cumulative emissions<sup>18</sup>. As Fig. 6b shows, the UK, US and Germany, in that order, are the most responsible for today's climate change on a per capita basis. Their responsibility, on a per capita basis, exceeds that of China by approximately a factor of 10, and that of India by approximately a factor of 25.

Yet China and India must be part of the solution of global warming. The black segments in the bar graphs of Fig. 7 are the portions of today's energy consumption derived from coal in the 20 countries with greatest energy use. And developing countries are not only large consumers of coal, their coal use is the most rapidly growing.

Developed countries, being responsible for most greenhouse gases in the atmosphere today, have a clear obligation to find a course for themselves that has the potential of bringing developing countries into a solution. But what is the course being followed by developed countries? It is illustrated in Fig. 8, which shows fossil fuel CO<sub>2</sub> emissions versus time by fuel type for Japan, the U.S., Germany and the UK.

<sup>18</sup> "Dangerous human-made interference with climate":  
[http://pubs.giss.nasa.gov/docs/2007/2007\\_Hansen\\_etal\\_1.pdf](http://pubs.giss.nasa.gov/docs/2007/2007_Hansen_etal_1.pdf)

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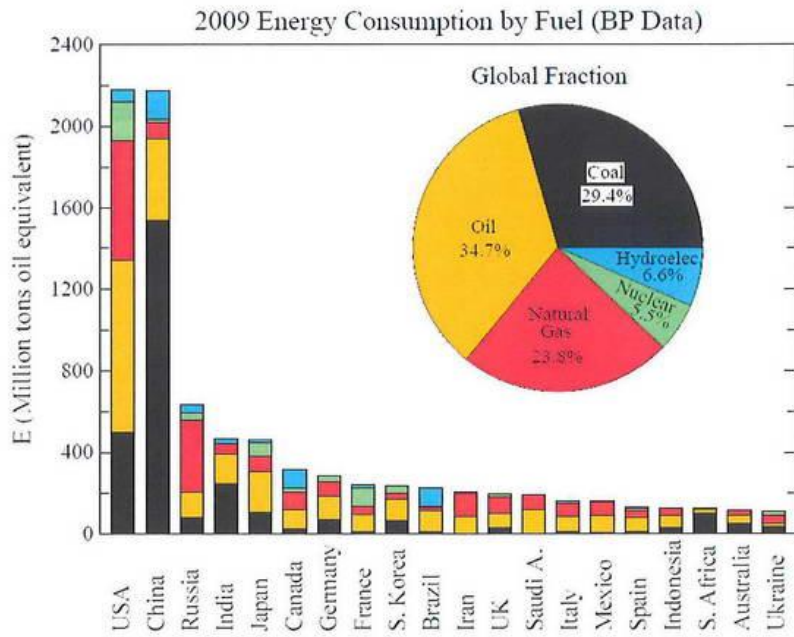
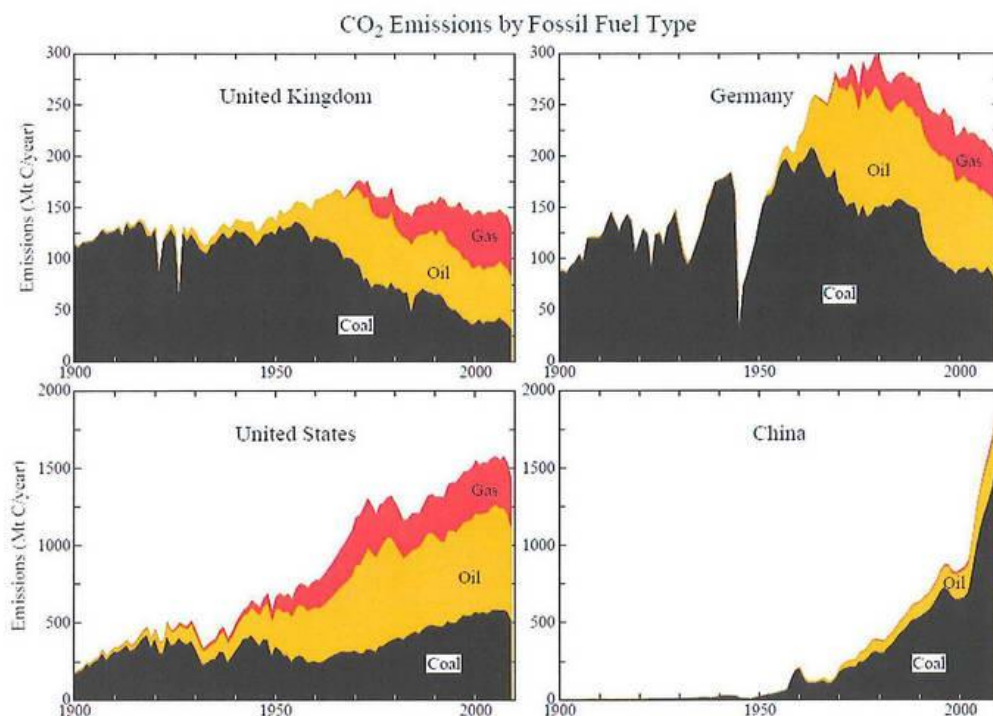


Fig.7. Energy consumption by fuel type in 2009, based on BP data.

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**Figure 8.** CO<sub>2</sub> emissions by fossil fuel type in four countries. Note the different scales, emissions from the United States being several times larger than those of the other countries.

In the second half of the 20<sup>th</sup> century Germany and the UK achieved large reductions in coal use, in part by closing inefficient industrial uses in East Germany and with the help of North Sea gas. But in the 21<sup>st</sup> century coal use is accelerating in all four countries. This is a prescription for planetary disaster. Can there be any hope of convincing China and India to turn away from coal if coal use is increasing in the West?

## 7. Summary Facts

These summary facts were known by the UK government, by the utility EON, the owner of Ratcliffe-on-soar power station by the fossil fuel industry, and their arrest in April 2009:

- (1) **Scientific Consensus;** Of the hundreds of thousands of climate change scientists there are only a handful who disagree with the basic science as laid out in the Intergovernmental Panel on Climate Change reports, and the statements of all the G20 nations' science academies, including the US National Academy of Sciences, and the Royal Society in the UK.

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- (2) **Rises in Emissions and Temperature:** Global carbon dioxide emissions from fossil fuels in 2008 were 40% higher than those in 1990. Over the past 30 years temperatures have increased at a rate of almost 0.2C per decade, in every good agreement with predictions based on greenhouse gas increases. Even over the past ten years, despite a decrease in solar forcing, the trend continues to be one of warming. Natural, short-term fluctuations are occurring as usual but there have been no significant changes in the underlying warming trend.
- (3) **Tipping Points and urgency:** the climate system is dangerously close to tipping points that could have disastrous consequences for young people, life and property, and general well-being on the planet that will be inherited from today's elders. Given that it is the cumulative emissions that matter if we are to avoid tipping points, each and every ton of carbon not emitted assists in not reaching those points. Even if global emission rates are stabilized at present-day levels, just 20 more years of emissions would give a high probability that warming exceeds 2°C. Rapid and radical cuts in emissions are needed beginning now.
- (4) **Coal's Dominant Role:** Coal is the fossil fuel most responsible for excess CO<sub>2</sub> in the air today, and coal reserves contain much more potential CO<sub>2</sub> than do oil or gas. Coal is the fossil fuel that is most susceptible to either (a) having the CO<sub>2</sub> captured and sequestered if coal is used in power plants, or (b) leaving the coal in the ground, instead using cleaner fuels and emphasizing energy efficiency. For example, switching to gas-fired electricity production from coal gives a 50% reduction in the CO<sub>2</sub> emitted from a power plant for the same electricity production.
- (5) **Recognized Responsibilities:** The UK is one of the nations most responsible for human-made CO<sub>2</sub> in the air today, indeed, on a per capita basis it is the most responsible of all nations that are major emitters of CO<sub>2</sub>. This fact is recognized by developing countries, making it implausible that they would consider altering their plans for coal use if the UK plans to continue to rely on coal-fired power.
- (6) **Recognized Impacts of Climate Change:** The UK government, EON, and the fossil fuel industry were aware of the likely impacts of continuation of coal emissions, specifically impacts on future sea level, extinctions of animal and plant species, and regional climate effects, i.e., they were all aware that their actions would contribute to these adverse impacts, leaving a more impoverished planet for today's young people and the unborn. Additionally, while the specific CO<sub>2</sub> emissions from a specific power station cannot be attributed to specific losses of life and property in the future, proportionate allocations of impact are reasonable, as a first approximation, i.e., a reduction by a given proportion of global emissions will equate to the same proportional reduction in loss of life and property in the future.
- (7) **Greenwash:** Governments, utilities, and the fossil fuel industry have presented public faces acknowledging the importance of climate change and claiming that they are taking appropriate actions. Yet the facts, as shown in this document, contradict their claims. The continued use of coal-fired power plants and the building of new

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ones makes it practically impossible to avert climate disasters for today's young people and future generations.

Recognition of these basic facts , realization that the facts were also known by the government, utility, and fossil fuel industry, and realization that actions to urgently reduce CO2 emissions are needed to protect life and property of the present and future generations would leave a reasonable person to take steps to urgently and deeply cut CO2 emissions.

#### Declaration

1. I understand that my duty in providing written reports and giving evidence is to help the Court, and that this duty overrides any obligation to the party by whom I am engaged or the person who has paid or is liable to pay me. I confirm that I have complied and will continue to comply with my duty.
2. I confirm that insofar as the facts stated in my report are within my own knowledge I have made clear which they are and I believe them to be true, and that the opinions I have expressed represent my true and complete professional opinion.
3. I have endeavoured to include in my report those matters, of which I have knowledge or of which I have been made aware, that might adversely affect the validity of my opinion. I have clearly stated any qualifications to my opinion.
4. I have shown the sources of all information I have used.
5. I have not without forming an independent view included or excluded anything which has been suggested to me by others including my instructing lawyers.
6. I will notify those instructing me immediately and confirm in writing if for any reason my existing report requires any correction or qualification.
7. I understand that;
  - a) my report, subject to any corrections before swearing as to its correctness, will form the evidence to be given under oath or affirmation;
  - b) I may be cross-examined on my report by a cross-examiner assisted by an expert;
  - c) I am likely to be the subject of public adverse criticism by the judge if the Court concludes that I have not taken reasonable care in trying to meet the standards set out above.
8. I confirm that I have not entered into any arrangement where the amount or payment of my fees is in any way dependent on the outcome of the case.

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**Alan Simpson [former MP, Nottingham South]**

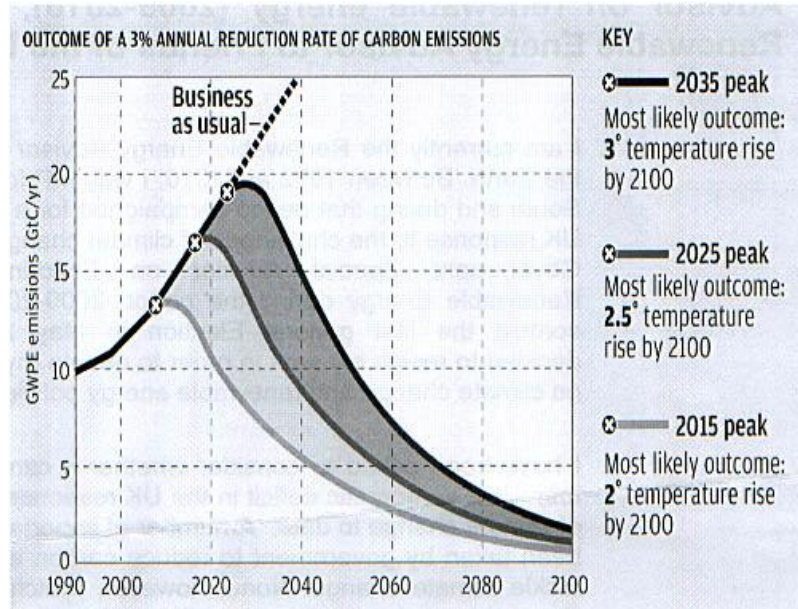


**Alan Simpson – Member of Parliament for Nottingham South (1992-2010), Government Special Advisor on renewable energy (2009-2010), currently Renewable Energy Advisor to Friends of the Earth.**

1. I am currently the Renewable Energy Advisor to Friends of the Earth. Between 1992 and 2010, I was MP for Nottingham South and during that period campaigned for a more serious UK response to the challenges of climate change. I was also Government Special Advisor on Feed-in-Tariffs and Renewable Energy during the period 2009-2010. I did not contest the last general Election in May 2010, having decided to resign my seat in order to devote my time to work on climate change and renewable energy policies.
2. I have been asked to consider whether it can be said that there is a democratic deficit in the UK response on the issue of climate change to date. A number of important steps have been taken by government to reduce carbon emissions and tackle climate change. None, however, match the scale of the problems, or the threat to life and wellbeing, posed to future generations. It is in this context that the public have understood, better than parliament, the urgency of what scientists have been trying to tell us. It is entirely understandable that, in order to safeguard the future, we will face an increasing range of public actions seeking to get parliament to engage with this greater reality.
3. I attach copies of a briefing note I sent out to my then parliamentary colleagues on the 22 February 2010 (**Appendix 1**), the Hansard Debate which followed on 24 February 2010 (**Appendix 2**) and the response from the Rt Hon Ed Miliband, then the Secretary of State for Energy and Climate Change, of 11 March 2010, (**Appendix 3**). All of these relate to arguments about whether there should be a statutory duty placed on all the power stations, setting limits on their annual carbon emissions. I shall outline the significance of these, but would like to begin from two broader considerations.
4. UK government policy, concerning the timetable for carbon reduction measures, has been based on evidence provided to the government's Climate Change Committee and an earlier House of Lords analysis of climate change and energy



security. The graph, below, sets out some of the stark choices that have to be made in a much shorter timetable than parliament had usually been willing to acknowledge.



(House of Lords Report on Climate Change Committee, 2006)

5. The Labour government, of which I was a member, did not dispute that current levels of carbon emissions have to be reversed dramatically, if the planet is to avoid going past climate 'tipping points'. People like Professor James Hansen, NASA's leading climate scientist, have placed the tipping point for climate instability as a 2° rise in temperature by 2100. This places the critical point, for reversal of emission levels, some time between 2013 – 2015. Many of today's climate protests legitimately question whether there is anything in current government action plans that would see UK annual carbon emissions declining by this point in time.
6. This is particularly important since the graph itself projects carbon reduction paths based on an annual reduction rate of 3% per annum. The current UK reduction rate was then 1% per annum. Business collapse that has come along with the UK's economic and debt crisis may have offered the illusion of improved carbon reduction rates. Like death, however, it is hard to present this as a plan for better living. There is an urgent need for a change of pace (and impact) of the policies pursued by government.

7. One effort to do so was incorporated in the **Energy Act 2008**; namely the introduction of Feed-in-Tariffs (FiTs) in support of renewable energy generation. As the architect of the amendment that put this into place, I then became government special advisor on how to implement the programme.
8. My experience, as Government Special Advisor, brought home to me how far existing UK energy companies have resisted this shift into renewables. It became clear to me that energy companies were far more comfortable with high-carbon energy generation (which they enjoy monopoly control of) rather than a shift into more decentralised and renewable energy; particularly where this may be more locally controlled or owned. The UK could easily have adopted a FiTs framework that was three times more ambitious than the current one, with little extra cost. It did not do so because energy company interests in the status quo lobbied furiously against the change. Protestors are right to complain that the interests of tomorrow's society (and of future generations) are threatened by the short-term interests of today's energy corporations.
9. Nothing highlights this point more than the subsequent parliamentary debate about a statutory carbon-reporting framework for power stations (**Emissions Performance Standards – EPS**). I summarise, below, the salient points of the then Secretary of State's reply of 11 March 2010, opposing any such duty on the grounds it would deter investment. However,
  - (i) all of the Secretary of State's commitments about actions he was willing to take related to new coal-fired power stations, not existing power stations.
  - (ii) a reliance on 'post-combustion retrofitting' of Carbon Capture and Storage (CCS) on coal power stations is not expected to be operational until 2025, and many doubt it will work at all.
  - (iii) the government acknowledged that CCS may not work (or be economically viable) but only plans to "publish a report considering the case for new measures by 2018".
  - (iv) although the government conceded that they "already have powers to introduce an EPS", the introduction of any

statutory reporting framework today is viewed as "premature"..

10. There is, in my opinion, an indisputable democratic deficit in having power, but refusing to use it, even to require power stations to audit their annual carbon emissions and the energy efficiency of each power station. It is simply not coherent to argue that any of these commitments amount to a coherent plan for carbon emission reductions. This is particularly true within the timescale in which emissions reductions have to be made. Climate change protestors are in my view, absolutely right to argue that we cannot continue with a 'business as usual' approach to UK carbon emissions, without threatening the very prospects of existence for future generations.

**Alan Simpson**

**November 2010**

**Dr Ian Roberts London School of Hygiene and Tropical Medicine**





STATEMENT OF WITNESS (C.J.Act, 1967, S.9; M.C. Act, 1980, S.102; M.C. Rules, 1981, r.70)

STATEMENT OF : IAN GRAY ROBERTS  
AGE OF WITNESS (d.o.b.) : OVER 21  
OCCUPATION OF WITNESS : MEDICAL DOCTOR  
ADDRESS & TEL. NO. :

This statement, consisting of 9 page(s) each signed by me, is true to the best of my knowledge and belief and I make it knowing that, if it is tendered in evidence, I shall be liable to prosecution if I have wilfully stated in it anything which I know to be false or do not believe to be true.

Dated the 28 day of September 2010

Signed:  Signature Witnessed by: 

I make this statement as a witness in the case of R v David Barkshire and others at Nottingham Crown Court.

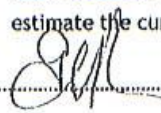
Section 1 - Background

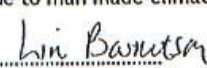
1. I am a medical doctor trained in paediatrics and I am a professor of epidemiology at The London School of Hygiene and Tropical Medicine ("LSHTM"). The mission of the LSHTM is to contribute to the improvement of health worldwide through the pursuit of excellence in research, postgraduate teaching and advanced training in national and international public health and tropical medicine, and through informing policy and practice in these areas. I am Head of the World Health Organization (WHO) Collaborating Centre on Research and Training in Violence and Injury Control.
2. Epidemiology is the study of the distribution and determinants of disease and injury in human populations. Briefly, it is the branch of science that deals with the causes of disease. I have a PhD in epidemiology and have extensive experience in the conduct and critical appraisal of epidemiological research. I teach post-graduate students taking MSc or PhD degree courses in epidemiology. I have an active research interest into the links between fossil fuel energy use, climate change and human health and have worked with the World Health Organization on this issue.

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## Section 2 - The health effects of climate change

3. Accumulating scientific evidence suggests that man made climate change, primarily resulting from the burning of fossil fuels, has had, and will continue to have, serious adverse impacts on the health of human populations. In this respect, I am familiar with the methods and results of the comparative risk assessment of the burden of disease from climate change that was carried out as part of the World Health Organisation Global Burden of Disease 2000 project. This study was an initial attempt to estimate the global health consequences of climate change.
4. The WHO analysis estimated that the man made climate change that has occurred since 1990 caused about 150,000 deaths and about 5.5 million DALYS in the year 2,000. The DALY (disability adjusted life year) is a measure of disease burden that combines the health impact of premature death and disability by combining them into a single measure. Premature death results in years of life lost (YLL) which are estimated with respect to a standard expectation of life. Illness or injury results in years lived with disability (YLD), which is weighted according to the severity of the disability. DALYs are calculated by taking the sum of these two measures ( $DALY = YLL + YLD$ ).
5. It is implicit in the WHO estimation that at least the same number of deaths and DALYS would be caused by man-made climate change every year since 2000. However, we can be reasonably certain that the human suffering caused by climate change will increase as the climate continues to change. The analysis also showed that the health effects of climate change are now and will be in the future heavily concentrated in the poorer regions of the world and that they will predominantly affect children.
6. However, it is important to bear in mind the limitations of the WHO analysis. The comparative risk assessment method involves the following steps: (1) identify diseases (and injuries) that are sensitive to climatic factors and estimate the burden of these diseases during a baseline period, (2) estimate from the scientific literature how climatic factors influence these diseases, (3) estimate the current and future burden of disease due to man made climate

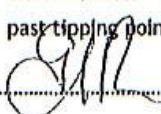
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change. There are important scientific uncertainties associated with each of these steps.

7. The first step includes the identification of diseases that are sensitive to changes in climatic factors. The WHO analysis identified five disease areas: malnutrition, diarrhoea, malaria, deaths due to floods, and temperature related cardiovascular deaths. It is important to remember that diseases were selected for inclusion in the WHO analysis only if there was strong scientific evidence of a link with climatic factors. However, the absence of scientific evidence of a link between climate and a particular disease does not mean that such a link does not exist. Climate can influence health in a great variety of ways, many of which might not have been anticipated. For example, although the WHO analysis did consider the overall balance of deaths from cardio-vascular disease in hotter and colder weather as the temperature gradually warms, climate prediction models did not adequately predict the "extremes" that were later observed in the 2003 European heat wave that resulted in up to 70,000 excess deaths. Subsequent climate science research has shown that the chances of such a heat wave occurring are estimated to have been doubled by man made climate change. We might reasonably infer therefore that about half of the 70,000 excess deaths are due to man made climate change. Future similar surprises or worse are inevitable.
8. The second step involves estimating from the scientific literature how changes in climatic factors influence the occurrence of disease. However, the way that climate impacts on disease is often unknown or uncertain. For example, there is considerable uncertainty about how climate change will affect populations who are living in conditions of fresh water scarcity. Nevertheless, water is a fundamental determinant of human health and changes in water availability due to climate change could have devastating impacts affecting many millions of people.
9. The third step involves estimating the effects of man made greenhouse gas emissions on future climate, and then estimating the effects of this future climate on human health. Predicting the effects of greenhouse gas emissions on future climate is not an exact science and there are enormous uncertainties. There are feedbacks in the climate system that could take us past tipping points that amplify the adverse effects of man made greenhouse

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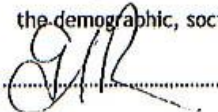
gas emissions on the climate system. Added to this there is considerable uncertainty in predicting the health impacts of changes in future climate.

10. Taken together these considerations imply that the WHO estimate of 150,000 deaths per year is almost certainly an under-estimate of the health effects of man made climate change, both now and into the future and that the true number of deaths could be substantially higher than indicated by WHO. Moreover, the global health burden now will be considerably higher than those estimated for the year 2000. Furthermore, it is important to remember that the carbon dioxide released from our current burning of fossil fuels will stay in the atmosphere for many hundreds of years. As a result, current greenhouse gas emissions will affect the global climate and human health for a great many years to come.

Since the WHO analysis was published, the scientific consensus that climate change is profoundly affecting the most fundamental determinants of human health (food, air, water) has strengthened. The effects of future climate change will be widespread, distributed all around the world and no countries will be spared. Climate change will impact on health through direct and indirect pathways and will reflect changes in both average climatic factors and variability in climatic factors. The main anticipated health risks include: (1) effects on the availability of food and drinking water with the risk of mass starvation, mass migration and conflict; (2) changes in the geographic spread and rate of transmission of infectious diseases including increases in the incidence of food poisoning, malaria, dengue fever, schistosomiasis, tick borne viral diseases and others; (3) more extreme weather events, population migration and conflict, and loss of livelihoods with major impacts on injuries, violence and mental health. Some of these changes are already evident. There are published reports of climate change having contributed to declining food yields, population migration due to sea level rises is already taking place in some low lying Pacific Islands, tick borne encephalitis in Sweden has increased due to warmer winters, there is evidence of increased malaria in the eastern African highlands and some evidence that climate change is impacting on the risks of Cholera outbreaks in Bangladesh.

11. However, there will also be a much broader range of health impacts due to the demographic, social and economic effects of climate change that will be

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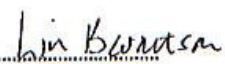
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difficult or impossible to predict with accuracy. For example, in 2008 European policies to reduce greenhouse gas emissions by increasing biofuel production contributed to increased global food prices resulting in food riots in Bolivia, Burkina Faso, Cameroon, Egypt, Indonesia, Ivory Coast, Mauritania, Mozambique and Senegal and Somalia. These riots resulted in violence and some cases deaths. In Somalia five people died in clashes between the police, armed shopkeepers and the public over food price increases.

12. It is essential to bear in mind that all human life depends on the functioning of the world's natural environmental systems (ecosystems) and that man made climate change by altering the boundaries of species ranges is profoundly changing these environmental systems. There is already strong evidence of climate change impacts on the earth's ecosystems. One report documented that over half (59%) of species had shown evidence of changes in range or in timing of recurrence as a result of man made climate change. Because many species of plants and animals cannot adapt to the unprecedented rapidity of man made climate change, climate change threatens species with extinction. Climate change induced amphibian extinctions have already been documented and higher sea temperatures are bleaching many coral reefs. Many species have suffered a reduced habitable area due to climate change and many of those that have suffered extinctions at their equatorial or lower boundaries have failed to expand towards the poles. These species are at risk of extinction in the future.
13. Because of the interdependency of species, biological systems also have tipping points and species loss due to man made climate change could lead to the collapse of the ecosystems on which human life depends. Loss of biodiversity can be likened to losing rivets on a plane. Several rivets can be lost without detrimental effects, but eventually the loss of one rivet will have disastrous consequences. The consequences of such ecosystem collapse are extremely difficult to anticipate but could be unimaginably catastrophic with mass starvation, the forced migration of millions of people and unimaginable violence. Large scale food shortages resulting from ecosystem collapse and crop failure would inevitably lead to the migration of millions of people particularly from Africa where the demand for food is already soaring due to

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population growth. The combination of mass migration and the security responses of countries that would be required to receive huge numbers of climate refugees would substantially increased the risk of national and international conflict and war with dire health consequences. A 2008 report from the European Union stressed that climate change is already having international security implications and that the security threat is not going to go away. At this point we should note that although sudden climate changes have occurred in the Earth's history, over the last 10,000 years of human civilisation the climate has remained stable. However, the current man made increase in atmospheric carbon dioxide of about 2 ppm per year is orders of magnitude higher than the natural rate of change and threatens to rapidly change our climate in a way that we have never previously experienced.

### 3 - The public health imperative to stop greenhouse gas emissions

14. Dramatically reducing and finally stopping the man made emission of greenhouse gases is a public health emergency. The burning of fossil fuels (coal, oil and gas) by increasing atmospheric concentrations of carbon dioxide has already changed the earth's climate system and has already resulted in increases in death and disease and will continue to do so for many years to come. Climate scientists have made clear that the earth's climate system is perilously close to a number of tipping points. The world's natural environmental systems on which all human life depends are also in grave danger. Should these environmental systems collapse, the consequences for human health would be dismal, it would mean mass famine, billions of environmental refugees, and horrific levels of interpersonal violence. The prospects that future generations would enjoy healthy fulfilling lives would of course be bleak.
15. It should be noted that In December 2008, the Committee on Climate Change (CCC), which is the independent body established under the Climate Change

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Act to advise the government on the setting legally binding carbon budgets, recommended that the UK should reduce greenhouse gas emissions by *at least* 80% below 1990 levels by 2050. In doing so the Committee recognised the urgent need to adopt substantially more ambitious targets for reducing greenhouse gas emissions than had been set previously. The need for much deeper cuts in greenhouse gas emissions than had previously been anticipated was considered necessary due to recent developments in climate science. The consequences of failing to make sufficiently adequate reductions in greenhouse gas emissions could be disastrous for human health.

16. If in the Spring of 2009 the defendants had believed that the existing emissions reductions targets were inadequate to avert potentially catastrophic climate change, it is clear that subsequent events have strongly endorsed their belief. Importantly, the CCC made a number of suggestions for policies by which the UK could achieve these new, more stringent, science based carbon reduction targets. In particular, it emphasised the need to move away from using fossil fuels towards using cleaner forms of generating electricity and heat. Specifically, the Committee spelled out that "decarbonisation of the power sector is key to achieving emissions reduction targets."

17. Currently, the UK is not achieving the emissions reductions that are considered necessary by the CCC. Failure to meet these emissions reductions will mean that much steeper reductions in emissions will be needed in the future to achieve the targets. Whether such reductions will actually be achieved is open to question but failure to do so could have dire consequences for human health.

18. In the light of these considerations, recognising that Ratcliffe power station is one of the largest sources of greenhouse gas emissions in the UK, appreciating that coal fired electricity generation entails the greatest direct adverse health burdens in terms of air pollution and occupational injuries, and aware that despite a great deal of discussion, government action to reduce the emission of greenhouse gases is inadequate, it is understandable that the defendants believed that it was necessary to take urgent preventive action.

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#### Declaration

I, Ian Gray Roberts DECLARE THAT:

1. I understand that my duty is to help the court to achieve the overriding objective by giving independent assistance by way of objective, unbiased opinion on matters within my expertise, both in preparing reports and giving oral evidence. I understand that this duty overrides any obligation to the party by whom I am engaged or the person who has paid or is liable to pay me. I confirm that I have complied with and will continue to comply with that duty.
2. I confirm that I have not entered into any arrangement where the amount or payment of my fees is in any way dependent on the outcome of the case.
3. I know of no conflict of interest of any kind, other than any which I have disclosed in my report.
4. I do not consider that any interest which I have disclosed affects my suitability as an expert witness on any issues on which I have given evidence.
5. I will advise the party by whom I am instructed if, between the date of my report and the trial, there is any change in circumstances which affect my answers to points 3 and 4 above.
6. I have shown the sources of all information I have used.
7. I have exercised reasonable care and skill in order to be accurate and complete in preparing this report.
8. I have endeavoured to include in my report those matters, of which I have knowledge or of which I have been made aware, that might adversely affect the validity of my opinion. I have clearly stated any qualifications to my opinion.
9. I have not, without forming an independent view, included or excluded anything which has been suggested to me by others including my instructing lawyers.
10. I will notify those instructing me immediately and confirm in writing if for any reason my existing report requires any correction or qualification.
11. I understand that:
  - 11.1 my report will form the evidence to be given under oath or affirmation;
  - 11.2 the court may at any stage direct a discussion to take place between experts;
  - 11.3 the court may direct that, following a discussion between the experts, a statement should be prepared showing those issues which are agreed and



those issues which are not agreed, together with a summary of the reasons for disagreeing;

- 11.4 I may be required to attend court to be cross-examined on my report by a cross-examiner assisted by an expert;
- 11.5 I am likely to be the subject of public adverse criticism by the judge if the Court concludes that I have not taken reasonable care in trying to meet the standards set out above;
12. I have read Part 33 of the Criminal Procedure rules and I have complied with its requirements;
13. I confirm that I have acted in accordance with the Code of Practice for Experts.

#### STATEMENT OF TRUTH

I confirm that the contents of this report are true to the best of my knowledge and belief and that I make this report knowing that, if it is tendered in evidence, I would be liable to prosecution if I have wilfully stated anything which I know to be false or that I do not believe to be true.

Signature.....



Date.....

28 / Sept / 2010

**Dr. Geoff Meaden   Canterbury Christ Church University, Kent**



STATEMENT OF WITNESS\_C.J.Act,1967, S.9;M.C. Act, 1980, S.102; M.C.Rules, 1981, r.70)

STATEMENT OF : Dr Geoff Meaden  
AGE OF WITNESS (D.O.B) : Over 21  
OCCUPATION OF WITNESS : Retired  
ADDRESS :

TELEPHONE :

This signed statement consists of 15 pages. It is true to the best of my knowledge and belief and I make it knowing that, if it is tendered in evidence, I shall be liable to prosecution if I have wilfully stated in it anything which I know to be false or do not believe to be true.

Dated the twenty ninth day of September, 2010

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Climate Change and its Impacts - General

1. I have lived in the Canterbury, Kent, area since 1974 and have worked until recently as Principal Lecturer in the Department of Geographical and Life Sciences at Canterbury Christ Church University. I have now retired, though I still undertake writing, research projects and consultancy work for the United Nations. At the university I specialised in three areas – biogeography, which is the study of the distribution of plants and animals on the planet, the local physical geography of Kent which includes coastal geography and water supply in the region and a third area, that of Geographical Information System (GIS). These are computer-based mapping and analysis programmes. Fisheries GIS is my research area and I was the Director of the Fisheries GIS Unit at the University.
2. There is presently a large and increasing body of evidence to suggest that the world's temperatures are rising. In respect of very long term changes in atmospheric temperatures we note that they have fluctuated periodically (but somewhat erratically) over many millions of years. The maximum range of fluctuations has been about 8C. Presently we are in a post-glacial warming phase that has been ongoing for some 9,000 years, though there have been minor fluctuations during this period. Using various types of evidence climatologists are able to calculate the approximate rates of temperature rise or fall fairly accurately, certainly for changes that have occurred over say the last 10,000

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years. From this research we can clearly establish that the present rates of temperature rise are unprecedented, even compared with rates over the past 10's of millions of years. These temperate rises have been very apparent over the last decades, and scientists have just confirmed that the world has just come through the warmest six months, the warmest year, and the warmest decade on record<sup>1</sup>. At least 99% of climatologists are convinced that the rate of warming is due to the release of so-called 'greenhouse gases' into the atmosphere<sup>2</sup>. Greenhouse gases include water vapour, methane, and carbon dioxide (CO<sub>2</sub>), and the gases are released into the atmosphere mainly by the burning of fossil fuels (coal, oil and natural gas), but also by activities such as burning forests, grazing animals, permafrost melting, growing rice, etc.

3. Not only is the climate generally warming but this change is occurring at a rapidly accelerating rate. Although much attention is drawn to warmer temperatures and rising sea levels these are only two of many factors associated with a warming planet. Table 1 summarises all the main indicators of Climate Change<sup>3</sup>. The importance of this Table is in indicating the varied ways in which Climate Change is having a progressively greater impact on human economies and welfare, as well as affecting the natural environment. A brief perusal of the table indicates that the effects caused are overwhelmingly negative.
4. I understand that the defendants assert that they undertook actions at the Ratcliffe-on-Soar power station because they believed that this coal-fired station was releasing gases into the atmosphere that would be contributing to death and/or serious injury to others. Is there any evidence that this might be the case? In the UK 65% of greenhouse gases comes from burning fuels to create energy (excluding transport)<sup>4</sup>. The amount of coal being used for power generation in the UK was higher in 2008 than it was in 1998, and coal is the major fossil fuel used at UK power stations. The use of coal is growing on a world scale, and it far exceeds the use of other fossil fuels (providing 40% of global electricity requirements). The burning of coal contributes to about 20% of global greenhouse gases<sup>5</sup>. On the basis of these facts it seems highly plausible that Britain's second largest coal-fired power station is significantly contributing to the emission of greenhouse gases and to climate change. The negative effects of this are listed in Table 1.
5. Some of the negative effects can be briefly enlarged upon. Climate Change is currently a major cause of rising sea levels. Thus, with Climate Change comes increased warming which in turn leads to increasing rates of melting of the world's ice and then to sea level rise. Ice normally covers a significant proportion of the polar regions of the Earth's surface and this ice reflects much of the sun's heat. With reduced ice cover less heat is reflected and instead this heat is absorbed by sea water, causing the warmed water to expand and thus to rise (this is called thermal expansion). For the first time ever it is likely that within five years there will be no ice at all over the North Pole during the summer<sup>6</sup>. The rate of sea level rise around the UK is presently up to 1cm per year and

<sup>1</sup> See [http://www.noaa.gov/stories2010/20100728\\_stateoftheclimate.html](http://www.noaa.gov/stories2010/20100728_stateoftheclimate.html)

<sup>2</sup> Summarised in <http://www.commondreams.org/headline/2010/07/29>

<sup>3</sup> Condensed from [http://www.epa.gov/climatechange/indicators/pdfs/ClimateIndicators\\_full.pdf](http://www.epa.gov/climatechange/indicators/pdfs/ClimateIndicators_full.pdf)

<sup>4</sup> Figures are from <http://www.direct.gov.uk/en/>

<sup>5</sup> See [http://www.pwclimate.org/global\\_warming\\_basics/coalfacts.cfm](http://www.pwclimate.org/global_warming_basics/coalfacts.cfm)

<sup>6</sup> See [http://en.wikipedia.org/wiki/Polar\\_ice\\_cap](http://en.wikipedia.org/wiki/Polar_ice_cap)

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| Climate Change indicator                       | How the indicator is manifest (effects caused)                                                                                                                            |
|------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Greenhouse gas emissions and concentrations | These are rising exponentially with a 30% increase since 1990.                                                                                                            |
| 2. Generally increasing temperatures           | Rising over 85% of the Earth, most notably in the northern hemisphere.                                                                                                    |
| 3. Drought and heat waves and forest fires     | Differential effects; recently severe in Russia, Niger, Australia, and Amazonia, and becoming more frequent.                                                              |
| 4. Rainfall                                    | Rapidly increasing number of concentrated precipitation events, e.g. Pakistan, NW China, France.                                                                          |
| 5. Severe storm events                         | In the northern hemisphere there is a considerable rise in the accumulated energy within tropical storms, hurricanes, cyclones, etc.                                      |
| 6. Sea temperatures                            | Although average sea temperatures have risen by only 1.5C over the last 100 years, the rate of rise is now increasing rapidly.                                            |
| 7. Ocean acidification                         | This is increasing everywhere, especially in the North Atlantic. It is rapidly killing off plankton, the base of the marine food web.                                     |
| 8. Sea level rise                              | Although the rise was only 18cms during the 20 <sup>th</sup> century, the rate of rise is now rapidly accelerating.                                                       |
| 9. Polar ice cover                             | There has been a 25% drop in the extent of Arctic ice cover in the last 30 years.                                                                                         |
| 10. Melting of glaciers                        | There has been a 30% loss in the volume of glacier ice in 40 years; the rate of such loss is now rapidly increasing                                                       |
| 11. Days of snow (or ice) cover                | Most ski resorts have their season shortened by about 10 days compared with 20 years ago. Some resorts are becoming uneconomic.                                           |
| 12. Total length of the growing season         | In mid-latitudes this has increased by about 14 days over the last 40 years. An increase can be both positive and negative.                                               |
| 13. Earlier leafing or flowers                 | Some leaves/flowers are appearing 26 days earlier than 40 years ago. This can severely affect faunal feeding patterns.                                                    |
| 14. Species migrations                         | Animal seasonal migrations are affected, and there is a progressive poleward (or altitudinal) shift in the distribution range of most species                             |
| 15. Increased human mortality                  | In France in 2005 a summer heat wave caused an excess of deaths (over normal) of 30,000. A similar occurrence was recorded in 2010 in Russia. Loss of life in wild fires. |

**Table 1 Main indicators and effects of Climate Change**

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this rate is increasing exponentially'. Even the more modest estimates suggest that sea levels will rise by nearly one metre by the end of this century<sup>8</sup>, but predictions suggest that sea levels could rise by perhaps four or even five metres by the end of the next century. I believe that the sea level rises will be at the higher end of predictions made by the Intergovernmental Committee on Climate Change (IPCC), and indeed nearly all past estimations of the rate of rise have had to be adjusted upwards.

6. Climate Change and increased warming means increased storm activity with more and larger hurricanes and cyclones in tropical areas due to the warming climate. On a world scale these cyclones and hurricanes have led to devastating floods in places such as Bangla Desh and New Orleans. But Britain will be similarly affected by storm activity. Increased winds will cause higher waves and thus a greater likelihood of marine flooding. If storms occur in conjunction with high tides then the flooding is increasingly likely to be on a very extensive scale, e.g. as happened in the well-documented 1953 floods along the North Sea coasts. The Environment Agency are finding it increasingly impossible to guarantee the protection of Britain's coastline, and indeed their recent Shoreline Management Plans have indicated that many stretches of our coastline will not be receiving further protection<sup>9</sup>. This will result in hardship, loss of property and an inability to sell properties in 'condemned' areas.
7. Climate Change has an impact on protected habitats. Most habitats having protected status have been selected on the basis of their uniqueness and/or their locational suitability, and protection may be afforded to flora and/or fauna or to complete ecosystems or broader habitats. In a recent study<sup>10</sup> it was found that on average ecosystems are shifting polewards at about a quarter of a mile per year, but flatter, lowland habitats may be moving at up to 2/3rds of a mile per year. Nearly a third of the habitats in the study had 'shift velocities' higher than even the most optimistic plant migration estimates, suggesting that plants in many areas will not be able to keep up with the shifting climate. This will be disastrous for all natural habitats (including their whole range of species) as there will not be time for any specific ecosystem to become established before it is 'invaded' by its successor. Ecosystems that will be particularly vulnerable will be those that are rare and thus occupy small areas or, e.g. tropical mangroves, those that are vulnerable to slight physical or environmental changes, e.g. coral reefs, and in fact most ecosystems that currently have high levels of protection.
8. Other consequences of Climate Change that are severely impacting human welfare and economies include the related factors of drought, heat waves and forest fires. Over recent years each of these factors has occurred with both increasing regularity and severity, e.g. including the droughts in Niger, SE Australia, Amazonia and southern Russia. Heat waves have led to greatly increased mortality in places such as France and Russia, and 17 northern hemisphere countries have experienced record temperatures this summer<sup>11</sup>. Forest fires have raged through southern California, Greece, southern

<sup>7</sup> This means that rises are occurring at an accelerating rate.

<sup>8</sup> See [http://www.skepticalscience.com/sea\\_level\\_rise\\_predictions.htm](http://www.skepticalscience.com/sea_level_rise_predictions.htm)

<sup>9</sup> See <http://www.environment-agency.gov.uk/research/planning/104939.aspx>

<sup>10</sup> California Academy of Sciences (2009, December 24). Scientists map speed of climate change for different ecosystems. *ScienceDaily*. (See [www.sciencedaily.com/releases/2009/12/091223133337.htm](http://www.sciencedaily.com/releases/2009/12/091223133337.htm))

<sup>11</sup> Details of all main heat waves in 2010 are given at [http://en.wikipedia.org/wiki/Heat\\_wave](http://en.wikipedia.org/wiki/Heat_wave)

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France, Australia and Russia. These related events have caused immense economic loss, loss of life, loss of property, food losses and desertification of the landscape. Increased mortality is likely to be caused by other factors. For example there will almost certainly be a spread of tropical diseases (such as malaria and dengue fever) as the 'tropics' expand their distributions. Larger droughts will cause famine especially in already impoverished areas, and there is likely to be huge direct and indirect loss of life caused by flooding. The recent catastrophic flooding in Pakistan almost certainly resulted from the normal monsoon event being exacerbated by Climate Change. The UN are presently in the process of raising half a billion dollars simply to alleviate the consequences of this one event<sup>12</sup>. This is money that might have been spent on welfare, education or health. As this type of event occurs with more frequency, then Climate Change increasingly becomes the root cause of financial resources being diverted from human progress.

9. It needs to be stated that predictions of sea level rise and other manifestations of Climate Change are extremely difficult to make with accuracy because this depends on who is doing the projection, where the base lines are set and, of course, there are so many uncertainties surrounding the predictions. For instance, we know that there are so-called 'tipping points'. This means that if temperatures rise above certain critical points then some new and potentially dangerous process can be triggered. A good example of this is that there has recently been a huge increase in the rate of permafrost (frozen sub-soil) melting in North America and Siberia, and this is causing greatly enhanced releases of methane into the atmosphere. Additional methane is one of the most dangerous causes of global warming. On the broader 'tipping point' scenario, scientists have calculated that if mean global temperatures rise by more than an additional 2C, then there will be nothing that mankind can do to prevent the acceleration of glacier ice melt and the Greenland ice sheet from melting. If this occurs sea levels will rise by about seven metres<sup>13</sup>. The property damage experienced under such a scenario will be catastrophic and irreversible, and indeed countries such as the Maldives and Tuvalu would completely disappear. There is no indication that the current collective human efforts to reduce greenhouse gas accumulations will be sufficient to prevent this 2C temperature rise. It is likely that there will be other tipping points that we are entirely unable to predict, but which will have unforeseen consequences. Indeed it has been suggested that the most urgent and necessary 'tipping point' is a change in human attitudes and actions towards the potential dangers arising from Climate Change<sup>14</sup>.
10. I believe that global temperatures will continue to increase at an accelerating rate. Recently the scientific adviser to the World Bank (Robert Watson) stated that within a relatively short time period temperatures will be 4C above pre-industrial (1750) levels<sup>15</sup>, and this fact was agreed by the British government's chief scientist (Professor John Beddington)<sup>16</sup>. A recent study by the Meteorological Office said that such a 4C rise could come as soon as 2060 without urgent and serious action to reduce emissions. A temperature rise of this level will have catastrophic effects not only on sea level rise but it will also trigger mass extinctions of many of the planet's plants and animals who will not be able to adjust sufficiently to the enhanced temperatures and other climatic changes. In fact it has been estimated that probably half of the world's species would be

<sup>12</sup> See <http://www.reuters.com/article/idUSTRE6613RS20100813>

<sup>13</sup> See [http://en.wikipedia.org/wiki/Current\\_sea\\_level\\_rise](http://en.wikipedia.org/wiki/Current_sea_level_rise)

<sup>14</sup> See <http://motherjones.com/environment/2006/11/thirteenth-tipping-point>

<sup>15</sup> Reported in <http://www.guardian.co.uk/environment/2008/aug/06/climatechange.scienceofclimatechange>

<sup>16</sup> See <http://www.metoffice.gov.uk/corporate/pressoffice/2010/pr20100714.html>

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lost if temperatures rise to this level<sup>17</sup>. This mass extinction results from the fact that neither flora nor faunal species can shift their distributional range rapidly enough, or make the required physiological adaptations, to keep abreast of temperature (or other climatic) changes. Additionally, most species will not be able to cross physical, topographic or urban barriers so as to move into suitable habitats.

11. The IPCC has been warning for over a decade that societal responses to Climate Change have failed to live up to those necessary to ensure an acceptable planetary equilibrium in terms of human and other species welfare, and in terms of longer term ecosystems and environmental sustainability. Although many efforts have been made to achieve global agreements on measures to ameliorate the causes of Climate Change, and indeed to take the required actions to reverse the negative effects, these efforts have in no way been up to what is required. For instance, the Kyoto protocol, adopted in 1997 and effective from 2005 with "legally binding commitments" to reduce greenhouse gases, led to no such increase and instead of emissions falling by 2 to 3% per annum they have continued to increase at about this rate. The 2009 Copenhagen Climate Change talks failed to supplant or supplement the Kyoto Protocol, and failed to set a timetable for agreeing an enhanced treaty. It must also be remembered that about 45% of the world's population live in the rapidly developing countries such as Brazil, India and above all China. These countries have economic growth rates of ~10% per annum. Economic growth rates are highly correlated with rates of greenhouse gas emissions. This means that, despite some 'greening efforts', gas emissions from these countries are likely to triple in the next 30 years.
12. To conclude this section, I sincerely believe that Climate Change, mainly in the form of global warming, is caused by increased emissions of a range of so-called 'greenhouse gases' arising from various human activities, e.g. burning fossil fuels, deforestation, some forms of agriculture, etc. The single greatest contributor to global warming is the burning of coal and indeed about a 20% of all CO<sub>2</sub> emissions are from this source. Despite warnings by several thousand climate change scientists, it is certain that greenhouse emissions are still accumulating in the atmosphere, and that these gases are having an increasingly negative impact on the planet and its people. I have alluded to these by way of a Table. The amount of harm inflicted by the effects of global warming, including many forms of death and destruction, is already high and is likely to increase rapidly in the near future.

#### The impacts of Climate Change in the Nottingham and Humberside areas

13. Having considered some general facts about Climate Change and its consequences, attention is now turned to possible repercussions of Climate Change at the local scale, i.e. around Ratcliffe-on-Soar and in the Trent/Humber area. The purpose of this is to try to put into a local context the extent of the damage that is likely to occur following either

<sup>17</sup> Reported in <http://www.independent.co.uk/environment/animal-extinction-the-greatest-threat-to-mankind-397939.html>

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a local river or local marine flooding event. In doing this we look at possible events that are plausible and very likely to occur within a decadal to two centuries time scale.

14. The Ratcliffe-on-Soar power station is located on the lowest reach of the River Soar about one mile from where the Soar joins the River Trent. The Trent and its main tributaries make up the second largest river basin system in England, covering an area of 10,440 km<sup>2</sup>. All of the north-west section of the Trent catchment, including the main tributaries of the Dove and Derwent, drain the southern flanks of the Pennines. The south-west portion of the catchment is drained by the River Tame, and the south-east portion of the catchment is drained by the River Soar and its tributaries. The waters captured by the Trent and its tributaries eventually make their way to the sea via the lower Trent and the Humber estuary.
15. Several characteristics of the Trent catchment make it particularly vulnerable to flooding. The north and western portions are characterised as part of the 'Peak District' and comprise of upland areas of mixed geology. Here the rainfall is relatively high (typically >1,000mm per year) and the nature of the often steep ground is such that spate flows are frequent, especially in winter. Much of the upper sections of the catchment are intensively urbanised including the towns of Stoke-on-Trent, Stafford, Walsall, Birmingham, Burton-on-Trent, Derby and Leicester. Urbanised areas comprise of extensive non-porous surfaces which greatly increases the speed of rain water run-off into the main tributaries and rivers. According to the Environment Agency the Trent catchment has a long history of severe flooding caused by severe rain with excessive run-off, snowmelt, groundwater discharges, and high tidal surges<sup>18</sup>. The extreme and extensive flooding in 1947 was the catalyst for many flood protection schemes throughout the Trent catchment, with this work being completed in the early 1970's. However, nearly all of these defence systems were built to contain likely 1 in 100 year flooding events<sup>19</sup>, though recent modelling has shown that in practice these defences will only contain 1 in 50 year events. Whilst those levels of protection were generally sufficient for 20th century flooding, this will be totally inadequate for likely 21<sup>st</sup> century river flood events. Indeed, according to Environment Agency modelling, with the existing 1 in 100 year flood defences, were such an event to occur then approximately 20% of the city of Nottingham would be flooded.
16. Looking to the future, a major result of Climate Change for the UK will be increased winter rainfall. This is likely to come in the form of more high intensity rainfall events, and it is just such rainfall that is most likely to cause serious river flooding. This occurs because with heavy rain the ground rapidly becomes waterlogged and when further rainfall can no longer infiltrate the soil, then it runs off across the surface making its way downhill to the nearest stream. Streams swell quickly and water speeds may increase. Minor streams join with others to form major streams, and soon there can almost literally be a wall of water coming down the catchment. A recent account of flooding in the Swat valley of northern Pakistan described how water levels rose in some villages by 7 metres in about 5 minutes<sup>20</sup>. Similar events have occurred in the UK such as the Lynmouth disaster of 1952 and the Boscastle event of 2004, and more local to Nottingham there was the less intensive but widespread flooding events of June 15<sup>th</sup>, 25<sup>th</sup> and July 9<sup>th</sup>,

<sup>18</sup> See [http://www.environment-agency.gov.uk/static/documents/Research/chapter3\\_part1\\_1892166.pdf](http://www.environment-agency.gov.uk/static/documents/Research/chapter3_part1_1892166.pdf)

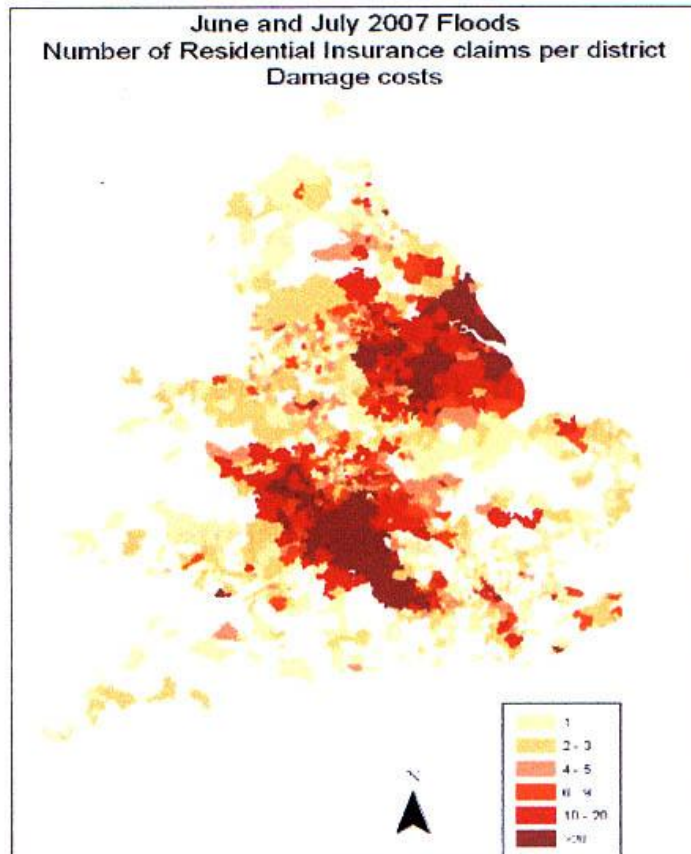
<sup>19</sup> These would be floods sufficiently large that they might be expected to occur only once in a hundred years.

<sup>20</sup> The repercussions of this are reported in detail at

<http://www.guardian.co.uk/global/blog/2010/aug/02/pakistan-floods-live-updates>

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2007 when intensive rainfall occurred over the north of Lincolnshire and the East Riding of Yorkshire. This led to the disastrous flooding of Hull which affected more than 10,000 homes and to this day is causing inconvenience. The Environment Agency has estimated that the total costs of the 2007 floods in England was £3.2 billion which was paid for by private individuals, business, insurance companies and local authorities<sup>21</sup>. Figure 1 gives a good indication of the location and extent of river flooding in 2007.



**Figure 1. Location and extent of river flooding in 2007 as shown by numbers of insurance claims per local authority.**

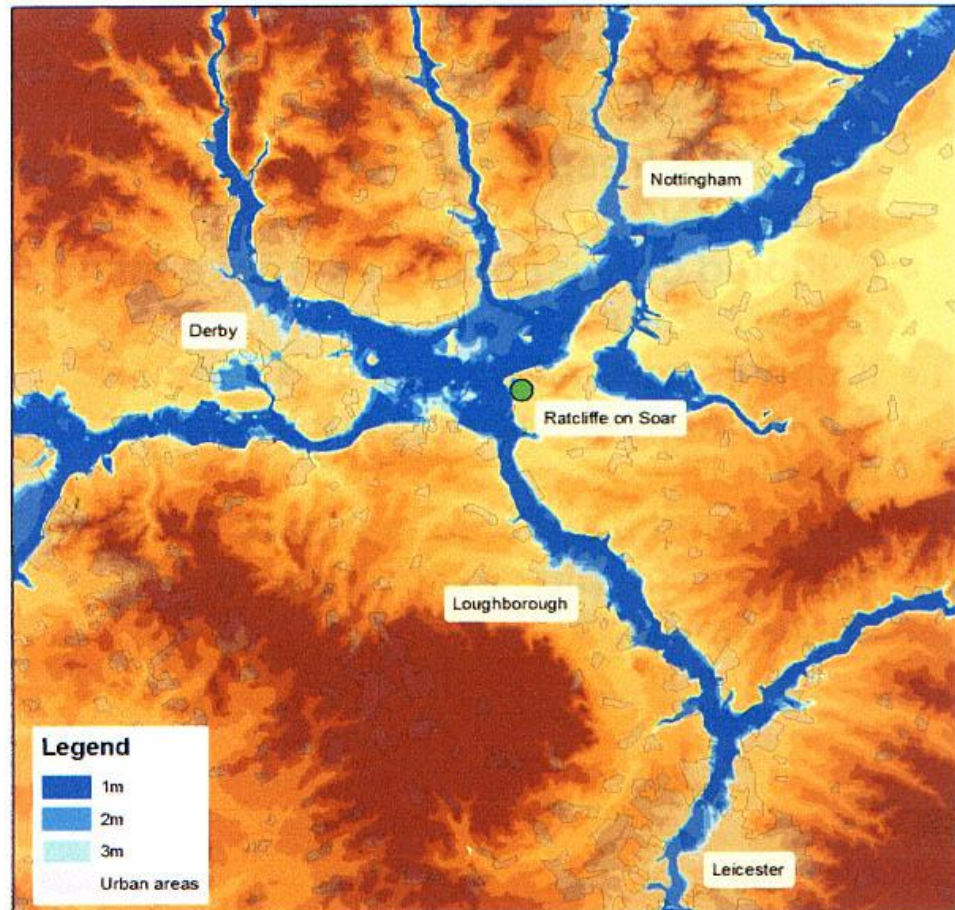
17. Figure 2 shows in some detail the area around Ratcliffe-on-Soar. The total area shown here is ~1,000 square miles. The brown shading shows topography (heights of the land), the grey areas are urban such as the main towns plus numerous smaller towns and villages, and the power station site at Ratcliffe-on-Soar is clearly indicated. Most importantly the map shows floodable areas. The darker blue shading shows areas that are likely to be flooded given a river rise of one metre above present river bank level; the mid blue extends this to a river flood level of 2 metres and the pale blue goes to a 3

<sup>21</sup> See <http://publications.environment-agency.gov.uk/pdf/SCHO1109BRJA-e-e.pdf>

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metre flood. Obviously this map can only be generalised because the highly variable local microtopography, as well as uncertainty regarding future climate changes, preclude any detailed vulnerability analysis. The extensive darker blue areas are where the floods



**Figure 2. The effect of various flooding levels in the Ratcliffe-on-Soar area**

floods are covering the river's natural, flat floodplain and either side of this floodplain there is less additional flooding because waters are simply rising up the steeper sides near the valley bottoms. So, given this scenario of flooding, about 85 square miles of this mapped area would be flooded following a one metre above-bank flood, and nearly 100 square miles would be flooded with an above-bank 3 metre rise of flood waters. A greater than one metre level of flooding is easily contemplated for this area during the

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coming decades. The stretch of waterway crossing the map is the main River Trent, and here the likelihood of flooding is high because it can be seen that several major tributaries converge near the power station. The costs of preventing any future large-scale flood event in this small area would be exceedingly high. As we have seen the existing flood defences are relatively old and can perhaps now only cope with 1 in 50 year flood events. This level of protection is totally insufficient for likely 21<sup>st</sup> century floods. New flood defences would be needed for all the built up areas along the valleys and these could cost £15 million per km<sup>22</sup>. Future flood damage is highly likely along this section of the Trent, affecting farm land, crops, infrastructure, bridges, utilities, businesses and above all homes and livelihoods; indeed the Ratcliffe-on-Soar power station is itself vulnerable to flooding if a 2 metre flood event were to occur.

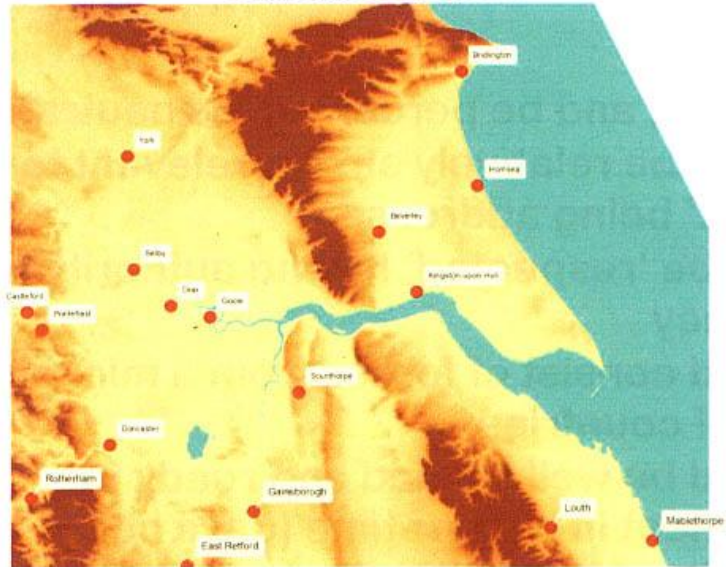
18. Moving downstream from the Ratcliffe-on-Soar location it is instructive to examine the potential marine flooding events that are a future possibility in the lower Trent and Humberside area; a location containing the UK's largest coal-fired power station at Drax. Figures 3 to 6 below show the present topography, location of larger towns and the coastline, as well as the likely position of the coastline following a 1 metre, 3m, and 5m rise in sea level. The term 'likely position' is used because we do not know the level of coastal defences that might be built during the next two centuries, i.e. the likely time period over which this amount of sea-level rise could occur. Given the intentions of the authorities both to not hold the line on all future sea defences, and not to be able to afford the massive costs associated with building future defences of perhaps up to 4 metres higher than at present, then it is quite possible that nearly all of these areas will be liable to future flooding, and that a good proportion of the area will be simply abandoned to the sea. It is clear from these maps that the really significant changes will occur at perhaps a two or three metre rise, and this is likely to occur around the middle of the next century. Areas very severely affected by sea level rise will be those to the south of the upper Humber estuary bordered by Goole, Scunthorpe, Gainsborough and Doncaster. This area is known as the Humberhead levels and it represents the location of the former (Ice Age) Lake Humber. By the time that a 5 metre sea level rise might occur (at the end of the next century), the former lake area is substantially increased in size, as is the width of the Humber estuary itself and are the lower valleys of the Hull, Ancholme, Don and Ouse rivers.
19. It is difficult to be precise about the impact that sea level rise will have on a more specific scale in the mapped areas because the amount and extent of flooding is totally unpredictable. Any marine flood event is dependent on a number of factors - tide, winds, waves - which we cannot be specific on. It is also dependent on the strength of the flood defences at every point along the coast, and as was seen in the New Orleans flood of 2007, there may always be a weakest point that eventually gives way, but we do not know where that point will be. What we do know is that much of the coastal defences

<sup>22</sup> The huge future costs associated with flood defences are summarised in [http://www.loyds.com/News-and-Insight/News-and-Features/Environment/Environment-2009/UK\\_flood\\_defence\\_spending\\_must\\_double\\_to\\_avoid\\_disaster](http://www.loyds.com/News-and-Insight/News-and-Features/Environment/Environment-2009/UK_flood_defence_spending_must_double_to_avoid_disaster)

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### Current Sea Level



**Figure 3. The present coastline in the Humberside area**

### Current Sea Level + 1m



**Figure 4. Position of the coastline in the Humberside area with a 1 metre rise in sea level**

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### Current Sea Level + 3m



Figure 5. Position of the coastline in the Humberside area with a 3 metre rise in sea level

### Current Sea Level + 5m

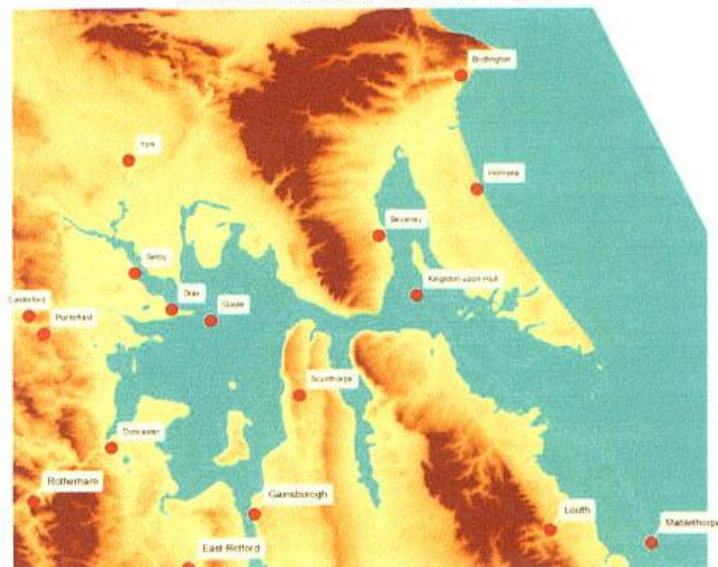


Figure 6. Position of the coastline in the Humberside area with a 5 metre rise in sea level

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along the Humber were constructed following the 1953 floods and these are in urgent need of upgrading. We also know that seaside areas attract large populations and the coastal areas here have many places where many hundreds of people live at little above sea level. A single flood event affecting any properties in these areas has an average remediation cost valued at 10% of the property's value, though it is much higher than this for people who are obliged to evacuate their homes. And increasingly we will find that insurance for any low lying properties is going to be harder to obtain or very much more expensive. We also know that there will be no compensation given to people who are obliged to vacate their homes due to managed realignment<sup>23</sup>, i.e. where the sea will be allowed to encroach upon selected areas along the coast.

20. A further important factor to consider is that most of the coastline, including the whole of the Humber estuary, is already protected from flooding or coastal erosion by various sea defences, e.g. sea walls, promenades, revetments, etc. Whilst during normal times these defences work to prevent attacks from the sea, they do have several long term negative effects. Firstly, in the more exposed marine areas along the North Sea coast, because of the sea defences, waves cannot naturally run up and down the beach, and instead they crash against defences. As they continue to do this the beach level gradually drops, i.e. by perhaps several centimetres per year. Lower beach levels naturally mean deeper water and in turn an increasing wave strength and height. This is because when waves travel across deeper beaches their energy is not absorbed; shallow beaches exert lots of friction on the waves so they quickly lose their energy. So when future storm surges occur they will almost certainly be accompanied by much higher waves, especially in those vulnerable areas that are presently defended by sea walls. Unless substantial extra funding is spent on wider, deeper and stronger sea defences, then breaching of the defences is much more likely and the potential for flooding is enhanced. Secondly, in the more sheltered areas that are presently defended, such as the whole of the Humber estuary, a process called 'coastal squeeze' occurs. This means that as sea levels rise the extensive areas of mud flats or salt marsh that lie between the sea defence and the water will gradually disappear – they will literally be drowned out. For Humberside especially this will incur a huge loss of intertidal habitats; marine ecosystems that are currently the basis of many designated natural areas. These intertidal habitats act as important staging posts for migrating birds, and with their loss the birds will have no stop-over resting or feeding sites. Thirdly, accompanying this encroachment of the sea there will be saline intrusions into what are presently fresh groundwater sources, and this is already being recorded for the lower Humber estuary. And finally, the existence of flood defences exacerbates the long term flood risk because, if an area is naturally flooded, then sediments are laid down which increase the height of the land. Sea walls prevent this, and over time there is an increasing height differential between marine waters and the land behind the defences. This is very noticeable along the Humber estuary.

21. The situation around Hull is particularly worrying. About 90% of the city's area is presently below the highest tidal levels, with 300,000 people living here. Although present defences from marine flooding are adequate in the event of normal (say 1 in 50 year marine flood events), the 2000 Humber Shoreline Management Plan indicated that unless £300 million is spent in the very near future on improving sea flood defences along the Humber, then 70% of the defences will be unsatisfactory by 2050<sup>24</sup>. There is

<sup>23</sup> See [http://www.coastman.net.co/publicaciones/cc/\(0049\).pdf](http://www.coastman.net.co/publicaciones/cc/(0049).pdf)

<sup>24</sup> Available at <http://www.hull.ac.uk/coastalobs/general/erosionandflooding/shorelinemanagementplans.html>

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no indication that this level of spending for this purpose is presently available. And indeed the existing defences were built to contain a 1 in 200 year flood event, but it is now thought that many of these defences can only cope with a 1 in 5 year flood event.

22. There has been plenty of evidence over at least the last decade to show that climatic related disasters are becoming more frequent. There has also been a wealth of climatic modelling done by numerous institutions throughout the world, and on the basis of this it is relatively simple to list a wide range of scenarios in which the human condition will be increasingly affected. However, a problem that anyone considering these issues must now face is that specific scenarios will be difficult to accurately forecast, they will be unpredictable, incrementally more frequent, far more widespread and extensive human resources will be forfeited to ameliorate each situation. So, it will be difficult to perceive of the immensity of future widespread property damage and of personal losses caused by Climate Change. I have to agree with A. Barrie Pittock (lead author of the IPCC Reports) who has said<sup>25</sup>, "The real issue now is urgency, not whether climate change is really happening."

#### Declaration

1. I understand that my duty in providing written reports and giving evidence is to help the Court, and that this duty overrides any obligation to the party by whom I am engaged or the person who has paid or is liable to pay me. I confirm that I have complied and will continue to comply with my duty.
2. I confirm that insofar as the facts stated in my report are within my own knowledge I have made clear which they are and I believe them to be true, and that the opinions I have expressed represent my true and complete professional opinion.
3. I have endeavoured to include in my report those matters, of which I have knowledge or of which I have been made aware, that might adversely affect the validity of my opinion. I have clearly stated any qualifications to my opinion.
4. I have shown the sources of all information I have used.
5. I have not without forming an independent view included or excluded anything which has been suggested to me by others including my instructing lawyers.
6. I will notify those instructing me immediately and confirm in writing if for any reason my existing report requires any correction or qualification.

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<sup>25</sup> Barrie Pittock, A. (2009) *Climate Change (2<sup>nd</sup> Ed)*. CSIRO Publishing, Australia.

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7. I understand that;
- a) my report, subject to any corrections before swearing as to its correctness, will form the evidence to be given under oath or affirmation;
  - b) I may be cross-examined on my report by a cross-examiner assisted by an expert;
  - c) I am likely to be the subject of public adverse criticism by the judge if the Court concludes that I have not taken reasonable care in trying to meet the standards set out above.
8. I confirm that I have not entered into any arrangement where the amount or payment of my fees is in any way dependent on the outcome of the case.

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**Press**





National Coordinator  
for Domestic Extremism

NETCU – National Extremism Tactical Coordination Unit

<http://www.netcu.org.uk/media/article.jsp?id=531&chx=08301292f62059fd2758740b6fc5e89e>

Date: 1 October 2009

### **26 charged with conspiracy to commit aggravated trespass**

Twenty-six people have been charged with conspiracy to commit aggravated trespass at Ratcliffe-on-Soar power station.

Simon Lewis, 37, of Cliff Mount, Leeds is due to appear before Nottingham magistrates on Monday 5 October.

David Barkshire, 43, of Rampton Road, Sheffield; Spencer Pawling, 40, of Llanerchymedd, Gwynedd; Daniel Chivers, 31, of Campbell Road, Oxford; Brody Curtis Stevens, 31, of Andover Street, Sheffield; Sarah Shoraka, 31, of Fairholt Road, London; Paul Kahawatte, 24, of Teynham Road, Whitstable, Kent; Emma Shepards, 28, of Hamilton Road, Manchester and Bradley Day, 22, of Spring Terrace, Swansea are due to appear at Nottingham Magistrates Court on Friday 9 October.

Spencer Cooke, 43, of The Square, Bestwood Village, Nottingham; Ben Julian, 32, of Groombridge Road, London; Christopher Kitchen, 31, of Dean Street, Colchester; Jesse Harris, 23, of Hartley Avenue, Leeds; Martin Shaw, 44, of Campbell Road, Oxford; Olaf Bayer, 34 of Campbell Road, Oxford; Oliver Knowles, 34 of Lordship Park, London and Ben Stewart, 35, of Allen Road, London are due to appear at the same court on Monday 12 October

Phillip Ashley Murray, 23 of St Stephen's Road, Canterbury, Kent, Jonathan David Leighton, 20, of Basset Avenue, Southampton, Anna Rudd, 30, of Cliff Mount, Leeds, Jacqueline Ann Sheedy, 44, of Foulden Road, London, Daniel Joshua Glass, 25, of Willowbank Street, Glasgow and Anthony Mullen, 35, of Andover Street Sheffield will appear at the same court on Tuesday 13 October.

Clare Freda Whitney, 23, of Catherine Street, Cambridge, will appear before magistrates at the same court on Friday 16 October, Lisa Maria Kamphausen, 25, of Highfield Crescent, Southampton is due to appear at the court on Friday 23 October and Adam Keith Weymouth, 25, of Meadow Court, Whiteparish, Salisbury, will be in court on Tuesday 27 October.

All were arrested at an independent school in the Sneinton Dale area of Nottingham during a major police operation on 13 April this year.

## **Climate change protesters' anger was justifiable, says Nasa scientist.**

**Activists accused of conspiracy to trespass were arrested before they carried out plan to force E.ON's coal plant at Ratcliffe-on-Soar to shut down**

Tim Webb

guardian.co.uk, Monday 29 November 2010 20.58 GMT

The anger of 114 activists who planned to break into a coal plant near Nottingham was understandable because of the "lies" told by governments about climate change, Nasa's top scientist told the trial of 20 climate campaigners.

Professor James Hansen, the NASA scientist credited with doing the most to raise awareness of climate change, had flown from the US to be the star witness.



Twenty activists are accused of conspiracy to trespass on private property. They were arrested last Easter before the group were able to carry out their plan to force E.ON's coal plant at Ratcliffe-on-Soar to shut down for a week.

The activists claim that had they succeeded, 150,000 tonnes of CO<sub>2</sub> would not have been emitted.

Hansen, a vocal critic of coal power, told Nottingham crown court: "The fact that we continue to burn more coal and build more coal plants shows governments are not telling the truth "If they are saying they understand climate problem but will continue to burn coal its easy for me to understand that young people get upset, because they know governments are lying or kidding themselves."



Hansen's evidence was crucial in the case of the "Kingsnorth six" who broke into the Kent coal-fired power station and scaled a chimney. Their "lawful excuse" defence, that the harm they did was committed to prevent the greater harm of climate change, was successful and they were acquitted in September 2008.

Sarah Shoraka, biodiversity campaigner with Greenpeace, from North London, was the first defendant in the witness box. Felicity Gerry for the prosecution asked her why, rather than spend £15,000 on the planned plant occupation, the group did not enlist a celebrity like Cheryl Cole to front a "green" campaign to encourage people to wear second hand clothes for example.

Telling the court that she had a compost toilet at home, she also said that the "Meat Free Monday" campaign to cut down on meat consumption and related emissions promoted by Coldplay's Chris Martin and Sir Paul McCartney was, "quite an effective campaign because some celebrities are involved."

She suggested the activists should have tried something similar. "Why did you not just do 'turn off Tuesday or switch off Saturday'".

Shoraka, who did not deny her involvement in the protest, said that it was not a publicity stunt. She also expressed her frustration at the time with politicians' failure to ban coal plants.

"I was very pessimistic at the time. I did not see there was any political will to go anywhere near tackling this problem. I felt it was hopeless. These people who were supposed to be there to protect us failed in their duty to do that."

Gerry also asked professor Hansen "it may be suggested... that if we all use biodegradable compost toilets and switch off the lights then that will achieve significant results in reducing the level of CO<sub>2</sub>. What do you say to that?"

Hansen responded "Unfortunately that will do little good... burning it a little more slowly, being a little more conservative in our use. We are going to have to leave fossil fuels in the ground. The biggest one to leave in the ground is coal."

Hansen told the court the UK was the world's biggest carbon polluter on a per person basis since industrialisation so the onus was on the UK to lead the way in phasing out coal plants. Gerry put it to him: "its grandma's fault." Hansen responded: "Yes but grandma didn't know about it. We do now."

He also explained that he had begun speaking out more in last five years because he now had grandchildren. "I did not want them to say pa you understood what was happening but you never made it clear. You can see the changes now. The things which will happen during the lifetime of our young people if we continue as business as usual will dwarf these [current] inconveniences."

<http://www.guardian.co.uk/environment/2010/nov/29/climate-change-activists-trespass-charges>

## Ratcliffe activists found guilty of coal station plot

*Campaigners who planned to shut down coal-fired power station convicted of conspiracy to commit aggravated trespass*

James Meikle and Tim Webb

Guardian Tuesday 14 December 2010

Environmental activists who were arrested before they could execute a planned shutdown of a coal-fired power station near Nottingham in April last year were today convicted of conspiracy to commit aggravated trespass.



The 20 campaigners were among 114 detained on Easter Monday 2009 in the largest pre-emptive police operation against environmentalists ever mounted in the UK. They were arrested on suspicion of planning to occupy and close down E.ON's operations at Ratcliffe-on-Soar for a week. The 14 men and six women will be sentenced at Nottingham crown court on Friday. The maximum penalty for the offence is three months' imprisonment, a £2,500 fine or both. The police operation to thwart their action cost £300,000.

The campaigners are members of a network that developed out of Climate Camp protests. They admitted planning to shut down the power station but denied the charge they faced, using a defence of "necessity". They argued they were acting to prevent the greater crimes of death and serious injury caused by climate change, and called expert witnesses to support them – including the Nasa climate scientist James Hansen.

The jury had begun considering its verdict on Friday. Speaking afterwards, Clare Whitney, one of the campaigners, said: "During this trial we have heard from people on the frontline of our changing climate, and from a company that is still burning the most dirty form of fossil fuel for their economic benefit. These worlds are not compatible. Taking action is not an issue of moral righteousness but an act of self-defence. If we're to stand a chance of avoiding irreversible climate change we've got to realise that to bring about a better world we'll need to do it ourselves."

Another of those convicted, Chris Kitchen, said, "We are in solidarity with all those around the world fighting for climate and social justice. Together we need to stop the root causes of climate change, we need to stop profit being put before people. It's big business and politicians that are the real criminals and we will not stand by as we are robbed of our future."

Dan Glass, another defendant in the case, said: "This ruling won't stop emissions. But the huge support we have received from the people of Nottingham and internationally, does demonstrate that public opinion is increasingly turning against the liberties that governments are taking with our future."

The campaigners claimed that had they succeeded, they would have prevented the emission of 150,000 tonnes of CO<sub>2</sub>.

E.ON declined to comment on the verdict. Six people who said they had not decided whether to take part in the protest when they were arrested face a separate trial next month.

In his evidence, Hansen suggested the actions of the campaigners were understandable. He told the court last month: "The fact that we continue to burn more coal and build more coal plants shows governments are not telling the truth."

"If they are saying they understand the climate problem but will continue to burn coal it's easy for me to understand that young people get upset, because they know governments are lying or kidding themselves."

Nottinghamshire Police welcomed the verdict. Superintendent Adrian Pearson, who led the investigation, said it had showed "that these individuals were determined to commit offences that would result in them not only trespassing on private land, but also damaging property and potentially endangering the lives of others. These actions would have had a major impact on people living not only in Nottinghamshire, but across the East Midlands."

"Nottinghamshire Police acted swiftly to successfully disrupt their plans in what was a massive operation for the force, costing around £300,000. However, if these people had been successful, the cost would have been much higher, not only to the police, but also in terms of disruption to the public and damage to the power station," he added.

The conviction came as a blow to environmental campaigners. Greenpeace members had successfully argued "lawful excuse" as a defence after another power station protest. Six were acquitted of causing criminal damage at Kingsnorth power station in Kent in 2007 when they were tried the following year.

During the case, Felicity Gerry, for the prosecution, had suggested that direct action could "disengage ordinary people" such as the members of the jury. They might see activists as "a bit quirky and kooky and not necessarily mainstream".

She asked one defendant why the group had not spent £15,000 they set aside for the planned occupation on a celebrity such as Cheryl Cole to front campaigns to tackle climate change.

She also suggested to Sarah Shoraka, biodiversity campaigner with Greenpeace, from North London, that the Meat-Free Monday campaign to cut down on meat consumption, promoted by Coldplay's Chris Martin and Sir Paul McCartney, was "quite an effective campaign because some celebrities are involved". The activists could have tried something similar. "Why did you not just do 'Turn off Tuesday' or 'Switch off Saturday'?"

Shoraka answered that the action was not a publicity stunt. "I was very pessimistic at the time. I did not see there was any political will to go anywhere near tackling the problem."

Ed Rees QC, for the defence, had earlier said: "The prosecution suggests that it [the protest] was a laugh and a bit of a jolly and was for fun."

Much of Hansen's evidence revolved around the need to avoid reaching a tipping point where climate change would spiral outside of control. One key "amplifying feedback" was the melting of ice-caps, he said, which cause the earth to warm more quickly because oceans absorb heat rather than reflect it like snow and ice. If melting reached a certain rate, it would be irreversible. "You do not want to reach a point where you begin to get collapse (of ice sheets) and rapid change. If you reach that point you have gone too far and it will be out of humanity's control."

A statement issued on behalf of all those on trial, asserted that, as UN climate talks finished in Cancún, Mexico, with no legally binding framework on reducing emissions, "the British legal system is still upholding business as usual".



## NOTTINGHAM POST



Facing costs: Ratcliffe-on-Soar Power Station protesters outside Nottingham Crown Court.

PICTURE: MATT ALEXANDER C241110MA5-1

# Power station protesters guilty of occupation plot

By Rebecca Sherdley

Legal Affairs correspondent

A JUDGE may order climate change protesters to pay a contribution to the substantial cost of prosecuting them after they were found guilty of planning to shut down Ratcliffe-on-Soar Power Station.

The twenty activists, who come from across the UK, were convicted yesterday of conspiracy to commit aggravated trespass at the coal-fired plant.

They were among 114 protesters arrested at 12.25am on the morning of Easter Monday – April 13, 2009 – at the Iona School in Sneinton.

After the verdict, Judge Jonathan Teare, asked for more information about the defendants' finances before he sentences them on Friday.

He also indicated that he will not send any of them to jail, instead looking at handing them suspended sentences or community punishment or-



Coal-fired plant: Ratcliffe-on-Soar Power Station.

ders. Jurors at Nottingham Crown Court heard that there had been a plot to drive to the power station and close it down for a week by climbing on to machinery.

Paperwork at the school supported their plan and included a leaflet for power station workers that stated their intentions

as a "group of concerned individuals".

There was a typed list of media contacts with phone numbers, an "operational plan" flow chart and a pre-written press release, which was entitled "Climate activists shut down Britain's second-biggest power station".

It began: "More than 100 protesters have supplies to last more than a week."

The prosecution said the document suggested the activists were protesting against a plan for a new coal-fired power station, being considered at the time by then energy secretary Ed Miliband.

The group admitted the plan to shut down the power station, but argued it was a necessary step.

But prosecutors said it was not necessary for the group to close down the power station for a week to get their point across, and could have used more democratic means.

"Is it really necessary to

close down a power station when there are so many other democratic ways in which the message could be put across?" asked Felicity Gerry, prosecuting.

"Or did they do what they wanted to do because it was a great deal more fun, or because they did not have tickets to Glastonbury?"

She added: "The evidence shows that they travelled from all over the country, they had vehicles and extensive equipment for a large-scale operation."

After the verdict, on the court steps, defendant Clare Whitney spoke on behalf of the group:

"Taking action on climate change is not an action of moral righteousness but one of self-defence," she said.

"History is full of ordinary people who have acted to protect their fundamental rights and right now we need a vast movement of people doing just that."



# Why did Ratcliffe defence fail where Kingsnorth Six succeeded?

Mike Schwarz Guardian 16 December 2010

**Two separate trials of environmental activists that both targeted coal-fired power stations produced different results. Lawyer Mike Schwarz examines the reasons why**

CO<sub>2</sub> released by coal-fired power stations is the single most damaging contributor to climate change. So it is perhaps little wonder that concerned citizens have sought to close them down. However, the juries delivering their verdicts on their actions have come to conflicting conclusions.

This week 20 environmentalists were convicted at Nottingham crown court for planning to close down Ratcliffe power station. In autumn 2008, six Greenpeace campaigners were acquitted at Maidstone crown court for actually occupying Kingsnorth power station.

Why the disparity? Although both sets of defendants sought to stop CO<sub>2</sub> emissions from the coal-fired power stations, the charges they faced and the legal defences were different.

The Nottingham defendants were charged with conspiracy to commit aggravated trespass, and argued that they acted through "necessity" to prevent death and serious injury caused by CO<sub>2</sub> emissions and climate change.

Their own powerful testimony was supported by leading professors on epidemiology and population health who confirmed that climate change is currently contributing towards an additional 150,000 deaths each year around the world. It will only get worse.

The Greenpeace defendants were tried for criminal damage to the power station's chimney and argued that they had "lawful excuse" for their actions: they sought to protect property around the world threatened by climate change. Again, their vivid accounts of melting ice caps, expanding oceans and deforestation – and resulting erratic weather, flooding and rising sea levels – were supported by expert evidence.

Among those who testified was James Hansen, one of the world's leading climate scientists who, in evidence to the US Congress in the 1980s, first drew attention to man-made climate change.

However, in both cases the jury had to consider one simple proposition: did the defendants believe their action was imperative, urgent and reasonable – in the light, among other things, of politicians' inactivity and nature's "tipping points" (the points of no return when runaway climate change will be beyond our control).

Given the inviolability of the jury's deliberations, we can only speculate on their decision making. The Nottingham jury may have been influenced by the crown's argument that instead of taking "direct action", the defendants should have spent their money paying a celebrity to front a campaign – or should have installed a biodegradable toilet in their homes, as the prosecutor confided she had. They might have derived some advantage – not immediately obvious to others in court – from the calculator they asked to take with them to assist their deliberations on the defendants' guilt or innocence.

More seriously, one might speculate what has happened in the two years since the Maidstone verdict in 2008? In the science world, "climategate" has been exploited by "contrarians" to reduce the proportion of the population who are concerned about climate change, even as mean world temperatures rise. Internationally, the Copenhagen and Cancún summits have failed to provide legally binding and effective agreements to tackle climate change. In the UK, the focus is on the reduction of the deficit through pinching financial short-termism. In an austere new world, the public may be less receptive to arguments of morality and altruism which recognise our responsibility to the world community and future generations.

The two juries' verdicts of course have no binding effect in future cases, but one ruling from the Nottingham case does. The crown tried, at a pre-trial hearing, to prevent the Nottingham jury even hearing the defendants' case.

On 21 May 2010 a high court judge rejected that argument, saying that "the circumstances in which a court will withdraw a defence from the jury will be very rare indeed". This may be the legacy of the Nottingham defendants.

• Mike Schwarz is a partner in the Bindmans law firm and co-author of *The Law of Public Order and Protest*

<http://www.guardian.co.uk/environment/cif-green/2010/dec/16/ratcliffe-trial>

## **Cleared: Jury decides that threat of global warming justifies breaking the law**

By Michael McCarthy, Environment Editor, Independent, Thursday, 11 September 2008

**The threat of global warming is so great that campaigners were justified in causing more than £35,000 worth of damage to a coal-fired power station, a jury decided yesterday. In a verdict that will have shocked ministers and energy companies the jury at Maidstone Crown Court cleared six Greenpeace activists of criminal damage.**

Jurors accepted defence arguments that the six had a "lawful excuse" to damage property at Kingsnorth power station in Kent to prevent even greater damage caused by climate change. The defence of "lawful excuse" under the Criminal Damage Act 1971 allows damage to be caused to property to prevent even greater damage – such as breaking down the door of a burning house to tackle a fire.

The not-guilty verdict, delivered after two days and greeted with cheers in the courtroom, raises the stakes for the most pressing issue on Britain's green agenda and could encourage further direct action.

Kingsnorth was the centre for mass protests by climate camp activists last month. Last year, three protesters managed to paint Gordon Brown's name on the plant's chimney. Their handi-work cost £35,000 to remove.

The plan to build a successor to the power station is likely to be the first of a new generation of coal-fired plants. As coal produces more of the carbon emissions causing climate change than any other fuel, campaigners claim that a new station would be a disastrous setback in the battle against global warming, and send out a negative signal to the rest of the world about how serious Britain really is about tackling the climate threat.

But the proposals, from the energy giant E.ON, are firmly backed by the Business Secretary, John Hutton, and the Energy minister, Malcolm Wicks. Some members of the Cabinet are thought to be unhappy about them, including the Foreign Secretary, David Miliband, and the Environment Secretary, Hilary Benn. Mr Brown is likely to have the final say on the matter later this year.

During the eight-day trial, the world's leading climate scientist, Professor James Hansen of Nasa, who had flown from America to give evidence, appealed to the Prime Minister personally to "take a leadership role" in cancelling the plan and scrapping the idea of a coal-fired future for Britain. Last December he wrote to Mr Brown with a similar appeal. At the trial, he called for an moratorium on all coal-fired power stations, and his hour-long testimony about the gravity of the climate danger, which painted a bleak picture, was listened to intently by the jury of nine women and three men.

Professor Hansen, who first alerted the world to the global warming threat in June 1988 with testimony to a US senate committee in Washington, and who last year said the earth was in "imminent peril" from the warming atmosphere, asserted that emissions of CO<sub>2</sub> from Kingsnorth would damage property through the effects of the climate change they would help to cause.

He was one of several leading public figures who gave evidence for the defence, including Zac Goldsmith, the Conservative parliamentary candidate for Richmond Park and director of the Ecologist magazine, who similarly told the jury that in his opinion,

direct action could be justified in the minds of many people if it was intended to prevent larger crimes being committed.

The acquittal was the second time in a decade that the "lawful excuse" defence has been successfully used by Greenpeace activists. In 1999, 28 Greenpeace campaigners led Lord Melchett, who was director at the time, were cleared of criminal damage after trashing an experimental field of GM crops in Norfolk. In each case the damage was not disputed – the point at issue was the motive.

The defendants who scaled the 630ft chimney at Kingsnorth, near Hoo, last year were Huw Williams, 41, from Nottingham; Ben Stewart, 34, from Lyminge, Kent; Kevin Drake, 44, from Westbury, Wiltshire; Will Rose, 29, from London; and Emily Hall, 34, from New Zealand. Tim Hewke, 48, from Ulcombe, Kent, helped organise the protest.

The court heard how, dressed in orange boiler suits and white hard hats bearing the Greenpeace logo, the six-strong group arrived at the site at 6.30am on 8 October. Armed with bags containing abseiling gear, five of them scaled the chimney while Mr Hewke waited below to liaise between the climbers and police.

The climbers had planned to paint "Gordon, bin it" in huge letters on the side of the chimney, but although they succeeded in temporarily shutting the station, they only got as far as painting the word "Gordon" on the chimney before they descended, having been threatened with a High Court injunction. Removing the graffiti cost E.ON £35,000, the court heard.

During the trial the defendants said they had acted lawfully, owing to an honestly held belief that their attempt to stop emissions from Kingsnorth would prevent further damage to properties worldwide caused by global warming. Their aim, they said, was to rein back CO2 emissions and bring urgent pressure to bear on the Government and E.ON to change policies. They insisted their action had caused the minimum amount of damage necessary to close the plant down and constituted a "proportionate response" to the increasing environmental threat.

Speaking outside court after being cleared yesterday, Mr Stewart said: "This is a huge blow for ministers and their plans for new coal-fired power stations. It wasn't only us in the dock, it was the coal-fired generation as well. After this verdict, the only people left in Britain who think new coal is a good idea are John Hutton and Malcolm Wicks. It's time the Prime Minister stepped in, showed some leadership and embraced the clean energy future for Britain."

He added: "This verdict marks a tipping point for the climate change movement. When a jury of normal people say it is legitimate for a direct action group to shut down a coal-fired power station because of the harm it does to our planet, then where does that leave Government energy policy? We have the clean technologies at hand to power our economy. It's time we turned to them instead of coal."

Ms Hall said: "The jury heard from the most distinguished climate scientist in the world. How could they ignore his warnings and reject his leading scientific arguments?"

<http://www.independent.co.uk/environment/climate-change/cleared-jury-decides-that-threat-of-global-warming-justifies-breaking-the-law-925561.html>

## 7-year snitch: 'Flash' the activist is a secret cop

Tim Rayment and Jonathan Leake  
Sunday Times 19 December 2010

**A police officer spent seven years undercover living as a hippie and environmental activist to infiltrate peaceful protest groups. Police officer Mark Kennedy aka Mark Stone infiltrated a group of environmental protestors who tried to enter Ratcliffe Power station in Nottinghamshire. Stone was unmasked as a suspected police officer by six friends.**

He drank with them, he climbed with them, he even seemed to love them and was loved in return. But Mark "Flash" Stone was living a double life as perhaps the most deeply embedded undercover police officer in Britain.

Questions are being asked this weekend as to what the police officer achieved in seven years, living at the taxpayers' expense as a hippie and environmental activist. He infiltrated protest groups that were mainly peaceful in nature, moved in with them and travelled to Iceland and all over Europe.

His double existence ended when friends discovered documents showing his true identity, leaving a trail of emotional wreckage and a sense of bewilderment that the authorities should invest so much time for a seemingly modest reward.

Stone — real name Mark Kennedy — was among 114 people arrested last year on the eve of a planned invasion of a power station. The aim was to shut down Ratcliffe-on-Soar in Nottinghamshire for a week, preventing the release of 150,000 tons of carbon dioxide from one of the biggest emitters of greenhouse gases in Europe.

He drove the car on the initial reconnaissance and even hired a 7½-ton truck for the main event. But charges against him were dropped, leaving 20 others to be convicted last week of conspiracy to commit aggravated trespass.

With his long hair, tattoos and body piercings, nobody suspected that their comrade in saving the planet was a detective. But Stone is thought to be a member of the Special Demonstration Squad (SDS), a secret unit known as "the Hairies" because officers can wear their hair as they please.

According to one former member, only married officers are accepted into the unit, as they are less likely to "go native" if they have families to return to.





Called “Flash” because he had more money than other activists, Stone became a familiar face in Nottingham, hanging about at the Sumac centre, a vegan cafe and social club for people concerned with human and animal rights, the environment and pacifism. He lived with activists in the city.

His former friends say he was vehemently anti-police, a pose slightly at odds with a community more inclined to organise workshops on what they perceive as “bad policing” than to fight about it.

For the takeover of the power station, the protesters drew up health-and-safety plans and a rule that there would be no violence. They were to stop the conveyor carrying coal into the boilers, climb the 653ft chimney and unfurl protest banners.

The workers would be given leaflets reassuring them that jobs could be created by greener energy, while costlier but cleaner gas-fired stations would come on line to supply the National Grid, keeping the nation’s lights on.

Eon, the owner of the station, knew about the action five days beforehand and could have sought an injunction. Instead, the protesters were allowed to assemble and were then arrested.

Stone was unmasked as a suspected police officer 18 months later, just before the trial. Confronted by six friends with paperwork showing his real name, he admitted being in the Metropolitan police. The six published a short account of his confession in the green media, to general disbelief.

“Look at the bloke,” said one activist. “What did they do, send him from Hendon [police training centre] to spend five years smoking rollies and living in a tent? It boggles the mind that he’s spent so long doing basically f\*\*\*-all, expending so much effort in terms of debate, slow, dull legwork and campaigning — and still be thinking, ‘Aha, fooling these oh-so-dangerous activists brilliantly’.”

Last week two police forces confirmed Stone’s status to The Sunday Times. “The individual is a Met officer,” said Nottinghamshire police. “He’s an undercover officer,” said the Metropolitan police. “We can’t say more.”

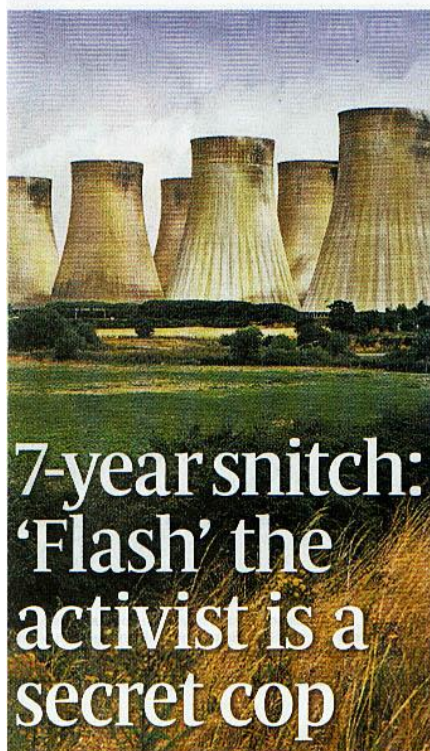
Scotland Yard refused requests for information about the SDS, a unit of the Met with a remit to prevent disorder. It was set up in 1968 after violence at anti-Vietnam war protests.

An insight into its methods came this year, when an SDS officer from the 1990s described his work. For four years the officer, Peter Daley, spent one day a week with his wife and family and six as a hate-filled Trotskyist on the wrong side of a riot shield. He was later diagnosed with post-traumatic stress disorder and won an out-of-court settlement.

Stone has disappeared from Nottingham, leaving friends in shock. One said: “Whatever else Mark is, I do believe he had genuine feelings for those he had meaningful relationships with in the last seven years.”

The friend added: “I don’t believe he could be with such beautiful, wonderful people and not feel love.”

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Mark Kennedy, inset top, infiltrated protest groups targeting Ratcliffe-on-Soar, top left

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Train blockade at Drax and in Newcastle, Australia

#### Want more info?

Coal is an international issue, and climate change affects us all. You may live miles from a power station or an opencast site, but you can still get involved. Visit these websites for information about opposing new coal:

<http://www.leaveitintheground.org.uk/>  
<http://thecoalhole.org/>

And here for action against climate change:

<http://climatecamp.org.uk/>  
<http://www.networkforclimateaction.org.uk/index.html>  
<http://risingtide.org.uk/>

To check for new coal developments near you, try these:

<http://www.ukcoal.com/sm-locations>  
<http://www.hjbanks.com/energy/sites/>  
<http://www.miller.co.uk/argen/>  
<http://www.coal.com/operations.htm>



## WHAT'S WRONG WITH COAL?

Our climate is under imminent threat, and in the opinion of NASA climate scientist Jim Hansen, the greatest threat comes from burning coal.

Coal is the most carbon intensive of all fossil fuels. It is nearly all carbon, so it releases almost entirely carbon dioxide when burned. Coal is mainly burned for electricity generation, which is the largest source of UK greenhouse gas emissions, accounting for 27% of the total for England in 2005. Coal fired power stations are more CO<sub>2</sub> intensive than any other type, and are the largest and fastest growing source of greenhouse gases within the power generation industry (rising by over 30% between 1999 and 2005). Coal has been a key factor in the overall rise in UK emissions. If we are to cut those emissions, we must stop burning coal, and if we are to encourage other countries to stop, we certainly shouldn't be planning to burn more.

The coal industry is touting 'Carbon Capture and Storage' as a solution, claiming the carbon produced when coal is burned can be captured, then stored safely. However, the industry itself admits the technology to do this does not exist, and will not be ready for at least 15 years even if they can make it work. The scientific consensus is that our emissions must be falling quickly by 2015, so 15 years is too late.



Nature has already captured and stored millions of tonnes of carbon – as fossil fuels like coal. Instead of putting this carbon into the atmosphere, we need to leave it in the ground.

Unfortunately, our government doesn't see things this way. It is currently deciding whether to give the go ahead to seven new coal fired power stations, the first for 30 years. The first is likely to be at Kingsnorth in Kent. To feed the drive for coal, the government is overruling local councils and its own stated policies to approve new opencast coal mines, with a possible 33 - at the last count - on top of the 30 already operating. This represents a massive new wave of carbon emissions, an appalling example to other countries and misery for the people who have to live with new coal as a bad neighbour.



Action at Ffos-y-fan opencast and Ratcliffe-on-Soar power station

But people are resisting. In the face of reversed planning decisions, destroyed countryside, short sighted policy and hypocrisy, ordinary people have been taking action in extraordinary ways - from picketing coal companies, stopping work on opencast sites, disrupting coal power stations and bulk transport, to the day to day local work to stop new coal developments from happening in our communities.

From South Wales to Southern Scotland, groups are emerging as part of a growing, international movement defending communities and the climate from new coal. When faced with a system that won't listen to its people and is disregarding the science in the face of the single biggest threat to our climate, discontent is growing and action is being taken:

- **2006:** the first Camp for Climate Action at Drax coal fired power station in Yorkshire, one of Europe's biggest CO<sub>2</sub> emitters. Activists have disrupted at four others in the UK.
- **April 2007:** 11 activists invade and shut down Ratcliffe-on-Soar coal fired power station, Britain's second biggest emitter of CO<sub>2</sub>
- **2007 & 2008:** climate change activists chain themselves to machinery at the Ffos-y-fan opencast mine site in South Wales which promises to be one of the biggest in Europe. The campaign is ongoing.
- **April 2008:** Ffos-y-fan activists are injunctioned away from the opencast site for ten days, so they shut down Abertawe power station where coal from the opencast site is burned.
- **June & July 2008:** UK Coal HQ is picketed. UK Coal operate 6 opencast sites and plan 5 more
- **June 2008:** Climate activists squat an abandoned farm at the Lodge House planned opencast site near Smalley, Derbyshire. The farm was about to be demolished. Work has been held up and actions are ongoing.
- **June 2008:** A train carrying coal to Drax power station is stopped and occupied. Coal is shovelled out of the trucks and supplies to Drax halted.
- **4th – 11th August 2008:** the third Camp for Climate Action is planned for Kingsnorth coal fired power station in Kent.

## **Ratcliffe coal protesters spared jail sentences – Paul Lewis and Nidhi Prakash Guardian 5 January 2011**

*Judge says activists who planned to shut down a coal-fired power station near Nottingham acted with 'highest possible motives'*

Environmental activists who planned to shut down a coal-fired power station near Nottingham were spared jail today after a judge declared they acted with "the highest possible motives".

The campaigners were convicted of planning to break into Ratcliffe-on-Soar power station in what would have been one of the most audacious protests by green activists in the UK.

Handing down sentences to 18 activists ranging from 18 months' conditional discharge to 90 hours' unpaid work, judge Jonathan Teare conceded the public may consider his sentencing "impossibly lenient". But he said he had been put in a highly unique position given the moral standing of the campaigners.

"You are all decent men and women with a genuine concern for others, and in particular for the survival of planet Earth in something resembling its present form," he said.

"I have no doubt that each of you acted with the highest possible motives. And that is an extremely important consideration."

More than 114 campaigners were arrested on Easter Monday 2009, hours before some planned to invade the power station, immobilise the coal conveyer belts and scale the chimney.

The controversial policing operation followed months of surveillance, cost £300,000 and resulted in the largest number of pre-emptive arrests of political activists in the UK. The majority of those arrested were released without charge.

Twenty activists were found guilty of conspiracy to commit aggravated trespass last month, after failing to convince a jury that their actions were designed to prevent immediate harm to human life and property from climate change.

During their trial at Nottingham crown court, the defendants admitted they planned to break into the plant, but argued they were acting to prevent the greater crimes of death and serious injury caused by climate change.

They claimed that had their protest succeeded in closing down the power station for a week, they would have prevented the emission of 150,000 tonnes of CO<sub>2</sub>.

Among the witnesses who appeared for the defence was Jim Hansen, a top Nasa scientist and one of the first experts to alert the world to the danger of climate change.

The legal strategy, known as "lawful excuse", echoed one used successfully in 2008, when six Greenpeace activists were acquitted of causing criminal damage after scaling a chimney at Kingsnorth power station the previous year.

However the prosecution questioned the course of action proposed by the activists, arguing that direct action planned would "disengage ordinary people" and asking why they had not instead sought to enlist the support of a celebrities such as Cheryl Cole or Sir Paul McCartney.

Teare said today that he agreed with the jury that while motivated to stop carbon emissions, an "equal aim" was to gain publicity for their campaign.

But he said he had been place in a "unique" position in which "neither judge nor jury need question the veracity and motivation of any defendant".

"There is not one of you who cannot provide glowing references from peers or professionals," he added. "And if I select some of the adjectives that recur throughout they are these: honest, sincere, conscientious, intelligent, committed, dedicated, caring."



Teare said the protest had been "well-considered and well-prepared". "You had come from every corner of the country. Transport, food, clothing, climbing and safety equipment had been organised, costing several thousand pounds."

"Mobile phones, walkie-talkies, gas detectors, hard helmets, sleeping bags and sanitary facilities had all been provided. You had been organised into teams and briefed on your actions."

But while the judge accepted the protest had been "intended as a legitimate action by people who genuinely believed in their cause", he said their motives could not absolve them from punishment.

The offence carried a maximum penalty of three months' imprisonment, a £2,500 fine, or both.

Arraigned in the dock, the rows of activists looked more like a members of a jury than defendants. The 13 men and five women including PhD students, teachers, social workers and a former civil servant, stood as the judge read out individual sentences.

While flirting with the idea of issuing a jail suspended sentence to one defendant – a woman with six minor convictions for protest activity, including one for throwing chocolate cake at Prince Edward in 2002 – the judge decided none should receive custodial penalties.

Instead he gave conditional discharges ranging between 18 months and two years to 13 defendants; Ronin Barkshire, 44, Paul Kahawatte, 25, Ben Julian, 34, Spencer Cooke, 42, Martin Shaw, 46, Phillip Murray, 25, Anna Rudd, 32, Adam Waymouth, 26, Bradley Day, 23, Christopher Kitchen, 32, Emma Sheppard, 29, Clare Whitney, 25 and Daniel Glass, 27.

Five defendants – Olaf Bayer, 35, Lisa Kamphausen, 27, Jonathan Leighton, 21, Jesse Harris, 25 and Jacqueline Sheedy, 25 – were ordered to do unpaid community work of between 60 and 90 hours, due to prior convictions.

Although Teare said that his main aim was to recoup the "hundreds of thousands of pounds" the police operation and criminal trial was said to have cost, only two defendants - Sheppard and Whitney – were judged to have sufficient means to incur fines, receiving penalties of £500 and £1,000 respectively.

Two other defendants – Ben Stewart and Sarah Shoraka – will be sentenced later this month.

Six people who said they had not decided whether to take part in the protest when they were arrested face a separate trial next week.

In a statement after the sentences were handed down, the defendants said: "We still feel our actions are a reasonable response to the irrational destructive situation, of runaway climate change ... that we are taking action on climate change is no longer an option – its a necessity. We want to reiterate our support for everyone everywhere fighting for climate justice."

<http://www.guardian.co.uk/environment/2011/jan/05/ratcliffe-coal-protesters-sentence>

## **The climate movement is in desperate need of renewal – Bradley Day Guardian 5 January 2011**

*If a jury that received extensive education on climate change could not vindicate the Ratcliffe activists, then who will?*

In the final weeks of 2010, 20 individuals – including myself – went on trial after being accused of conspiring to shut down the Ratcliffe-on-Soar coal power station. Today we received our sentences. The jury were presented with a wealth of evidence, not seeking to disprove the charge, but to justify it.

Despite hearing terrifying evidence from some of world's leading climate change experts; learning of the millions of pounds spent in their local area as a result of extreme weather conditions; listening to gut-wrenching testimonies from flood victims across the globe; and observing senior politicians explain our crippling democratic deficit, the jury went on to deliver a unanimous guilty verdict.

Since the verdict, many messages of support have appeared on the trial's campaign Facebook page. While these were uplifting, I felt a little unease at comments proclaiming the jury as "appalling", "shameful", "shortsighted".

The jury received a more extensive education on climate change than most people get in a lifetime. That they could not vindicate our actions is nothing to get self-righteous about; it is deeply disturbing. If the jury, after everything they had heard, couldn't bring themselves to sympathise with our actions, who will?

I first became engaged in climate change in 2005. At the time I was filled with optimism. People appeared to be waking up to the issue in the nick of time. Like hundreds of others, we launched a community action group in our town. When we hosted a public meeting it was standing room only. A few months on we saw a Tory leader proclaiming the virtues of cycling and micro-power generation. Direct action groups such as the Camp for Climate Action saw their numbers swell from tens to hundreds, to thousands.

Yet at the start of 2009 a depressing reality emerged. Climate change may have become ingrained in public discourse, but what had been achieved?

My local group had campaigned tirelessly to reopen the town train station, promoting greener transport, only to be repeatedly told by our MP there was nothing he could do. The government had continued to advocate new coal over renewables. The impending Copenhagen climate conference was already set to result in utter failure. The financial crises saw a mass withdrawal from the issue on the part of politicians and the media. And if things couldn't get any worse, climate scepticism was re-emerging.

It was in this context that a group of us started plotting to prevent 150,000 tonnes of carbon emissions from being released by shutting down Ratcliffe-on-Soar power station.

Two years later, climate change already appears to be an issue of the past. Our bike-loving prime minister chose to travel to the World Cup bid rather than participate in the UN climate conference in Cancún. Climate change gets a fraction of the attention it enjoyed not so long ago.

So what happened to the climate movement? What happened to the community groups, the marches, the Climate Camps? They are all still there, battling on. My local group still fights for that train station, Climate Camps still pull in thousands of participants every summer, and the marches continue.

But we never reached the critical mass required to combat the fatigue the issue now faces. Despite those packed village halls, streets, and fields of climate campaigners, there are huge swaths of society that were never engaged at all.

Will the next 12 months see climate change, the issue, continue to slide into obscurity as climate change, the reality, kills at an ever escalating rate? If we are to reverse the current trend we need to do more than lobby our MPs. We need to do more than shut down coal-fired power stations. In 2011 we need to begin a comprehensive grassroots engagement project.

This is no small task. Three weeks in front of the world's leading climate experts didn't do it for 12 people from Nottingham. This scheme requires long-term commitment. Getting out and talking about these challenging issues is draining and comes with little glory. But those of us terrified by the prospect of climate change cannot afford to ignore those who don't feel the same way.

This is not an exercise in handing out graphs and charts, but it requires us to stare hard into our communities and start joining up the dots. It's the same energy companies that cling to coal who force pensioners into deadly fuel poverty. It's the same government who fails to invest in green jobs, that cuts the UK flood defence budget. There are many avenues for making the links and connections, should we commit the effort.

The jury in Nottingham gave us a revealing litmus test, and moaning about it will do no good. We need to learn lessons, engage beyond any prescribed "target audience", and give the climate movement the renewal it so desperately needs.

- Bradley Day has been campaigning on climate issues for the past five years. He has devoted much of this time to organising the Camp for Climate Action.

<http://www.guardian.co.uk/environment/cif-green/2011/jan/05/climate-movement-renewal-ratcliffe>

## Why we need a law on ecocide - Polly Higgins Guardian 5 January 2011

*Until we have a law to prosecute those who destroy the planet, corporations will never be called to account for their crimes*

Sophie Scholl, a Munich University student, was executed for revealing the truth about the activities of the Nazi authorities; today 20 brave Ratcliffe whistleblowers have been sentenced at Nottingham crown court for plotting to draw attention to the truth of the activities of another German entity. This time, replace the tyranny of the Nazis with the tyranny of the energy giant E.ON.

Scholl and 20 others stood up and took direct non-violent action. Their crime was the dissemination of leaflets highlighting and decrying the tyranny of the Nazi dictatorship. It was a decision to undertake something unlawful – an act that they believed was a necessity – to halt a greater but unnamed crime, a crime that cost many lives. That crime did not, at the time, have a name. But it soon did: genocide.

The Ratcliffe 20 did the same in April 2009. They too were prepared to stand up and take action. Their crime was planning to shut down Ratcliffe-on-Soar, a coal-powered station that is one of Britain's largest greenhouse gas emitters. The state was failing to prevent a greater injury from taking place; the loss of life. This time it is not only human life, but all life.

Like Scholl and her fellow activists, the Ratcliffe 20 were motivated to take non-violent direct action. They, along with 124 others, decided to undertake something unlawful: conspiring to close down the offending emitter. It was an act that they believed was a necessity; to halt a greater but unnamed crime, a crime that is already costing many lives.

Their defence was that they were acting to prevent a greater crime, of death and serious injury caused by climate change. We do not currently have a legal crime in place that fits this description but there is one fast looming on the horizon and that crime is ecocide.

Currently there is no law to prosecute those who are destroying the planet. Instead, climate campaigners do not have the support of the judiciary in preventing the corporate ecocide that is daily occurring under our very noses. Ecocide is permitted (as genocide was in Nazi Germany) by the government and, by dint of the global reach of modern-day transnational business, every government in the world. Corporate ecocide has now reached a point where we stand on the brink of collapse of our ecosystems, triggering the death of many millions in the face of human-aggravated cataclysmic tragedies.

Over the passage of time, tyranny revisits. Tyranny is the cruel, unacceptable, or arbitrary use of power that is oblivious to consequence. While the use of coal stations may not be deemed an intentional cruelty, it is certainly an unacceptable use of corporate power. Our governments collude by encouraging excess emissions, contrary to their UN commitment to stabilise "greenhouse gas concentrations in the atmosphere at a level that would prevent dangerous anthropogenic interference with the climate system".

Sixty years ago the tyranny was Nazism. Today it is pursuit of profit without moral compass or responsibility. Despite the planned Ratcliffe protests, it is one that the majority of humanity accepts regardless of the known consequences. We look the other way from the daily reports of destruction of our world by those who are in a position of superior responsibility; the master controllers of our fates are those who determine how we live our lives. It is the heads of the top corporations who gamble with the fate of our planet; those who produce and supply our energy are the most culpable of all.

The failure rests with our governments who are unwilling to intervene to make the destruction of our world a crime. Our police are disempowered and our justice system is unable to protect our greater interests when faced with the superior silent right of corporations to cause injury to persons and planet. Those who stand up and speak out are thereby treated as criminals.

Prior to the Ratcliffe trial, the judge ruled: "the defendants must have the opportunity of putting that contention (that the emissions from the power station do pose an immediate threat) before the jury, no doubt backed by expert evidence." Expert evidence was heard, from James Hansen, the former head of Nasa's Goddard Institute, on the immediacy of the threat to life caused by escalation of emissions, to MPs who confirmed government inertia. All of which the jury failed to accept. What will it take for that dense sea fog to dissipate and for the truth to be revealed?

Unlike the Ratcliffe 20, Scholl and her co-conspirators were denied the right to defend themselves in their trial. They too were convicted for resorting to unlawful acts, which they believed to be necessary to expose the truth. At the very end of her trial, she spoke out. It is just matter of time, she said, before the true destroyers are put in the dock. The very same can be said today.

- Polly Higgins is a barrister, international environmental lawyer and author of *Eradicating Ecocide: Laws and Governance to Prevent the Destruction of our Planet*, published by Shepherd-Walwyn.

<http://www.guardian.co.uk/environment/cif-green/2011/jan/05/ecocide-law-ratcliffe>



# **Ratcliffe power station protest trial costs add up to £700k**

**Nottingham Post 6 January 2011**

**By rebecca sherdley**

ECO protesters who plotted to commit aggravated trespass at Ratcliffe-on-Soar Power Station are estimated to have cost the police and Crown Prosecution Service up to £700,000.

The outlay to Notts Police alone, which arrested more than 100 campaigners who planned to close the coal-fired plant for a week, was in excess of £300,000.

And the prosecution estimated the cost of the trial for each of the 20 found guilty was roughly £20,000 a head.

Yesterday, five of those received community orders and 13 were given conditional discharges.

Two more will be sentenced at the same court on January 18.

All 20 were found guilty of conspiracy to commit aggravated trespass last December after a trial at Nottingham Crown Court.

Police intercepted the plan to close down the power station for a week when they raided the Iona School in Sneinton, on the morning of Easter Monday, April 13, last year.

The group were going to immobilise the coal conveyers by stopping them via emergency buttons and put them out of action by locking themselves to them. The aim was to scale a chimney and encamp there, unfurl publicity banners and address media from the top.

Judge Jonathan Teare told them: "You all knew that this was to be a concerted attack upon a public corporation."

During their trial they argued that their invasion of the power station was necessary, but the prosecution said it was not and was "more fun" than a more democratic means of protest.

Detective Supt Adrian Pearson, who led the investigation, said afterwards: "This was a significant operation which cost the force in excess of £300,000. We will continue to work with partner agencies to keep people safe and ensure everyone is able to go about their business without fear of a minority's determination to disrupt them."

Defendant Chris Kitchen, 32, of Dean Street, Brightlingsea, Colchester, received a conditional discharge for two years.

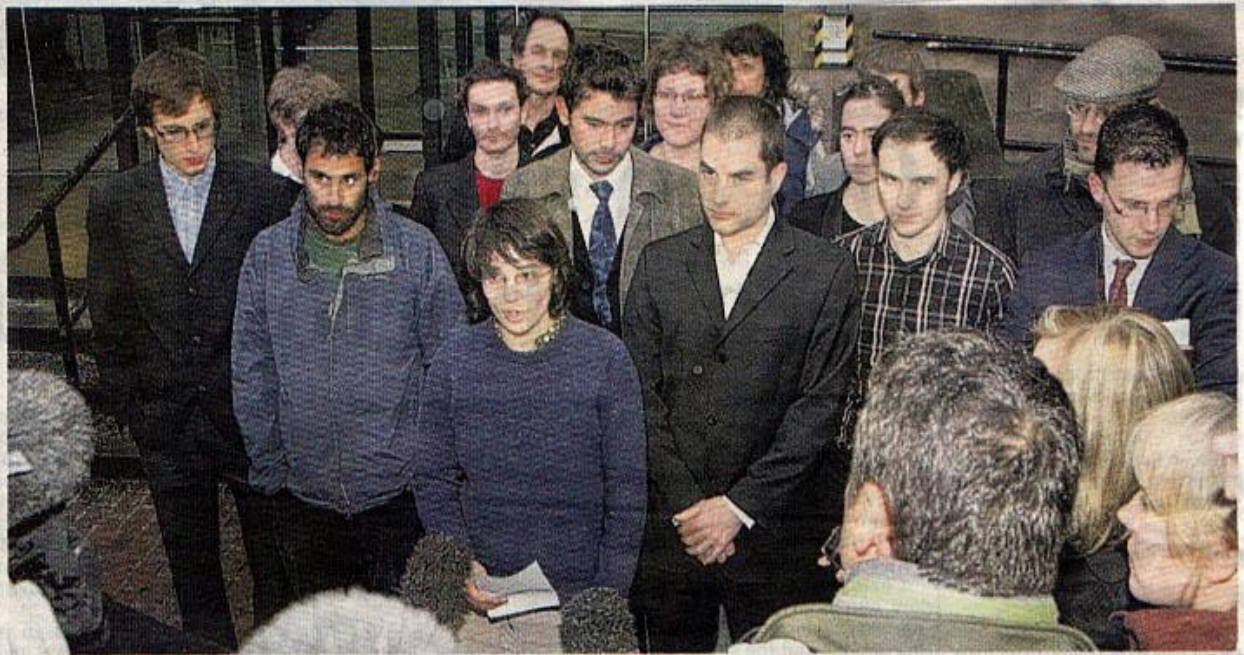
When he was asked about the huge cost of the trial after the case, he said: "We feel that although the policing costs were high, in comparison to the cost of climate change they are very insignificant.

"We heard in court how the Stern report estimated the cost of climate change at being £50 per tonne of CO2 emitted. Ratcliffe-on-Soar Power Station emits 150,000 tonnes a week, which comes out at seven and a half million pounds worth of damage."

Community orders were given to: Jesse Harris, 25, of Sholebroke Avenue, Leeds; Olaf Bayer, 35, of Kent Road, Southampton; Jonathan Leighton, 21, of Willowbank Street, Glasgow; Jacqueline Sheedy, 45, of Foulden Road, London and Lisa Kamphausen, 26, of Highfield Crescent, Southampton. Thirteen other campaigners received a conditional discharge.

<http://www.thisisnottingham.co.uk/courts/Climate-change-trial-costs-add-163-700k/article-3070719-detail/article.html>





**Eco plot:** Protester Clare Whitney reads a statement on behalf of a group of climate change activists outside Nottingham Crown Court after they were sentenced for their roles in a plot to shut down Ratcliffe-on-Soar power station. NODM20110105E-001\_C

# Power station plotters cost authorities £700k

By Rebecca Sherdley

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**You all knew that this was to be a concerted attack upon a public corporation.**

**Judge Jonathan Teare**

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### *Tash's sore finger*



As far as I know, this was the only injury sustained during this action and trial. This is my sore finger, the result of me trying to write at lightening speed, to keep up with the presented evidence. An artist suffering for his work

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ALAN LODGE

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Member of the National Union of Journalists [NUJ]

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"It is not enough to curse the darkness.

It is also necessary to light a lamp!!"

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<ends>



