



# The Environmental Challenge

## The Environmental Challenge and the Diocesan Response

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Presentation to Ealing Transition, 19<sup>th</sup>

October 2010

# The Church in London



## o The Diocese of London

277 square miles of Greater London and Surrey  
North of the Thames, from Staines to the Isle of Dogs  
North to Enfield

## o It comprises

The Cities of London and Westminster, Boroughs of Brent, Harrow, Ealing, Hillingdon, Barnet, Camden, Enfield, Haringey, Hackney, Islington, Tower Hamlets, Hounslow, Kensington & Chelsea, Hammersmith & Fulham and Richmond-upon-Thames (part), and Spelthorne in Surrey

## o The Diocese has

3.6 million people; 1.6 million homes  
479 churches; 69,000 adult members  
191 parishes in Urban Priority Areas  
147 church schools with 47,000 pupils



**“Well over 70% of the population of our country claimed to be Christian ... even in Greater London the most sober estimate is that there are 630,000 Christians worshipping every ordinary week in more than 4,000 churches.”**

*Bishop of London*

# The Challenge

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- o Climate change
- o Shrinking the Footprint  
[www.london.anglican.org/Shrinking-the-Footprint](http://www.london.anglican.org/Shrinking-the-Footprint)
- o London Challenge 2012
- o Reducing our CO<sub>2</sub> emissions
- o Down by at least 20.12% by 2012, 42% by 2020, 80% by 2050
- o Carbon/environment sustainable when?

**“Shrinking the Footprint is the Church of England’s national ... campaign to enable its members and institutions to address – in faith, practice, and mission – the pressing issue of climate change.**



**“It aims to challenge, encourage and support the whole body of the Church to shrink our environmental footprint to create ‘The 20% Church’ by ... sustainable reductions in ... carbon emissions to 20% of current levels by 2050.”**

[www.ShrinkingTheFootprint.org](http://www.ShrinkingTheFootprint.org)

# Climate change



- o Average world temperature rose by  $\sim 0.8^{\circ}\text{C}$  in 90 years
  - up by  $0.3 - 0.4^{\circ}\text{C}$  from 1910s to 40s
  - apparently down  $0.1^{\circ}\text{C}$  from 1940s to 70s
  - up by  $0.4 - 0.55^{\circ}\text{C}$  from 1970s to 2000s
- o Medieval warm period some  $0.5^{\circ}\text{C}$  cooler than now
- o Hottest years since 1850: 1998 & 2005, 2003, 2002, 2009(!)
- o Ten warmest years all in last thirteen; 2010 set to top them all
- o Warming hasn't stopped – 2000s were  $0.17^{\circ}\text{C}$  av'g above '90s
  - “... Warming ... has penetrated into the ... oceans over the past 40 years. The signal ... varies widely by ocean; it cannot be explained by natural internal climate variability ... but is well simulated by two anthropogenically forced climate models. We conclude that it is of human origin.”**



Moscow, BBC website 30/07/10

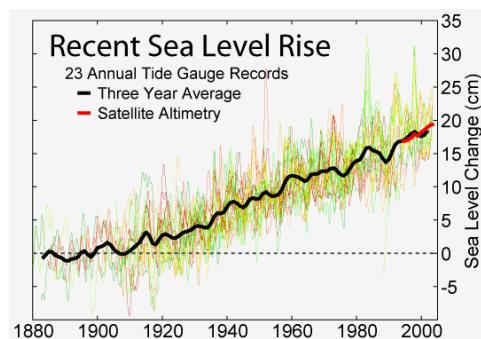
*Dr Tim Barnett & six others,  
Scripps Institution of Oceanography,  
California, 2005*

# Science and evidence



- o Temperature measurements – land, sea and air
- o Greenhouse gas measurements, Pacific and elsewhere
- o Carbon isotope analysis
- o Local observations eg arctic sea ice, glaciers
- o Sea levels, mid-tide at datum points
- o Acidification of rain and sea
- o Balloons and satellites
- o Ice cores, Antarctica
- o Tree rings, corals, sea sediments

**“The greenhouse effect was discovered by Joseph Fourier in 1824 and ... first investigated ... by Svante Arrhenius in 1896. It is the process by which absorption and emission of infrared radiation by atmospheric gases warm a planet's lower atmosphere and surface.”**



*Wikipedia Commons*

*www.science.tv*

# Two British lifetimes



## Our share of the air today

~840 m cu metres/ human being - how much CO<sub>2</sub>?

o 1929



o 2008



o 2087

... plus 11 tonnes/ UK person/ year

(after subtracting ?50% absorbed by carbon 'sinks' (oceans, trees);  
or ?1% sequestration per year of the cumulative total)



Beijing Olympic swimming pools



[www.showchina.org](http://www.showchina.org)

- 73-92/ UK person more than estimated safe limits \*
- 21 of which spreading outside our share of air,

### Not taking account of:

- Future increases in UK population or carbon consumption
- Post IPCC non-UK carbon emissions/ predicted concentrations
  - Non CO<sub>2</sub> greenhouse gases
- Increasing saturation of ocean 'sink', shrinking of forests
- Feedback loops, eg increasing atmospheric water vapour
  - Future mitigation measures

\* 450 ppm<sub>v</sub> - IPCC; 350 - James Hansen

# Scenarios

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- o Ice-free arctic summers, melting glaciers
- o Northwest passage open, longer growing seasons
- o Rising sea levels, cities flooding, deltas/ islands submerged
- o Extreme weather, heatwaves, flash floods
- o Drying up of lakes and rivers
- o Famine, drought, expanding deserts
- o Mass migrations, social breakdown
- o Resources conflicts
- o Increased species extinctions



*blog.wired.com/wiredscience*

**“We have seen the consequences of ignoring risk in the current economic ... crisis ... The risk consequences of ignoring climate change will be very much bigger ...”**

*Lord Nicholas Stern*

# Short/ medium term

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- o More of the same?

Unstable weather, flooding, heat & drought, occasional cold and frost – much like till now?

- o But background trends to continue

Continue mitigation and adaptation, energy/carbon reductions, support to parishes – spend now, save later

- o Plan for third oil shock

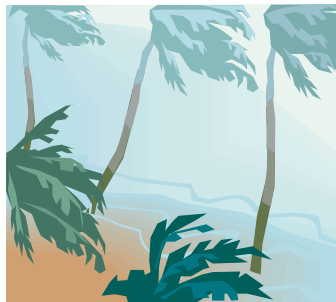
Expect major fuel price rises

- o Climate crisis to worsen outside NW Europe

Environmental stresses will not lessen – expect food price shocks, ? environmental refugees

- o Education and advocacy needed

“People in London may forget climate change” (May '09) – they have!



**“We are not prepared to sign a suicide agreement that causes small island states to disappear.”**

*Selwin Hart  
Barbados, at Poznan Conference*

# Responses

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- o Prevention/ avoidance – too late!
- o Time-lag/ turnaround time – at least 3 – 7 decades
- o Abatement – reducing the causes
- o Mitigation – softening the impacts
- o Adaptation – for living in an altered world
- o Preparation – thinking, planning, praying
- o Reclamation – hope, for a different future
- o Communication – family, friends and neighbours
- o Cooperation – communities, church and state

African landscape



**“No-one made a greater mistake than he who did nothing, because he could only do a little.”**

*Edmund Burke*

# Parishes and people

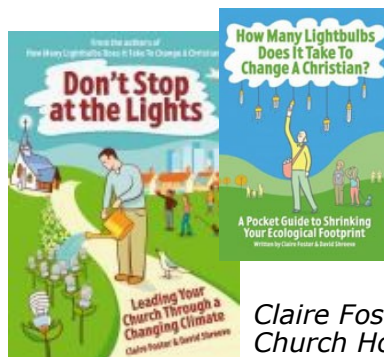


- o ‘How many Lightbulbs does it take to Change a Christian?’
- o The right lightbulbs?
- o Church and home
- o Transport
- o Relationships
- o Eco-Congregation
- o ‘Don’t Stop at the Lights’
- o Parish policies

**“Do you sometimes feel that the world is falling apart, that there is little hope for the future?”**

**We believe  
we can all make a difference,  
with a little help from our friends.”**

*A Rocha website \**



*Claire Foster, David Shreeve/  
Church House Publishing*

\* [www.arocha.org](http://www.arocha.org)

# The task



## o Context

London Challenge, Shrinking the Footprint  
CO<sub>2</sub> down at least 20.12%/42%/80% by 2012/'20/'50

## o Scope

Churches and halls, offices; then residential, schools

## o Scale

479 churches; 69,000 electoral roll members  
£2.8m, 83.8m kWh, 22.6K tonnes CO<sub>2</sub>e, 0.33 tonnes pp  
Savings 2005-2008 – 12% energy, 11.4% CO<sub>2</sub>e

## o Outreach

Cathedral, offices, houses – at least 12,000 tonnes  
London Diocesan Schools – 38,000 tonnes?  
Church members – 750,000 tonnes?



Google maps

**“Implementing the Church of England policy on shrinking the environmental footprint and playing a full part in the debate on ecological matters.”**

*London Challenge 2012*

# Costs and useage

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- o Gas and electricity
- o 35% rises 08/08; prices down 2009/10
- o Fuel poverty
- o Price comparison websites
- o Canny budgeting and capped tariffs
- o Cheap energy or green energy?
- o 'Light green' and 'deep green'



**“Last year (2007) the average family’s annual gas bill was £557. In September 2008 the bill was £829.”**

*The Times, autumn 2008*

# How to save, church and home

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## o Diocesan website advice

Low energy lightbulbs; turning down thermostat;  
switching to green energy

## o Other tips

Curtains and radiators; not heating every room; doors closed,  
lights off; kettle not overfull; washing machine, fridge loads;  
avoiding standby; plasma TVs, digital radios ... ?

## o Building alterations

Draught excluders; loft & wall insulation; double  
better controls, eg radiator valves; glazing, renewables eg solar panels

**“Since 1970, the demand from UK households  
has increased by 32%.”**

*BBC News, 23/10/06*



# Projects and plans

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- o Climate Action Programme

  - Environmental Audits, Generic Building Solutions, Energy-saving Benchmarking

- o Climate Action Plans

  - Bespoke packages of benchmarks, savings plans, and tariffs, carbon retirement, suppliers

- o Climate Action Projects

  - Retrofitting of building and services upgrades

- o Climate Action Partnerships

  - Church, charitable, professional, funding energy sector, government



St Giles Cripplegate

**“The Diocese of London has launched an innovative programme of action to meet its target of cutting the energy use of churches across the Capital by at least 20.12% by 2012 and 80% by 2050.”**

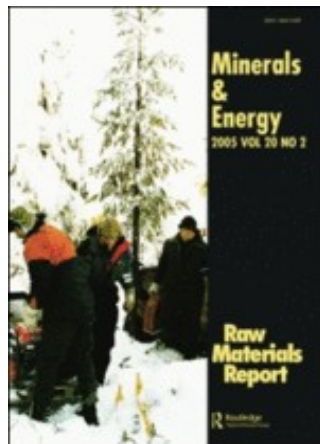
*Diocesan website*

# Resources

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- o Air, food, water
- o Shelter, warmth, fuel
- o Clothes
- o Security
- o Employment
- o Transport
- o Family/ friends
- o Recreation



**“Play our Wants and Needs game to find out how good you are at distinguishing between a want and a need. Think about what things you need in order to survive, develop, to be protected and to be included.”**

*Unicef*

*Minerals & Energy/  
[www.informaworld.com/smpp/title~content=t713789630~db=all](http://www.informaworld.com/smpp/title~content=t713789630~db=all)*

# Energy and carbon

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- o Coal, oil, gas, nuclear
- o Energy sustainability, security, affordability
- o Emissions: direct and indirect
- o UK Parliament and Government
  - Sustainable Energy etc Acts 2003, 2004, 2006, 2008;
  - Climate Change Act 2008; Sustainable Communities Act 2007
- o Committee on Climate Change
- o Budgets, trading and offsetting?
- o Carbon capture and storage?
- o Renewables
  - Sun, wind, water, air, geo, bio, chemo;
  - combined heat & power; hydrogen fuel cells?



**“The Climate Change Act sets up an innovation in the governance of carbon emissions ... it commits the government to establishing legally binding limits on carbon emissions, ... carbon budgets.”**

*Lord Adair Turner,  
Chairman, CCC*

[en.wikipedia.org/wiki/London\\_Parliament\\_\(Monet\)](http://en.wikipedia.org/wiki/London_Parliament_(Monet))

# Climate Action Projects – ‘Retrofitting’

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- o Building and services upgrades
- o Proposals from Audits or Generic Building Solutions
- o Procurement models
  - ‘Waterfall’/ ‘snowballs’? – pilots, then roll-out
  - ‘Horizontal’ and ‘vertical’ schemes
- o Funding
  - Feed-in tariffs
  - Short/ medium/ long-term loans
  - Energy savings (help) fund repayments
  - Community partnerships



**“The federal stimulus package and the city's ambitious ‘green building’ initiative should provide a jobs bonanza for ... HVAC specialists.”**

*Scientific American*

<http://www.scientificamerican.com/article.cfm?id=retrofit-old-buildings-green-nyc>

# Good news stories



- o Diocesan returns: 12% savings by London churches to 2008
- o Climate Action Programme advancing
- o St Silas Pentonville, solar 'slates'
- o First sign-ups to Climate Action Plans
- o Heathrow expansion cancelled
- o 'Church and Earth'; Diocesan Environmental Policy
- o The Church's Year
  - Education Sunday, Environment Sunday (June)
  - Lent Carbon Fast
- o Diocesan HQ – premises, paper, IT
- o 'Green Corners' churchyards

**“These tiles ... allow us to cut our carbon emissions and our spending on electricity without altering the appearance of the church.”**

*The Rev Shaun Richards*



“ ... A complete solution... ”?



<http://www.globalcool.org/>

**“The answer is ‘and’ ... we need wind and we need solar and we need carbon capture and storage, and we need behaviour change and we need policy change and we need a carbon tax, and we need all of these things ...**

**“In relation to the kind of fights between the solar industry and the wind industry and the wave industry ... these debates are ill-formed because actually the answer is and we need ... all of these things, and I think you can also expand that out, we also need behaviour change ...**

**“I see a huge amount of energy and innovation and very clever thinking in each of those areas. So I think we can get to a solution, a complete solution, but I think we have our work cut out on many fronts to do it.”**

*Caroline Fiennes, Global Cool Foundation*

*[www.open2.net/creativeclimate/video\\_caroline\\_fiennes.html](http://www.open2.net/creativeclimate/video_caroline_fiennes.html)*