



Sustainable IT Systems

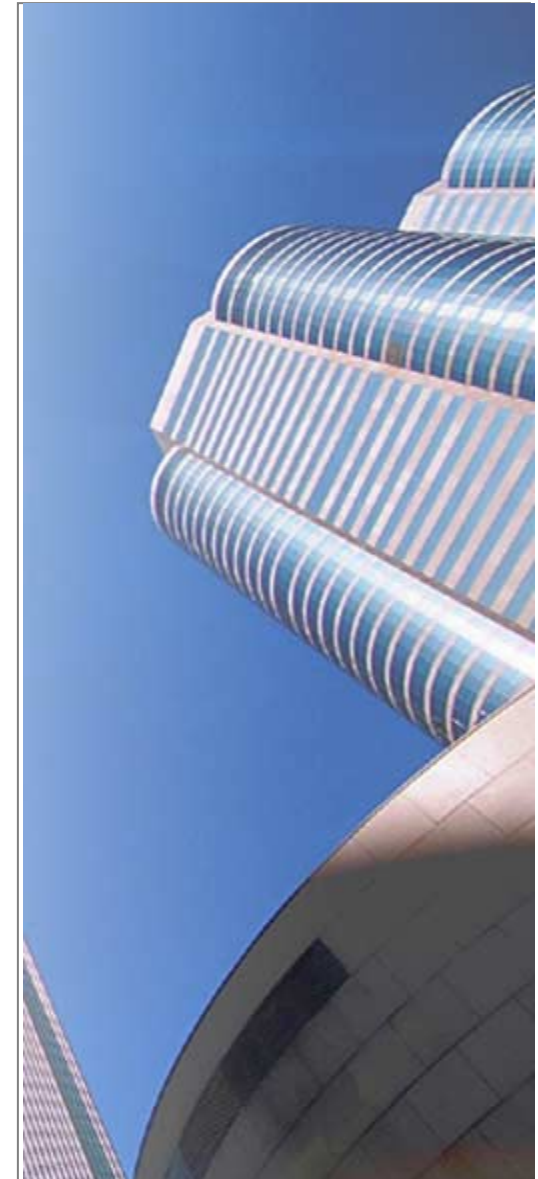
Reducing Your Carbon Footprint



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23rd September 2009





Agenda

- NG Bailey & ECA ITEC
- Market Drivers for Green IT
- A Drop in the Ocean? Why Bother?
- Sustainability -- 3 Common Approaches
- Sustainability -- A Suggested Approach
- Green ICT – Examples
- Case Study: Solais House
- Summary
- Questions ... ?



- Show Sponsors, stand 310
- Information Technology, Electronics and Controls
- Datacommunications, controls, audio visual, hazardous areas,
- Intelligent Buildings
- Seminars, conferences, support
- White papers and guides



Energy Act 2008

CHAPTER 32

CONTENTS

PART 1

GAS IMPORTATION AND STORAGE

CHAPTER 1

GAS IMPORTATION AND STORAGE ZONES

- 1 Exploitation of areas outside the territorial sea for gas importation and storage

CHAPTER 2

IMPORTATION AND STORAGE OF COMBUSTIBLE GAS

Activities requiring a licence

- 2 Prohibition on unlicensed activities
- 3 Exception for activities carried on partly on land etc

Licensing

- 4 Licences
- 5 Applications
- 6 Terms and conditions
- 7 Model clauses

Enforcement

- 8 Offence to carry on unlicensed activities
- 9 Offences relating to licences
- 10 Secretary of State's power of direction
- 11 Failure to comply with a direction under section 10



Climate Change Act 2008

CHAPTER 27

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PART 1

CARBON TARGET AND BUDGETING

The target for 2050

- 1 The target for 2050
- 2 Amendment of 2050 target or baseline year
- 3 Consultation on order amending 2050 target or baseline year

Carbon budgeting

- 4 Carbon budgets
- 5 Level of carbon budgets
- 6 Amendment of target percentages
- 7 Consultation on order setting or amending target percentages
- 8 Setting of carbon budgets for budgetary periods
- 9 Consultation on carbon budgets
- 10 Matters to be taken into account in connection with carbon budgets

Limit on use of carbon units

- 11 Limit on use of carbon units

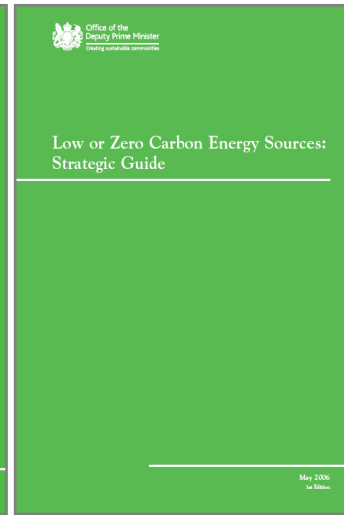
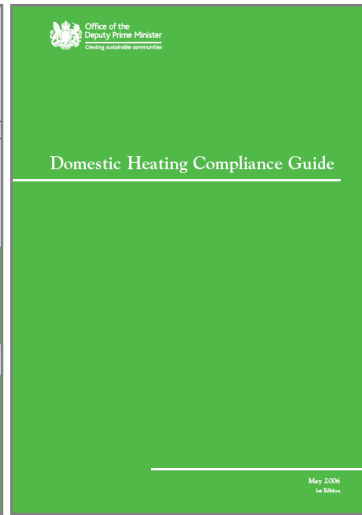
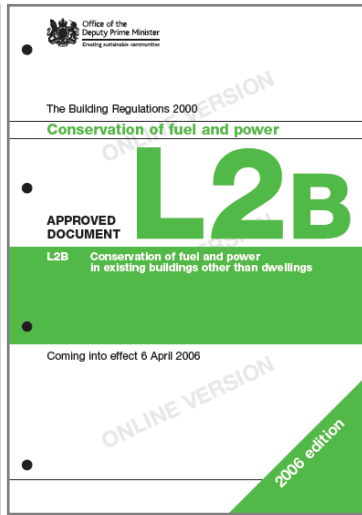
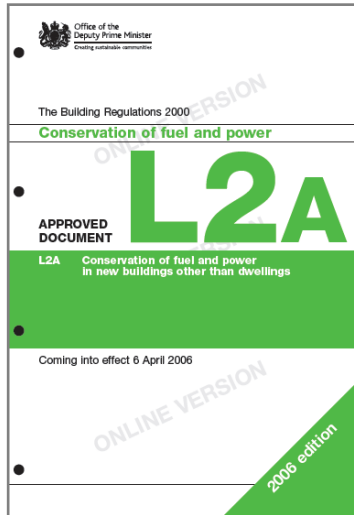
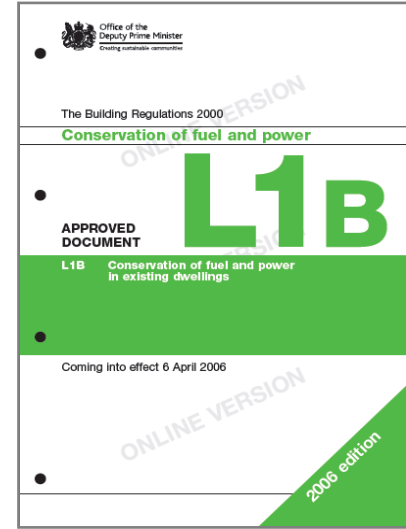
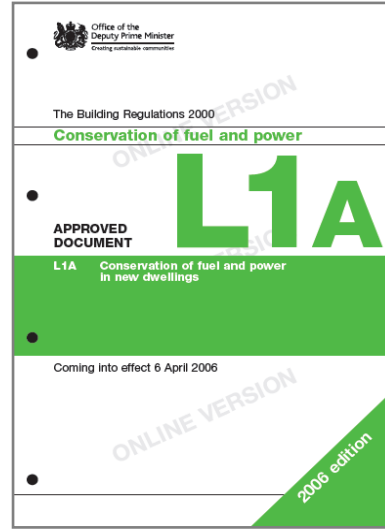
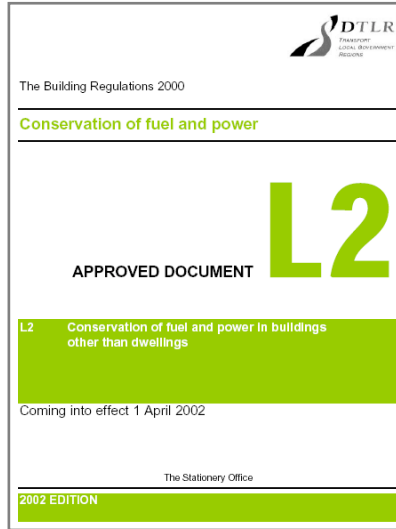
Indicative annual ranges

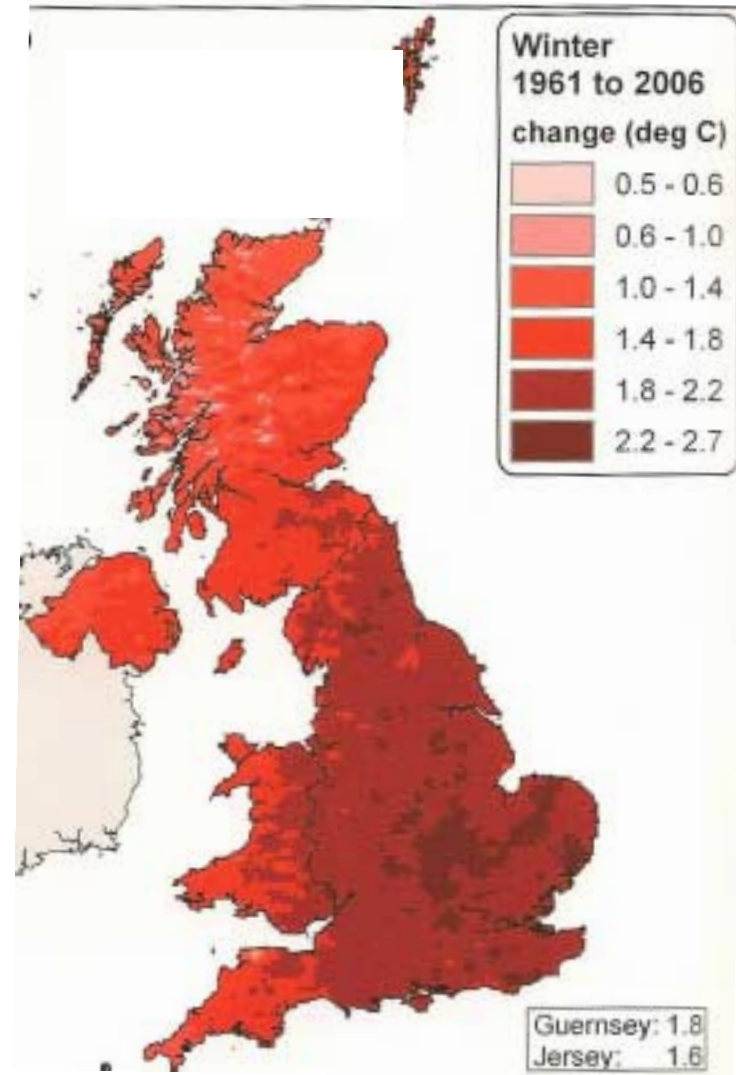
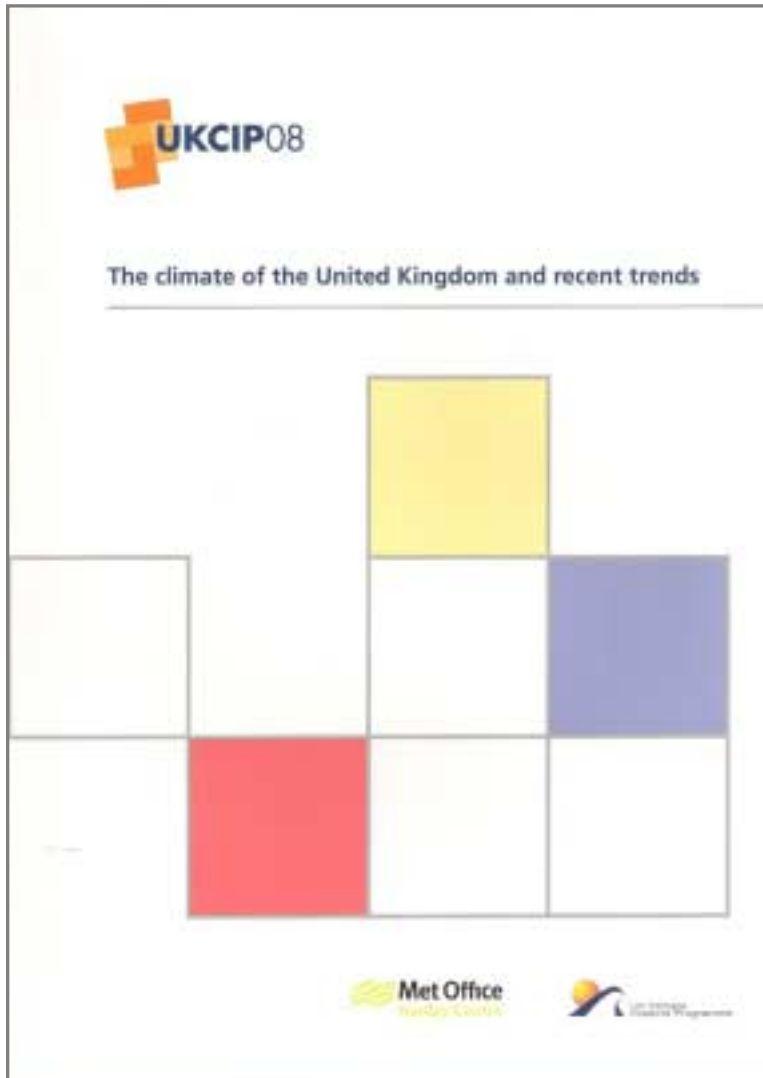
- 12 Duty to provide indicative annual ranges for net UK carbon account

Proposals and policies for meeting carbon budgets

- 13 Duty to prepare proposals and policies for meeting carbon budgets
- 14 Duty to report on proposals and policies for meeting carbon budgets
- 15 Duty to have regard to need for UK domestic action on climate change

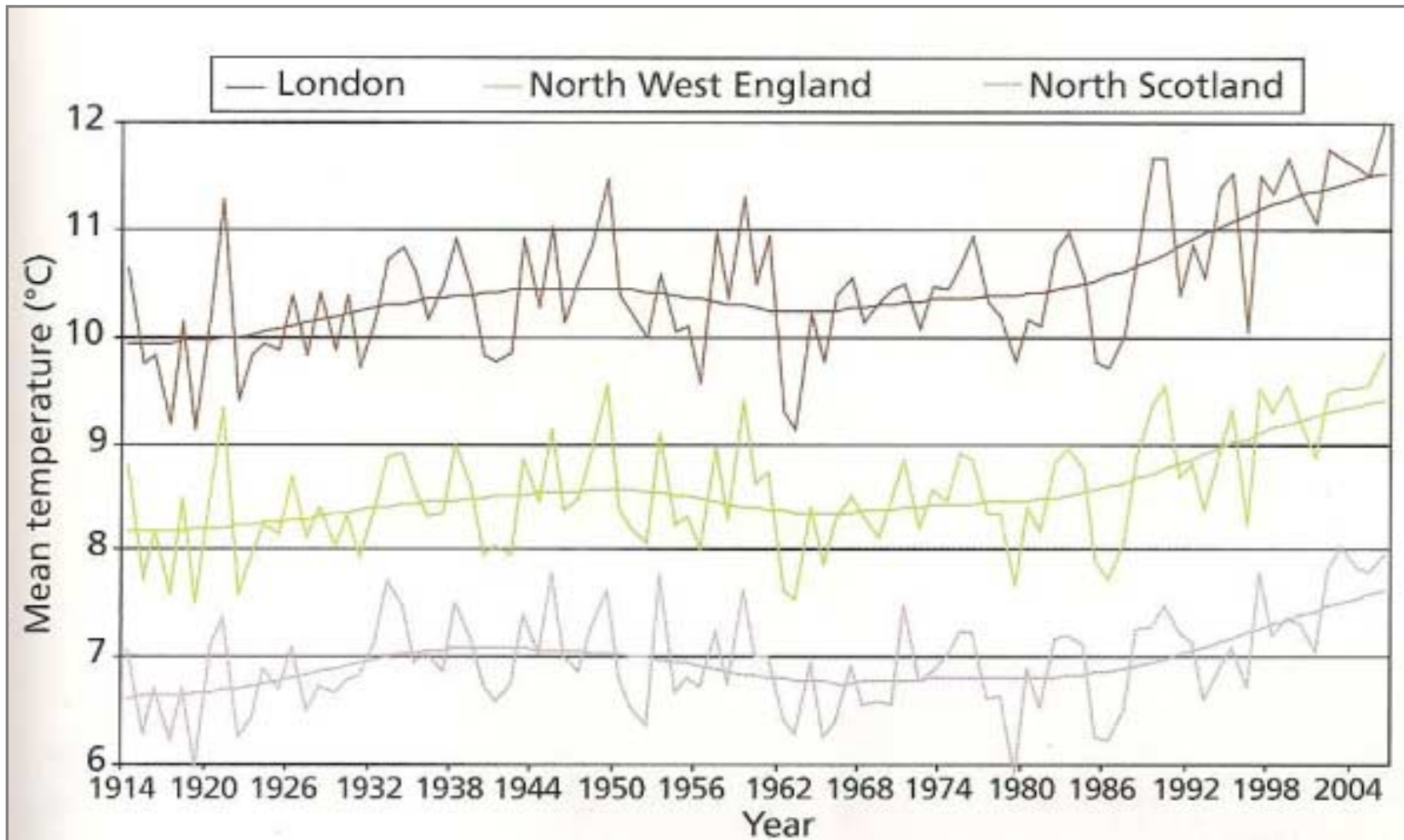
The Climate Change Act sets a mandatory carbon emissions reduction targets of 80% on 1990 levels by 2050, a move the UK has led the world on. It also sets up a new Climate Change Committee, regular 5 year carbon budgets, the potential for the inclusion of shipping and aviation emissions in targets, charges on single-use carrier bags, and regular mandatory reporting of progress towards climate change adaptation.







Average Mean Temperatures for Three UK Regions





NG Bailey

Telecoms '09

ITEC



The
Economist

AUGUST 8TH - 14TH 2009

Economist.com

America's unjust sex laws

The trouble with Germany's economy

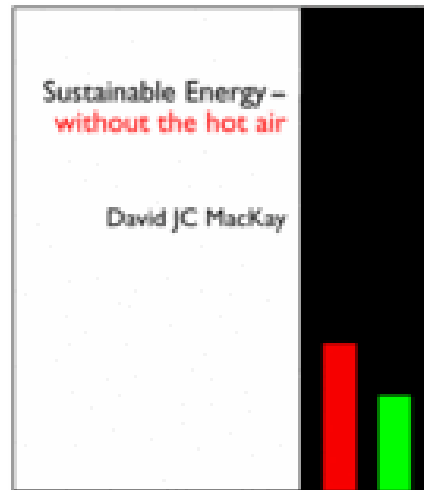
Why rich people have more children

Cuba goes backwards

An intellectual split in Islam

How long till the lights go out?





David Mackay

Sustainable Energy – Without the Hot Air

<http://www.withouthotair.com>



Market Drivers

- Climate Change Legislation
- Corporate Social Responsibility
- Energy Security
- Unstable Energy Prices
- Competitive Advantage



A Drop in the Ocean?

- ICT – 2% of UK consumption
- ICT & Intelligent Buildings
- Smart metering, smart grids
- Enabler for Process Change
 - Remote working
 - Paperless Office
 - Logistics
- Micro-generation – Revenue Opportunity ?



Why Bother?

- Board level focus on Energy
 - Have a plan, and the answers!
- Carbon budgets ahead?
- Sizable savings possible
- Opportunity for investment
 - With a reasoned business case
- Competitive landscape





Sustainability -- 3 Common Approaches

1. Head in the Sand



2. Greenwash



3. Kitchen Sink Approach





Sustainability – A Suggested Approach

a simple energy hierarchy

Reduce the need for energy

Use energy more efficiently

Supply energy from
renewable sources

1.

2.

3.



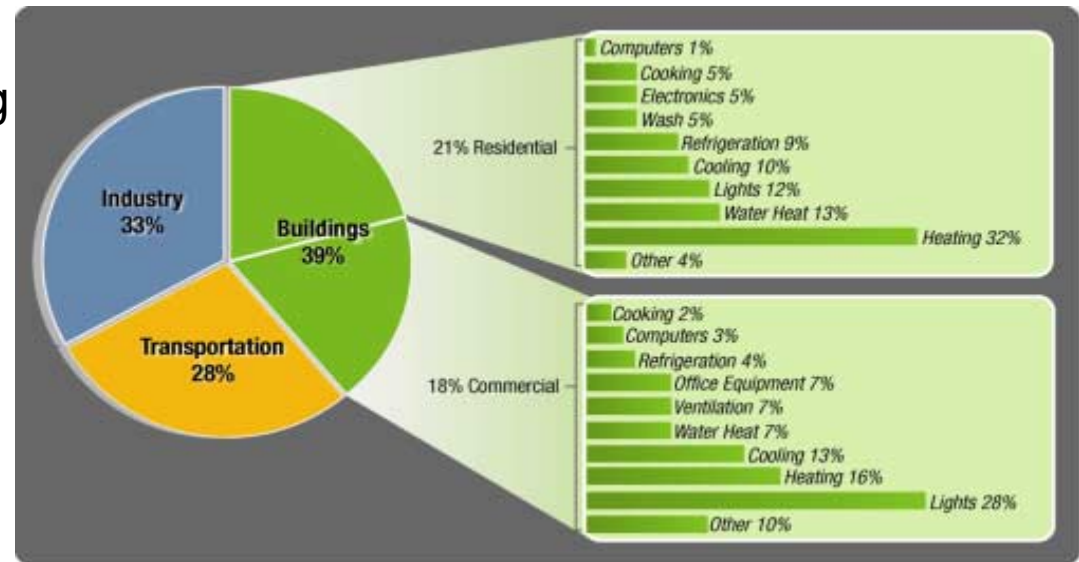


0. Benchmark the Status Quo

“You can’t manage what you can’t measure”

A simple Carbon audit:

- Define your scope
- Energy bills
- Metering / Sub-metering
- Usage patterns
- Process review





1. Reduce the need for Energy

“Look for low hanging fruit and quick wins”

- Where is most energy / carbon consumed ?
- Look at ‘Green ICT’ options
 - Teleconferencing, Videoconferencing
 - Remote working solutions, Collaboration tools
 - Look at hardware, devices, policies – thin client?
 - Printers, copiers, faxes
 - Data Centres
 - Building Management Systems
- Processes and working practices – engage employees, HR ... ?



2. Use Energy more efficiently

- Formulate an action plan to cut energy consumption
- Incorporate 'Green IT' within your overall IT strategy / plan
- Calculate payback / business case for implementing 'Green ICT'
- Phased, prioritised approach
- Factor sustainability into procurement decisions
 - EnergyStar, embedded carbon, TCO
- Simple changes can yield significant results
 - Switch things off !
 - Videoconferencing
 - Centralisation / Virtualisation – 30:1



3. Supply Energy from Renewable Sources

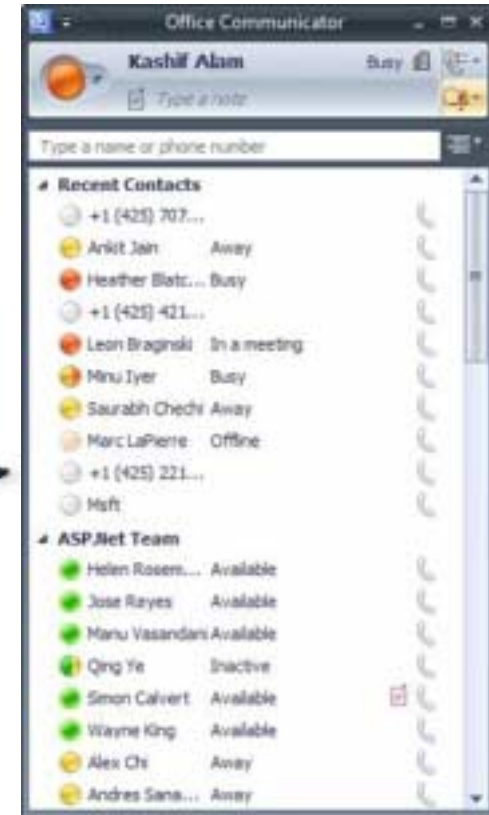
- Feed in tariffs
- Solais House





Green ICT - Examples

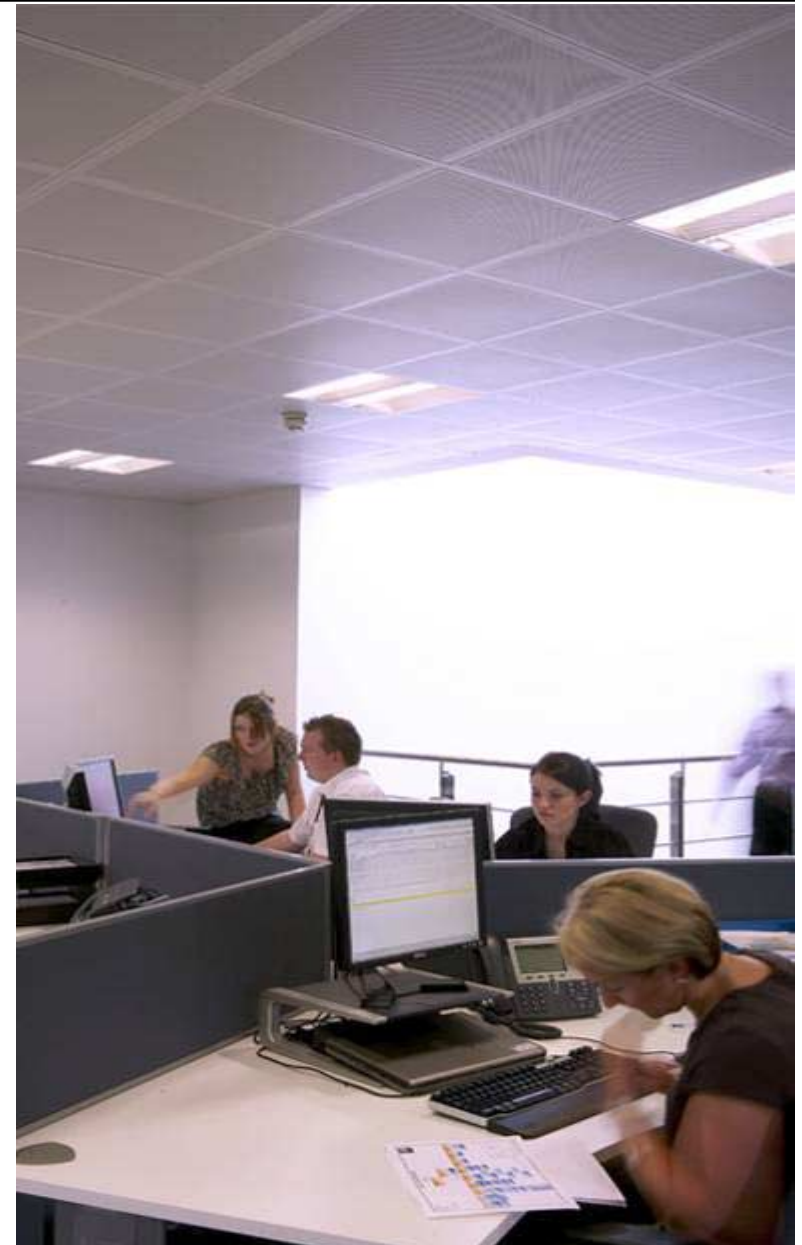
- Energy Management App'ns
 - Energywise
 - iBMS
 - Intelligent Power Strips
- Tele, videoconferencing
- Online Collaboration, Learning
- Document Management
- Multi-function Devices
- Wireless





Solais House

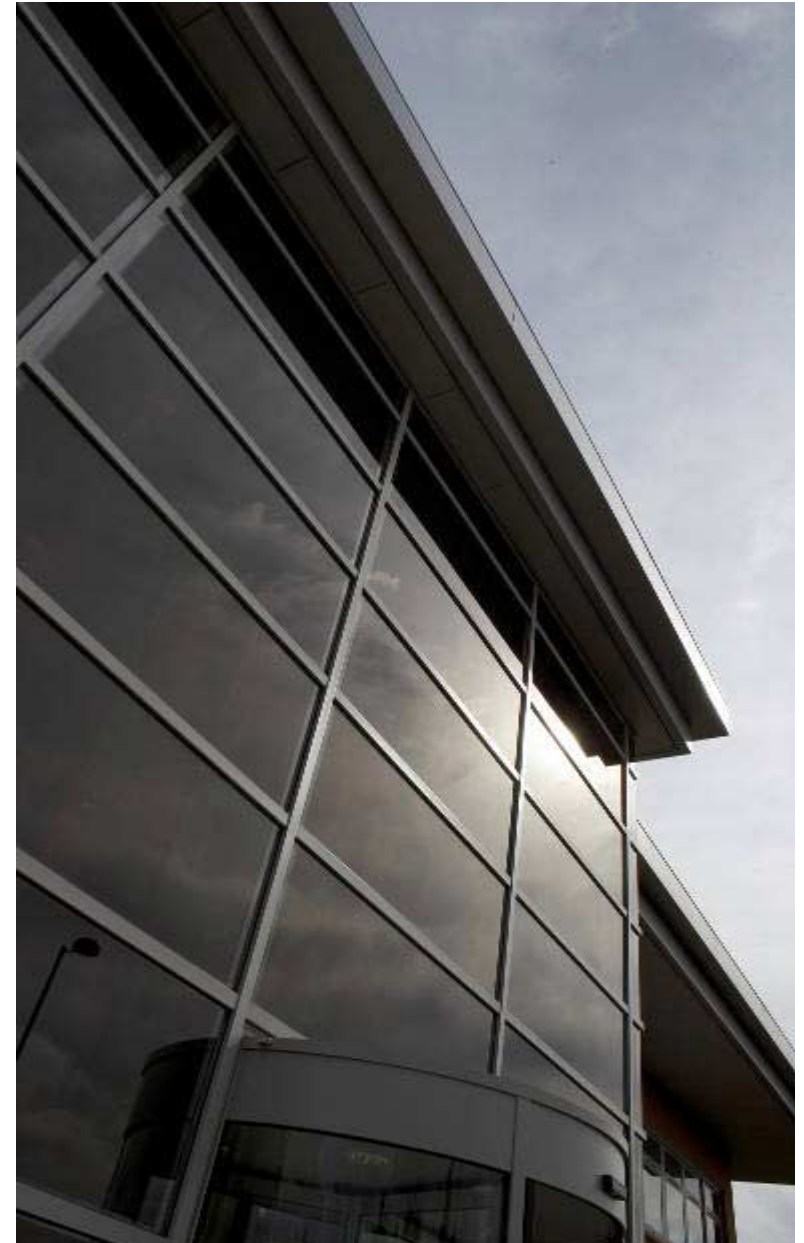
- Intelligent Building Management System
- Auto Windows / Mid Pane Blinds
- Maximum Efficiency Lighting
- Metering and Monitoring





Solais House

- Ground Source Heat Pump
- Solar Thermal Collectors
- Photo Voltaic Glass
- Micro Hydro





- Rain Water Harvesting
- Managing water usage





- Acoustics
- Lighting
- IP Infrastructure
- Security
- Remote Working
- Scalability



- Transport
- Materials
- Waste
- Land Use and Ecology
- Integrating Off-site Ground and Roof Plant Rooms







Solais House

- 'Excellent' BREEAM rating
- 'A' rated energy performance certificate
- 13.3kg CO₂, m², per annum against a like-for-like benchmark of 41kg CO₂, m², per annum
- Predicted reduction in whole-life costing
- Proven, positive impact on staff productivity





Summary

- Carbon reduction is vital and increasingly part of a CTO's role
- Understand your current carbon footprint / energy usage
- Develop your Green IT Strategy as part of your organisation's overall strategy
- Look for 'quick wins' and build solid business cases
- 'Green IT' spans business processes – engage HR and staff
- Simple changes can yield significant results
- Share successes – *Ministry of Good News*



Any Questions?



**Thank
You**

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