Greening your IT Work Space

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Why do anything..?

- Climate Change => warming, disasters (fires and floods), loss of biodiversity, less to go round more

- Population growth, 2000 to 2030 of 2.2billion, of which 2.0billion likely to be located in cities*

- Rising consumption, 5 billion people consume 20% and 1 billion consume 80% *(Ericsson)*

- Resource depletion, 2.5 planets for all to have US/EU living standards

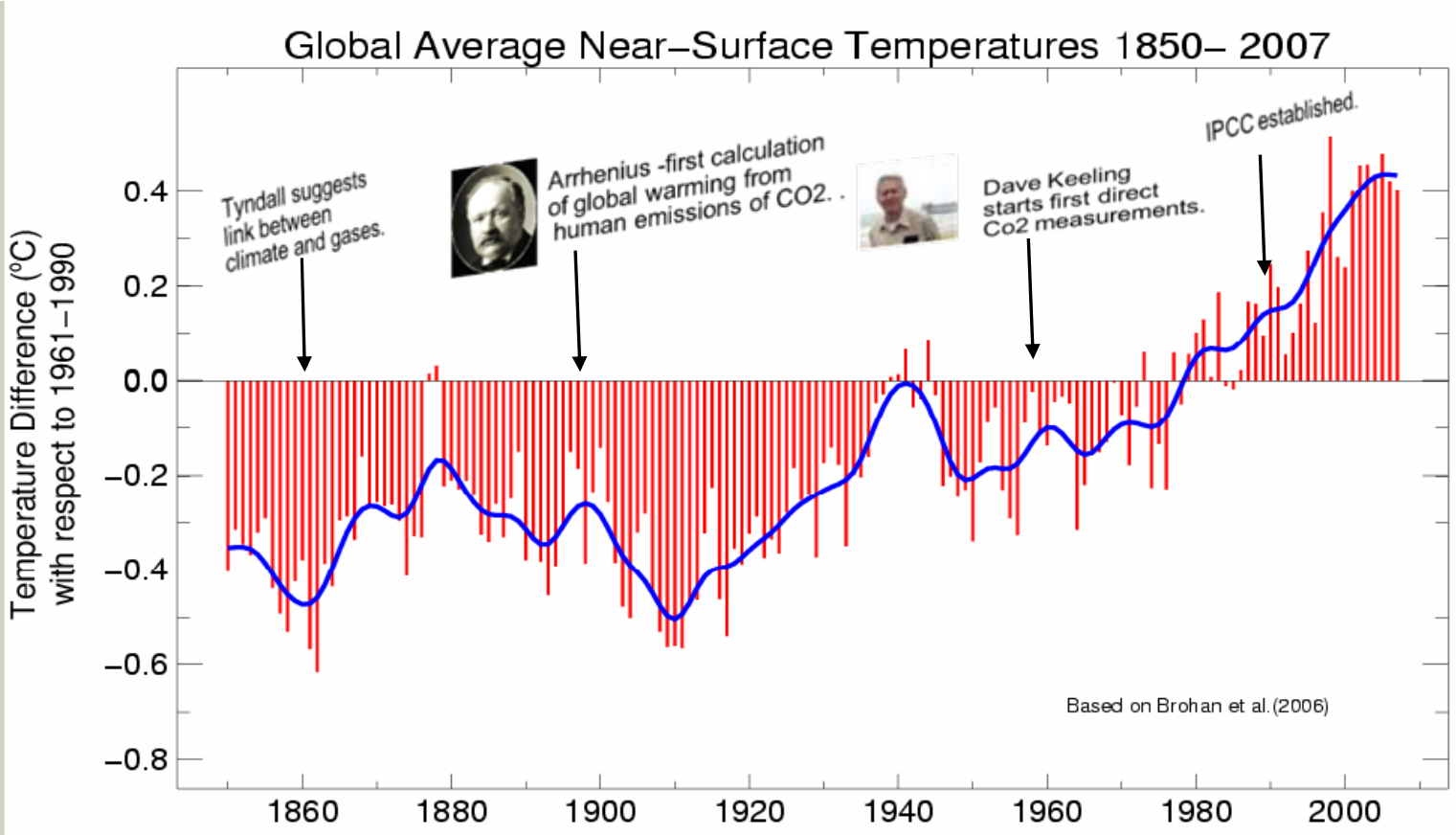
  => rising energy, food and resource costs, & now the credit crunch and recession!

  => "we have to do more with less" (*Buckminster-Fuller*)

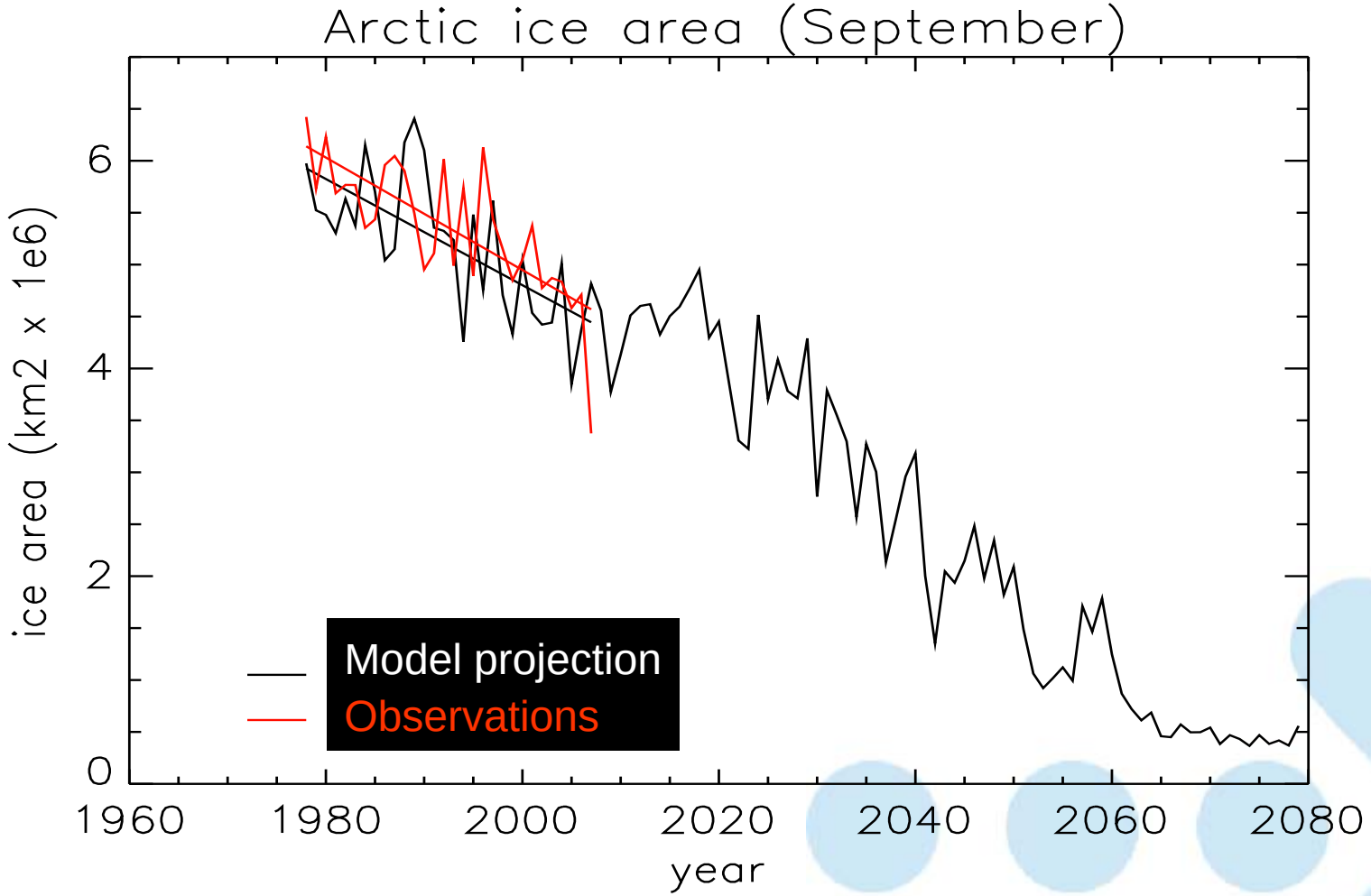
  > energy
  > resources
  > emissions

*"World Urbanization Prospects: The 2001 Revision", www.unpopulation.org

Reality of Climate Change



Arctic Ice cover depletion



Some perspectives on IT...

- Globally IT growing ...
  - From 123billion KwH in 2005 => 246billion KwH in 2010*
- In UK(carbon Trust)
  - 10 million office PCs , nearly 50% of adult population, uses PCs at work - expected to grow by 40% by 2020
  - IT consumes 15% of UK office power expected to rise to 30% by 2020
  - Data storage grew by nearly 50% in one year from 2005 to 2006
  - 45% of Domestic Power for IT and CE products by 2020
  - In **total ICT power consumption** already represents 10% of total UK energy consumption or **4 Nuclear Power stations**!!

References : (Berkeley National Labs + Global Action + IPCC + Energy Saving trust + Carbon Trust)

The pressures on HMG...

- **In UK, public sector is largest spender on ICT @ £12b**

- **Challenge of Sustainable Operations Gov Estate targets**
  - ⇒12.5% carbon reduction by 2011, and carbon neutrality by 2012
  - ⇒Highly critical SDC 2007 report on depts progress

- **Environmental Audit Committee**
  - ⇒IT a significant contributor to growth in HMG energy consumption

Government response..

- Put its own house in order
  - HMG Green ICT strategy
- Push industry improvements
  - Quick Wins procurement driver
  - Partnering with IT Industry
    - Market Transformation Programme
    - HMG/Intellect work
  - Policy developments
    - EU with Eco-design for Energy using Products (EuP)
    - Data Centre Code of Conduct
    - And now **Cleantech**

EU “CleanTech”

“To promote the mobilisation of technologies which enable both businesses and individuals to perform everyday activities in a more energy efficient way in order to ensure the advancement of targeted reductions **by 2020** i.e. **saving 20% of primary energy consumption**, **reducing greenhouse emissions by 20%** and **raising the share of renewable energy to 20%.**

“To create transparency and common ways of measuring energy performance”

EU “CleanTech”

How?

- Firstly, the ICT sector will be invited to set targets and reach a collective agreement on measurement methodologies.
- Secondly, working partnerships between the ICT sector and other major energy using sectors will be encouraged to identify potential roles of ICTs in improving efficiency and reducing emissions.
- Thirdly, Member States will be called upon to enable the EU-wide roll out of the ICT tools likely to effect behavioural change and drive demand for ICT solutions.

“Greening Government ICT”

- **Getting started...**
  - By January 2009 – corral further investments
    - All procurement documentation must specify environmental criteria for ICT eg adoption of ‘Quick Wins’ / CESP advice
  - By December 2009 – make a start..
    - Demonstrate how ICT is helping reduce emissions across the department
  - By January 2010
    - Report on progress towards carbon neutrality
- **By January 2012**
  - **Carbon neutral for ICT in use across dept estate by January 2012**
- **By January 2020**
  - **Carbon neutral for ICT lifecycle by 2020**

The Challenge of Neutrality....

... balance necessary consumption:

=> attack the 14% and reduce power consumption

By eating less!

=> tackle the 86% e.g. less official travel, less paper

By exercising more!

HMG Greening ICT developments....

- **Practical top tips => 18+ with 5 key areas for action**
  - Disposal
    =>extend lifecycles, re-use, recycle
  - Single device per employee
  - Active power management for ICT devices
    =>switch-off, screen savers, low power standby modes
  - Reduce printing footprint
    =>density of print/page, MFDs, staff/printer ratios
  - Increase utilisation of server capacity

The Challenge of Neutrality...

Exercising more...

=> tackle the 86% e.g. less official travel, less paper

Become an Olympic athlete!...

Greening your IT Work Space

- With UK public sector having the largest ICT budget, and setting a challenging target for Departments, public sector bodies are embarking on aggressive plans to reduce their ICT footprints

- These public sector commitments will put pressures on all its suppliers to use and provide greener IT assets and services

- Along with those from UK international commitments, will eventually ripple through to all of us

Why take action now?

Advantages of Green IT include:

- **Enhanced Reputation (Green image)**
- **Feel Good factor (making a difference, saving the polar bears)**
- **Reduce energy bills (Carbon comes from energy and energy costs money)**
- **Reduce future energy requirements by purchasing green assets, services and consumables**
- **Use ICT to facilitate working from home, and reduce the cost of travel, remote meetings**

The Journey to Effective Greening

- Raise awareness at all levels.
- Assess Green impact of your technologies, practices and behaviours
- Identify hot spots, establish baselines and identify simple things to do first
- Establish a Senior Manager as a Green "champion".
- Engage all staff to win hearts and minds
- Corral the problem - adopt green criteria and accounting for new investments

Staff Awareness

Examples, from the Carbon Trust, include:

- **A computer left on 24/7** will cost about £37 a year, whereas by switching off at night and weekends, the charge can be reduced to about £10 a year - enough energy to make some **34,900 cups of coffee**
- **Monitors** account for almost **two-thirds** of a computer's energy use
- **A PC monitor switched off overnight** saves enough energy to **microwave six dinners**
- **Turning off all non essential equipment** in an office for one night will save enough energy to run a small car for **100 miles**

Assess Technologies & Behaviours – take simple actions first

Reduce daily consumption

- turn it down or switch it off!

- **Awareness sessions** and posters to staff to switch off the lights when not required;
- **Lights to automatically switch off** when no movement within the room;
- **Switching off computers**, when not required, either by the users or automatically;
- Reduce **brightness on monitors**

Assess Technologies & Behaviours – take simple actions first

Consume less with what you have

- Remove **active screensavers** – same power used to run a screen saver as in working
- Reduce **screen brightness** and increase contrast
- If monitors and printers have **standby settings** use them!
- Enable active power management on PCs and Laptops
- Apply **timer switches** to non-networked technology and printers
- Share printers and other devices

  eg comms devices, faxes, servers
- Share PCs and hot-desk
- Rethink **Data Storage Policies** to reduce servers

Assess Technologies & Behaviours – take simple actions first

Take less from the environment

- Use **recycled** paper and recycled print cartridges and re-cycle again!
- Ask yourself – Why **print**?
- Set printers for **double-sided** or side by side printing as the default
- Set printers for draft and grey printing
- Adopt high density fonts and maximise print areas

Assess Technologies & Behaviours – take simple actions first

Use IT to reduce carbon from other services/ activities/overheads out of peak times eg Office space

- Utilise the concept of "**hot rooming**" to reduce the heating and lighting to a limited area
- Improve the physical security so staff feel able to start and work earlier / later, to reduce space required to house everyone out of peak time.
- Use **teleconferencing** and video-conferencing to save travel and meeting room space

Greening your IT Work Space

- The need to reduce greenhouse gasses and consumption of power is widely accepted
- Information and Communication Technologies (ICTs) are an increasingly important contributor to Carbon emissions in the UK
- Its footprint now exceeds that for the UK aircraft industry

Remember …

- Best practice evolving at a fast pace, need to invest in keeping up to date
- Given energy price issues and ability to use IT as a tool to effect gains elsewhere, the **business case** can be now be made for **Green IT**
- There are some things you can and should do **now**

Remember …

- **Pressure in the supply chain** from greener government practices and demands
- Many global organisations are making demonstration of green / energy **efficiency a requirement** for identifying suppliers / products
- Cannot afford to be left behind!