

Green ICT



Implementing environmentally friendly ICT practices
24 October 2007

Welcome

- (8:00am) Paul Engelman – Why go green?
- (8:05am) Kent Davey – ICT contract provisions for environmental purchasing and electronic record keeping
- (8:45am) Frank Zahra – Understanding and minimising an organisations environmental footprint
- (9:25am) Paul Engelman – Where do you start?
- (9:30am) Morning Tea

The facts

- Globally ICT generates 2% of the worlds carbon emissions (Gartner)
- Australia's carbon emissions total 522.2 million tonnes annually (National Greenhouse Gas Inventory)
- In Australia, ICT generates carbon emissions of 7.94 million tonnes (or 1.5%) per year (ACS study)

Australia only has 0.3% of the worlds population yet produces 1.5% of global carbon emissions (VicSuper Carbon Count)

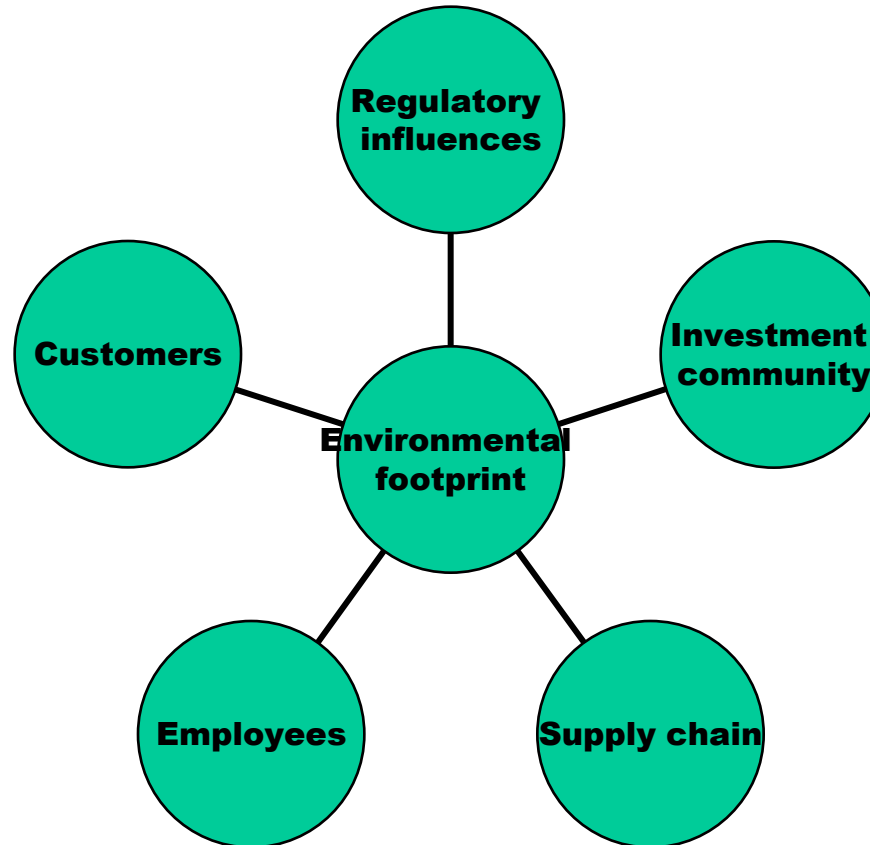
Gartners top 10 Strategic Technologies for 2008

- Green IT
- Unified communications
- Virtualisation

The drivers, challenges and benefits

Drivers:

- Measurement/disclosure
- Regulation of emissions
- Taxation of emissions
- Trading schemes
- Social responsibility
- Sustainability
- Generational influences
- Cost savings



Challenges:

- Carbon regulation will incorporate tracking of emissions from diverse sources.
- Lack of market pricing for carbon
- No real reporting standards or comparisons

Benefits:

- Reduction of GHG's, carbon emissions
- Increased use of recycled material
- Overall reduction in utilisation of natural resources
- Reduce energy consumption & costs
- Reduce disposal costs
- Comply with impending regulatory, monetary and trading schemes
- Enhance reputation and appeal to socially responsible customers, suppliers, employees and investors
- Attract investment

What does a CIO actually think about this?

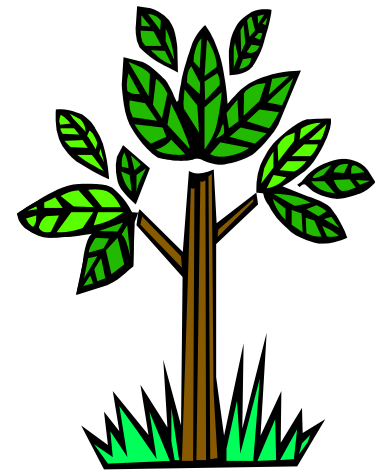
- IBM and ACA research study (September 2007)
- 104 IT managers/directors, large Australian enterprises (>500 employees)
- 61% have environmental policy/strategy
 - Mostly focussed on equipment disposal & reducing energy consumption
- 65% unaware of their energy usage
- 36% believe reduction of GHG's from ICT is high priority
- Primary drivers for tackling emissions:
 - Genuine concern for the environment
 - Enhanced corporate reputation
 - Rising energy costs

ICT contract provisions for environmental purchasing and electronic record keeping

- Kent Davey

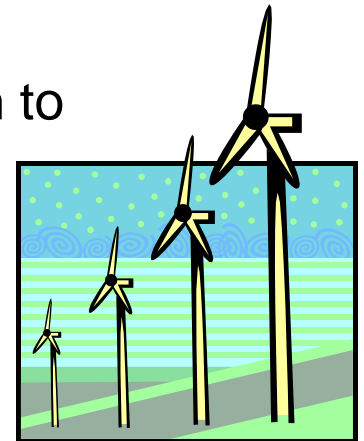
Overview

- National Greenhouse & Energy Reporting Act
- Government procurement policies
- Environmental purchasing checklist
- ICT contract provisions for environmental purchasing
- Electronic record keeping



National Greenhouse and Energy Reporting Act 2007

- Commenced 29 September 2007
- Establishes single, national framework for reporting by companies from July 2008 on:
 - Greenhouse gas emissions
 - Energy production
 - Energy consumption
- Foundation for Australian Emissions Trading System to commence by 2012



National Greenhouse and Energy Reporting Act 2007 (cont'd)

- *Mandatory reporting* for companies which exceed following thresholds:

	2008/09	2009/10	Later FYs
Greenhouse Gas Emissions	125 KT (1000 T)	87.5 KT	50 KT
Energy Produced	500 TJ (10 ¹² J)	350 TJ	200 TJ
Energy Consumed	500 TJ	350 TJ	200 TJ

Victorian Government

- Environmental Purchasing Policy requires that all Departments:
 - include *environmental considerations* in:
 - procurement planning
 - tender specifications
 - tender evaluation
 - consider options to *reduce environmental impact* under:
 - WoVG contracts
 - OSOAs

Commonwealth Government Procurement Guidelines

- Recognise that *value for money* is enhanced by promoting efficient, effective & ethical use of resources:
 - e.g. consider energy consumption, disposal costs

Scenario: Green Co Pty Ltd Computer Supply & Support

- Green Co Pty Ltd (**Green Co**) wishes to replace its ageing desktop computers
- Green Co has issued an RFT for the supply & support of replacement desktop computers
- Green ICT Pty Ltd has responded to the RFT offering to supply & support replacement desktop computers



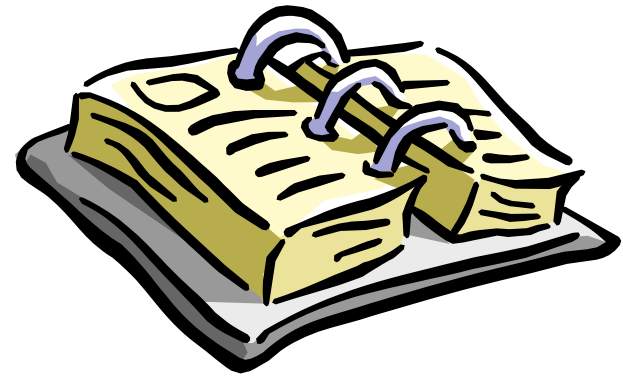
Environmental Purchasing Checklist for Computers

- Tender information required from suppliers:
 - Confirmation that Energy Star compliant
 - Ability to upgrade
 - % of remanufactured / recycled components
 - Ability to return at end of lifespan for recycling
 - Types of packing used for delivery
 - Noise level during operation
 - Weight

(Commonwealth Department of the Environment & Water Resources – www.environment.gov.au)

ICT Contract Provisions for Environmental Purchasing

- ICT Product Warranties
- ICT Product Recycling & Upgrades
- ICT Service Warranties
- Environmental Management System
- Parties' Meetings & Communications



ICT Product Warranties

- **Energy Star:** Product is Energy Star compliant
- **Power:** Product complies with specified power consumption rates in different modes
- **Upgradeable:** Product can be upgraded



ICT Product Warranties (cont'd)

- **Components:** Product is made up of specified % of remanufactured / recycled components
- **Recycling:** Product is designed to allow recycling at end of lifespan
- **Specifications:** Product otherwise complies with its specifications (e.g. weight, noise)

ICT Product Recycling & Upgrades

- **Recycling:** Supplier will accept return of product for recycling at end of lifespan if requested by customer
- **Upgrades:** Supplier will upgrade product if required by customer



ICT Service Warranties

- **Products:** Equipment / products used in supply of services will comply with environmental specifications
- **Legislation:** Services will comply with applicable environmental legislation (e.g. hazardous substances legislation)
- **Specifications:** Services will otherwise comply with their specifications

Environmental Management System

- **Environmental Management System:** Supplier must have an environmental management system which complies with AS/NZS ISO 14001:2004
- **Environmental Policy Compliance:** Supplier must comply with its Environmental Policy

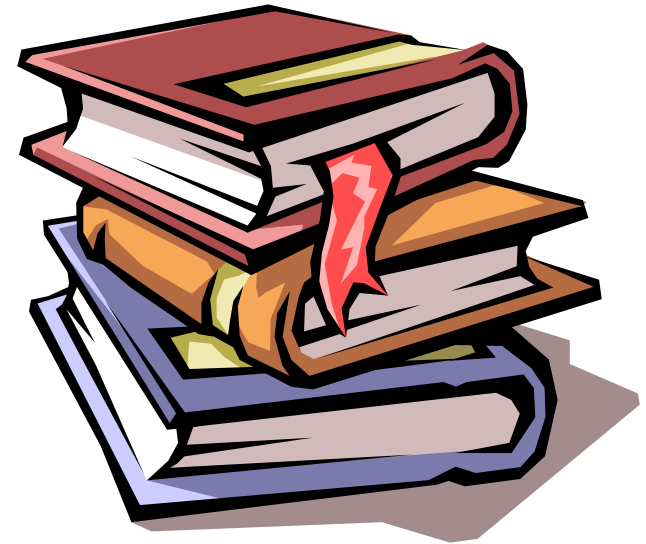
Parties' Meetings & Communications

- **Meetings:** the parties may meet by teleconference / video conference where appropriate
- **Communications:** Notices may be given electronically where appropriate



Electronic Record Keeping

- Electronic Transactions Laws
- Company Financial Records
- Tax Records
- Court Evidence



Electronic Transactions Laws

- **Commonwealth:** *Electronic Transactions Act 1999*
 - Commonwealth legislation
- **Victorian:** *Electronic Transactions (Victoria) Act 2000*
 - Victorian legislation & common law

Electronic Transactions Laws (cont'd)

- **Retention of Electronic Information:** Reasonable to expect electronic information readily accessible in future
- **Retention of Electronic Documents:**
 - Method of generating electronic document reliable means of assuring integrity of document information
 - Reasonable to expect electronic document information readily accessible in future

Electronic Transactions Laws (cont'd)

- **Provision of Electronic Information:**
 - Reasonable to expect electronic information readily accessible in future
 - Recipient consents to receiving information electronically (unnecessary for Cth recipients)

- **Provision of Electronic Signatures:**
 - Method used to identify person & indicate person's approval is reliable & appropriate in circumstances
 - Recipient consents to receiving signature electronically (unnecessary for Cth recipients)

Electronic Transactions Laws (cont'd)

- **Production of Electronic Documents:**
 - Method of generating electronic document reliable means of assuring integrity of document information
 - Reasonable to expect electronic document information readily accessible in future
 - Recipient consents to receiving document electronically (unnecessary for Cth recipients)

Company Financial Records

- *Corporations Act 2001 (Cth) s 286*
 - Requires companies to keep “written” financial records for 7 years
- Companies may keep financial records electronically provided:
 - Method of generating electronic document reliable means of assuring integrity of document information
 - Reasonable to expect electronic document information readily accessible in future

(Electronic Transactions Act 1999 (Cth))

Tax Records

- *Income Tax Assessment Act 1936 (Cth) s 262A*
 - Person carrying on a business must keep records that explain all transactions
- *Acts Interpretation Act 1901 (Cth) s 25*
 - “Record” includes information stored or recorded by means of a computer

Electronic Tax Records

- *Taxation Ruling 2005/9* recognises storage of paper records in electronic form provided:
 - **Data Quality:** true & clear reproduction
 - **Data Integrity:** not be able to altered
 - **Accessibility:** readily accessible by Tax Office
 - **Retention:** retained for statutory period (generally 5 years)

Electronic Tax Records System

- *Taxation Ruling 2005/9* recognises use of an electronic record keeping system provided:
 - **System Documentation:** entire system must be documented
 - **Data Integrity:** secure from unauthorised access & alteration
 - **Accessibility:** readily accessible by Tax Office
 - **Retention:** retained for statutory period (generally 5 years)

Court Evidence

- **Original Hardcopy Documents:**
 - Best form of evidence at common law
 - Highest evidentiary weight
- **Electronically Imaged Documents:**
 - Usually admitted unless disputed by other party resulting in need for authentication (e.g. evidence as to data quality, integrity)
 - May have lower evidentiary weight subject to authentication evidence



Court Evidence (cont'd)

- **Computer Generated Documents:**
 - Victorian *Evidence Act 1958* s 55B – document admissible if establish following conditions:
 - Computer which generated document used to regularly store / process information for regular activities during period
 - Kind of information in document regularly supplied to computer during period
 - Computer operating properly during period
 - Information in document derived from information supplied to computer

Court Evidence (cont'd)

- **Computer Generated Documents**
 - Commonwealth *Evidence Act 1995* s 147 – presumption document authentic if:
 - Document produced for business purposes (includes purposes involving government activities)
 - Computer used at time for business purposes

Court Evidence (cont'd)

- Steps to assist with admissibility / authentication of electronic documents:
 - Record details of process used to produce documents (including operator & date)
 - Prepare & maintain system documentation
 - Document & implement authentication (e.g. PKE) & security procedures
 - Record details of system access, operation & maintenance
 - Record details of information supplied to system
 - Require witnessing of all signed documents where practicable

Conclusion

- *National Greenhouse and Energy Reporting Act 2007* has now commenced
- Include appropriate provisions in ICT contracts for environmental purchasing
- When keeping electronic records comply with electronic transactions laws and specific laws / regulatory requirements (e.g. Tax Ruling 2005/9)
- Take steps to assist with admissibility / authentication of electronic documents

Questions?

Kent Davey

Partner & Team Leader
Technology Law Team
Russell Kennedy

Tel: +61 3 9609 1543
Email: kdavey@rk.com.au

Understanding and minimising an organisations environmental footprint

- Frank Zahra

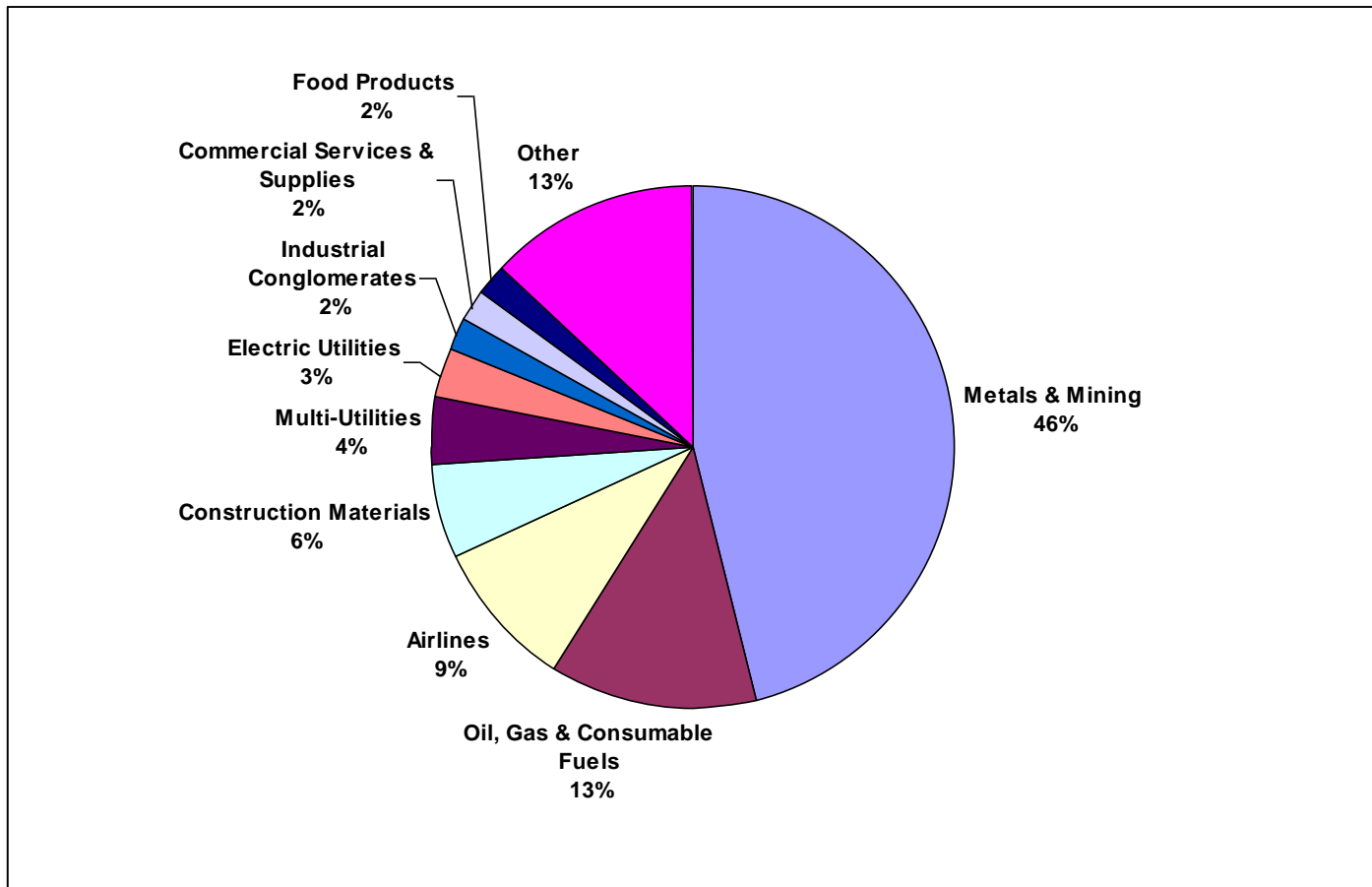
Understanding and minimising an organisations environmental footprint

- From Holistic View
- Set internal recycling goals and objectives
- Buy energy efficient equipment
- Purchase recycled IT equipment
- Set power consumption guidelines
- Reduce water and solid waste generation

Green house gases (GHG's)

- Direct – Use of fuel/combustion, generating GHG's from company controlled processes (this is relatively low for organisations based on an office environment).
- Indirect – Arising from the supply of goods and services to the organisation through the supply chain.
 - Tier 1 – Those from direct suppliers (e.g. electricity, staff airline travel, outsourced logistics providers)
 - Tier 2 – Those from indirect suppliers (e.g. fossil fuel extraction costs)

Largest GHG emitting sectors (Co2) (ASX200)



Source: Vic Super Carbon Count

How do you measure the footprint?

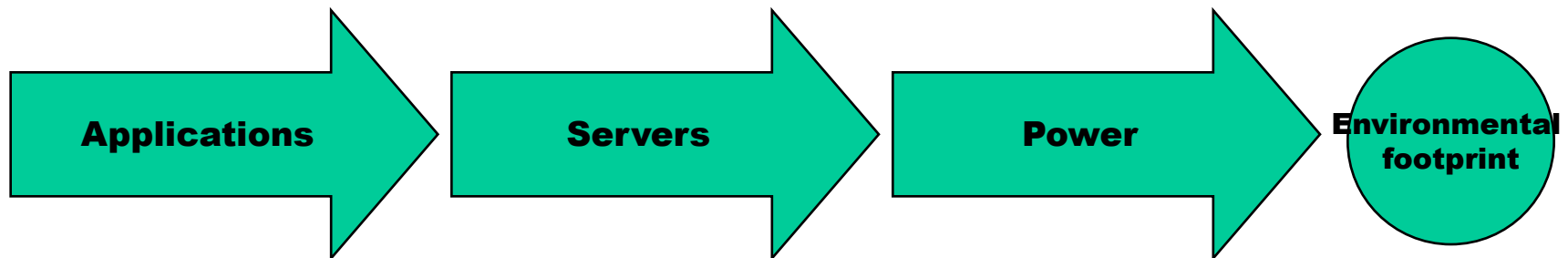
- From a practical perspective in ICT terms:
 - Electricity usage;
 - Paper and printing costs (including disposal);
 - Equipment recycling and disposal costs.

How can you reduce your footprint?

- Overall measures:
 - Rationalise and consolidate where possible;
 - Reduce daily reliance on paper and hard copy;
 - Focus on electricity minimisation.

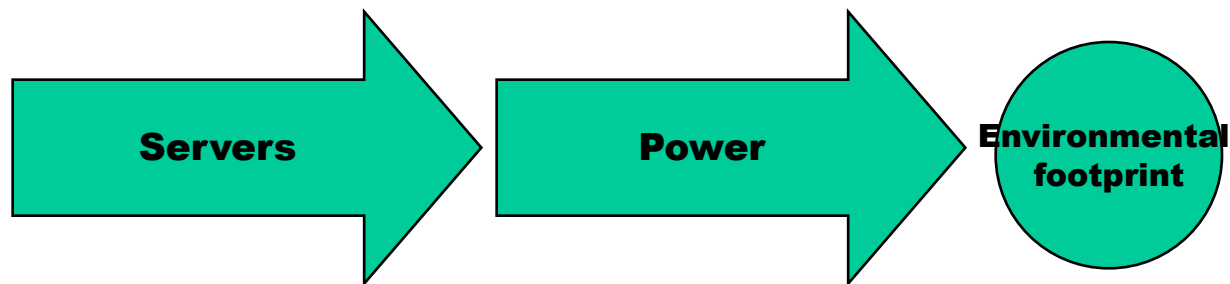
Applications

- Rationalise and consolidate where possible;
- Less applications used means less servers required leading to lower power requirements.



Servers

- Rationalise, consolidate and virtualise where possible;
- Less physical servers means less cooling and power requirements;
- Consider outsourced data centre housing to “share” cooling and power requirements as well as increase data centre processing utilisation (Note: “Blades” require 10-15 times more power than traditional servers).



Desktop and notebooks

- Maximise use of recyclable components;
- Thin client based technology;
- Energy efficient monitors.
- TV and monitors use similar technology – Producer Responsible Organisation to manage and of life disposal.

Power management policy

- Active directory based settings to force minimised consumption during periods of inactivity;
- Software to automatically turn-off and turn on computers as required.
- Turn processor based power management ON for efficient utilisation of processing.

Paper reduction

- Fax to e-mail;
- Storage area networking;
 - High and low availability disk management.
- Archiving and content management.
- Paper and consumables efficiency;
 - Recyclable.
 - Forced duplex / multiple page print.
 - Consumables re-use arrangements.

Paper and consumables efficiency

- Use of recycled paper and consumables;
- Forced duplex and/or multiple page print;
- Consumable re-use arrangements.

Convergence

- VOIP;
 - Single infrastructure layer for voice and data.
- Multi-function devices;
 - Print.
 - Scan.
 - Copy.

Establishing & maintaining an environmental policy

- Determine your carbon footprint.
- Set your organisations environmental goal.
- Commitment to applicable legal requirements.
- Document / implement / maintain.
- Communicate internally / externally.
- Review objections / targets annually.
- Longer term – planned internal audit reviews.

Questions?

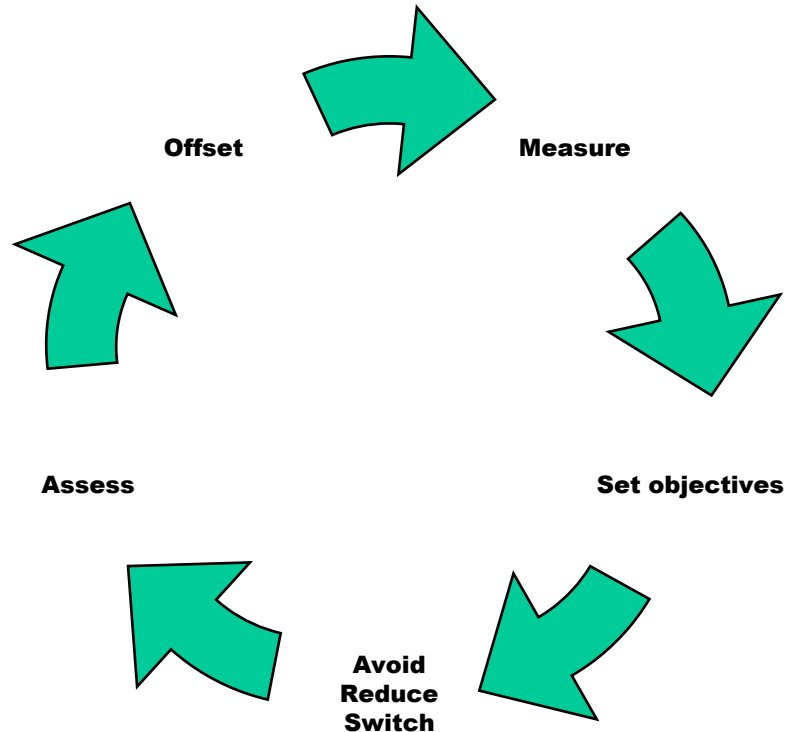
What have we heard today?

- The drivers are here now
- The regulations are coming
- Everyday legal aspects need to be considered
- Practical ICT measures can be undertaken

The appropriate use of ICT can provide a significant contribution to GHG reductions

Where do you start and how can you maintain it?

Where do you start?
1. Identify IT assets
2. Profile consumption
3. Model scenarios



Sources:
1. VicSuper Carbon Count
2. EPA Victoria Draft Carbon Management principles

Case study - News Limited

- Goal to be carbon neutral by 2010
- In the year to June 2006 generated 146,166 tonnes of carbon emissions
- Intends to cut carbon emissions by 20% over next 3 years (saving 30,000 tonnes per year)
- Will be making serious & sustainable changes to its business and providing employees with incentives to cut emissions
- Implementing a Green Procurement Policy encouraging business partners to address their own carbon footprints

Thank you