Cisco's Green Story

Danish Expo

5th March, 2008

Welcome to a brand new day

The Issue

If no action is taken on emissions, there is more than a 75% chance of global temperatures rising between two and three degrees Celsius over the next 50 years

Stern Review (commissioned by the UK Government)
Source: http://www.hm-treasury.gov.uk

Melting glaciers will increase flood risk

Crop yields will decline, particularly in Africa

Rising sea levels could leave 200 million people permanently displaced

Up to 40% of species could face extinction

There will be more examples of extreme weather and could reduce global gross domestic product (GDP) by up to 1%

Temperature rises by 5ºC, would reduce up to 10% of global output.

The poorest countries would lose <u>more</u> than 10% of their output

*In the worst case scenario global consumption per head would fall 20%*

Stern Review (commissioned by the UK Government)
Source: http://www.hm-treasury.gov.uk/

Examples: What does 1t CO_2 represent?

		1t CO_2 is…
Saloon Car	200g/km	5,000km (3,125 miles)
Sports Car	400g/km	2,500km (1,563 miles)
Short Haul Flight (per person)	150g/km	6,667km (4,167 miles)
Medium Haul Flight (per person)	120g/km	8,333km (5,208 miles)
Long Haul Flight (per person)	110g/km	9,091km (5,682 miles)
Single Aircraft Flight	162t CO_2	39km (24 miles)
2-Way Telepresence Call	16kW	134h (13 Bus. Days)
C6500 w/ FWM, ACE	1,380W	1,552h (65 Days)
C6500 w/ 384 7971G IP Phones	3,837W	558h (23 Days)
Average UK Data Centre	£5.3M/yr	17 minutes
All US Data Centres Servers	45B kWh	1.2 seconds

How many tons make an impact? - *Emissions Paths to Stabilisation*
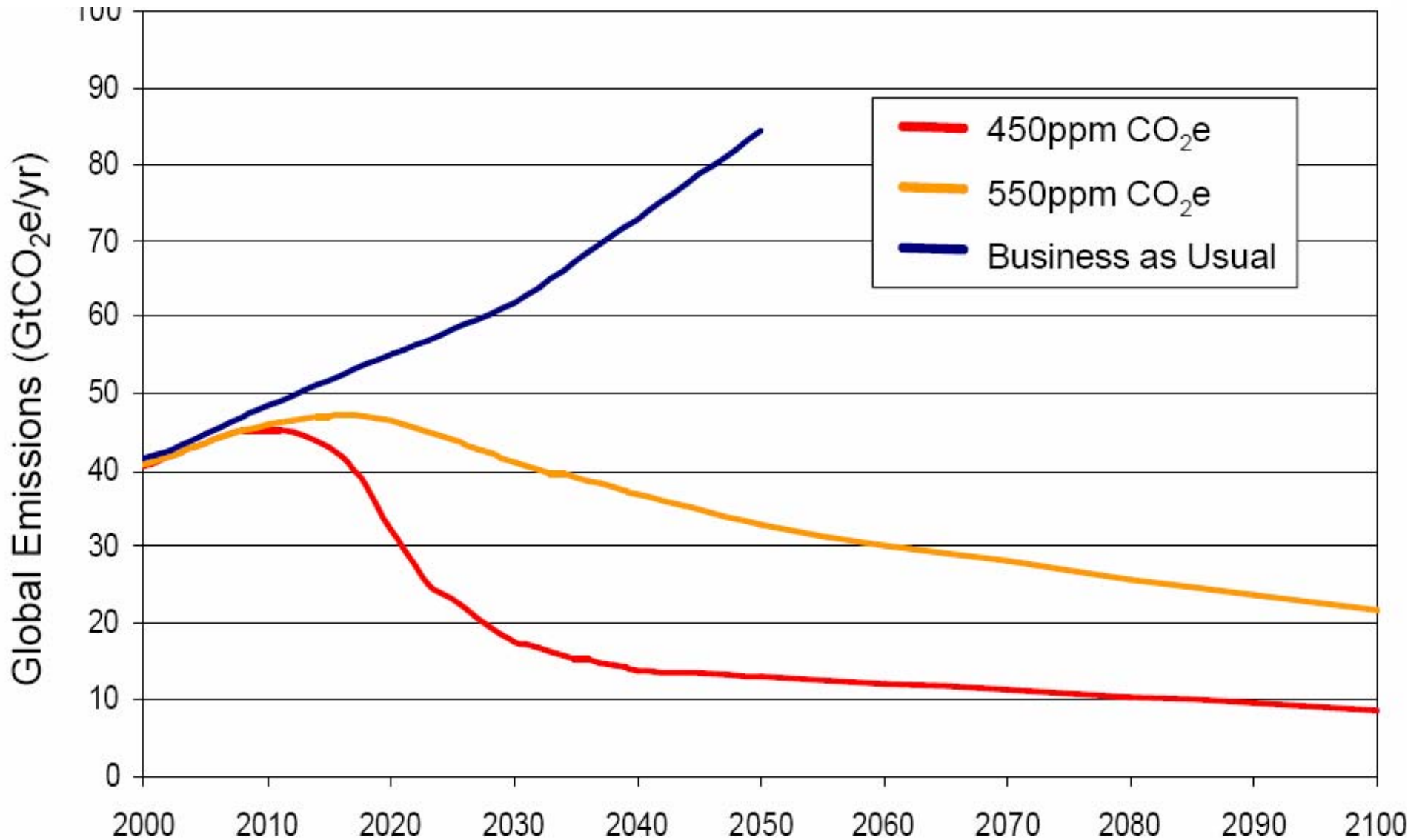
Shareholder Concerns

Investors are increasingly aware that environmental policies and regulations can affect shareholder value

CARBON DISCLOSURE PROJECT

The CDP4 information request was signed by 211 institutional investors with assets of more than $31 trillion; six times more than 2003. CDP points to a continued elevation of climate change as a critical shareholder value issue in the minds of investors and corporations alike.

Enterprises and Governments Are Making Bold Statements on CO_2

May 8, 2007

Citi Targets $50 Billion Over 10 Years to Address Global Climate Change

May 9, 2007

News Corporation Commits to becoming Carbon Neutral by 2010

September 22, 2006

Virgin Founder Richard Branson Pledges $3 Billion to Fight Global Warming

Abu Dhabi Launches World's First Zero-Carbon City
May 8, 2007

Sustainability

Sustainability can be described as each of us doing our part to build the kind of world –economically, environmentally and socially– that we want to live in, and one that we want our children and grandchildren to inherit.

It means becoming aware of all interconnections –visible and invisible– in which our day-to-day choices affect the intricate balance of social, economic and ecological systems.

Cisco is a Leader in Greening the Way

🔵 **In 2006, Cisco established the EcoBoard, co-chaired by Tony Bates, Laura Ipsen & Ron Ricci**

IBSG

Legal

Communications

Sales

Finance

Manufacturing

Marketing

Engineering

Services

Cross Functional Teamwork

Cisco's *Architectural* Network Effect

Evolve the culture within Cisco to pride itself on the management and reduction of climate changing *Carbon Emissions*

"what we do"

Operational

Network Effect

Products

Using **Cisco's Network Architecture** customers could extend **CO2 frugality measures** beyond normal expectations

Design products that help customer's meet their corporate sustainability and energy commitments

"Our products"

"How customers use our technology"

Greening Our Products

- **Sustainable Product Design**

- **Responsible Supply Chain Management**

- **Commitment to Standards**

- **Product Energy Efficiencies**
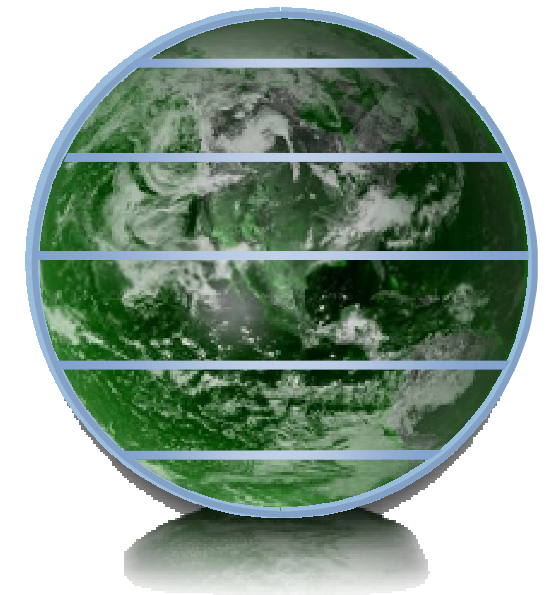
Sustainable Product Design

- **Easily recycled or reused**

- Modular and scalable, so the product can be upgraded instead of having to be completely replaced

- Complementary with standard chassis dimensions, so customers can use their existing equipment racks

- Compatible with previous and future versions of Cisco processing cards, so obsolescence is kept to a minimum

The Value of Router Integration

Overlay Appliances

Router
Switch
Wireless LAN
WAN/App Optimization
Security Appliance
Voice Appliance

VS.
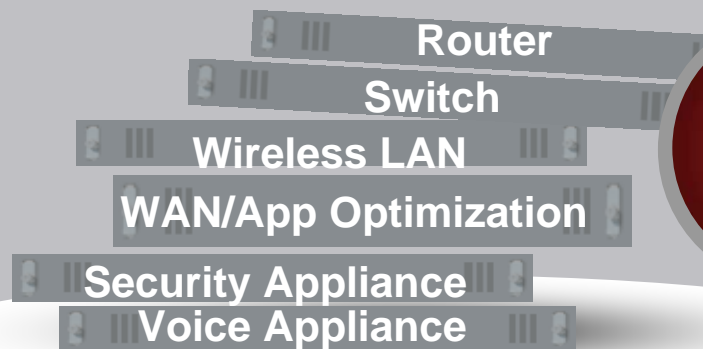
Integrated Services Router

Cisco® ISR 3845 with integrated voice, wireless, video, WAN optimization, and switch

Service Interoperability	System Support	Operational Efficiency	Investment Protection
▪ Consistency ▪ Interoperability ▪ Tested ▪ High availability	▪ Vendor accountability: network partner ▪ Fewer maintenance contracts	▪ Fewer devices, management systems, user interfaces ▪ Simplified troubleshooting	▪ Flexibility to evolve through system modularity

Clinton Global Initiative (CGI)

In FY2007, Cisco committed at the CGI to reducing carbon emissions from corporate air travel by 10% and committed $20 million in collaboration technologies (TelePresence, Unified Communications, and Cisco Shared Workspace).

FACTS

- In FY2007, Cisco successfully decoupled revenue/headcount growth from carbon emission growth and reduced carbon emissions from travel by 10% per employee.

- Accomplished through the use of TelePresence and Unified Communications. In FY2007, Cisco installed about 110 TelePresence units in more than 20 countries and almost 60 cities worldwide.

- In FY2007, Cisco held nearly 25,000 meetings via TelePresence (98 TelePresence meetings = 1 cross country flight.)

CLINTON GLOBAL INITIATIVE

CISCO

Connected Urban Development initiative

The Connected Urban Development initiative, in partnership with several leading cities, will create an urban communications infrastructure that increases the efficiency of traffic flow, which in turn dramatically enhances how people experience life in and around cities.

And clearly, if traffic flows more efficiently, then by definition, emissions are lower from vehicles or other transportation systems.

Cisco Carbon to Collaboration initiative

The Carbon to Collaboration initiative is a $20 million investment in collaborative technologies that will reduce the need for physical travel at Cisco.

With this initiative, we combine Cisco Unified Communications technologies, which include voice and data with a rich media and video experience to virtualize our high level of interaction across distances-without compromising the human-to-human expectations of communicating and collaborating. So, people located across the country and around the globe will be able to work together as effectively as if they were sitting in the same room.

Greening Cisco's Operations

- **Reducing energy use across the company**

- **Limiting the greenhouse gas emissions implicated in global warming**

- **Closely managing water use**

- **Monitoring and properly disposing of hazardous materials**

What are the carbon issues?

Energy/ resources used making and supplying the product
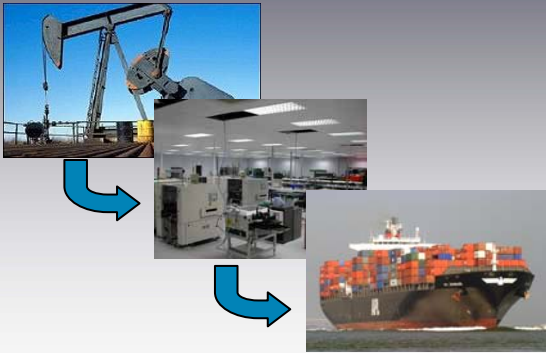
Some studies suggest 80% of energy in a PC is accounted at this stage
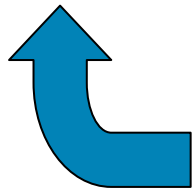
Energy during product use

Lighting 11%

Heating, Cooling and Ventilation 58%

IT Equipment 25%

Other 6%
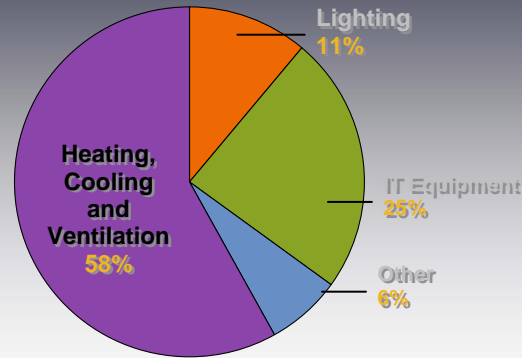
Typically 25% of Total Office Electrical Demand is for IT Equipment

The Network Effect of our products in use

X

How Cisco helps our clients do their job better

Reusing / recycling end of life equipment reduces overall energy burden
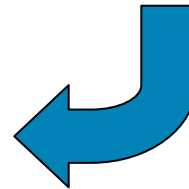
Cisco's own energy consumption in our work

The Information/Communications (ICT) Industries Account for 2% of the World's Green House Gases.

It's the Responsibility of Every Industry to be Greener…

The Opportunity for ICT is to Reduce the 2% while disproportionately Impacting the other 98%.

IT's CO_2-Reduction Impact Is 10x greater than its direct CO_2 Production

Direct and Indirect Effects of IT on the Environment

First Order ↑	Direct result of its existence (Increasing CO_2)	• Energy consumption • Greenhouse gas emissions • Use of non-renewable resources • E-waste & hazardous material	
Second Order ↓	Impact of applications (Lowering CO_2)	• E-government, e-business • Transportation optimization • Energy optimization • Building optimization	
Third Order ↓	Long-term, socio-economic changes (Lowering CO_2)	• Workplace Design • Social inclusion, education & health • Economic development • Urban design & development	

IT's Direct Annual Impact in CO_2 = + 4.73M tons
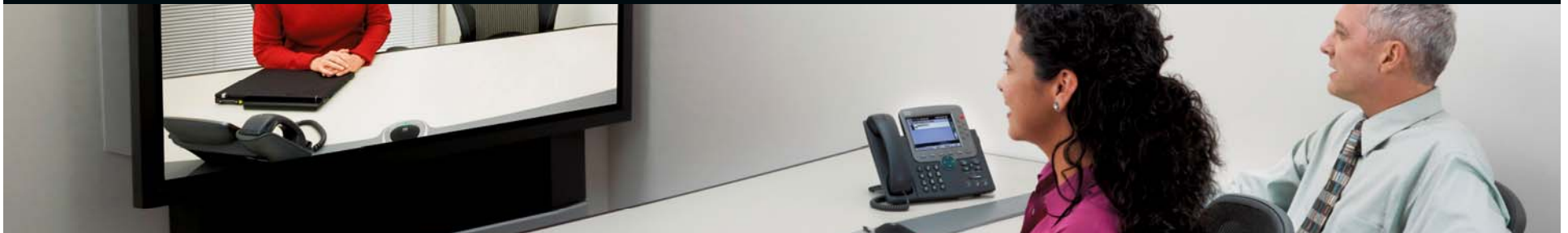**Possible Annual CO_2 Replacement = - 48.37M tons**

Sources: Gartner Group, April 2007; "Saving the Climate at the Speed of Light," WWF and ETNO, 2007
Note: CO2 estimates are for Europe Only

The Green IT Vision

Enabling the Greener Enterprise by the efficient delivery of IT services to the business

Eco-Standards

Cisco TelePresence is helping us to become "Green"

- **Cisco cutting annual air travel by 20% = 1 billion miles**
- **Reducing overall company carbon emissions by 10%**
- **Better customer service, improved quality of life**

Why extra focus on the DataCentre really matters

3.2Gw generation

5-10% distribution loss

15-30% Server and Storage utilisation

60% Lost through chimney

10% DC power conversion loss

Questions or Feedback?

Please email me:
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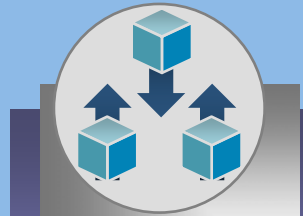
Why The Network as the Platform?

The network is uniquely pervasive

Pervasiveness

- Shared location for Services
- Ultimate location for Policy Enforcement
- "Single View" point into the Business

The network is uniquely neutral

Neutrality

- Vendor- and Device-Agnostic
- Transparent, Non-Invasive to Endpoints
- Standards based, Simpler Integration

The network is uniquely scalable

Scale

- Vertical Scaling (Performance)
- Horizontal Scaling (# nodes, Distance)
- Service Scaling (Virtualization)