

**Cleaning up the climate change debate -
how telecommunications permits a shift from
accounting to conservation**

by
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Background prepared for remarks to the
**Foreign Correspondents' Association
Newsmaker Luncheon**
Sydney, Australia
February 5, 2008

Thank you, Esther – for inviting me here today.

I believe the **Foreign Correspondents' Association (FCA)** is one of the **most important new contributions to the fabric of Sydney's cultural life**...and has great potential to be a forum not just for better journalism but also for thought leadership – both nationwide and around the globe to the many countries represented here.

There is a **lot going on in Australia that is:**

- new
- interesting
- innovative
- trailblazing
- world-first, and
- world-class.

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The FCA is one place we can **spotlight** what is happening and **amplify** achievements to the rest of the world by providing story ideas from every sector and from all across Australia.

That's why I am here today...to talk about a **trailblazing, economy-wide strategy for one industry** – the telecommunications industry – to help meet the environmental and legislative challenges of climate change.

There is no denying that this is a hot topic. It is difficult to pick up a newspaper, listen to the radio or watch the television and not see something about climate change.

So, there is nothing new about climate change. But the *approach* we are taking is different.

To give you the punch line up front, we believe that civic leaders and leaders of **business and government should go back to basics on the climate change** issue – back to basic blocking and tackling and leave aside carbon caps, carbon trading, carbon off-sets, accounting schemes and all the other fancy stuff that dominates the public dialogue about climate change mitigation.

Put another way, as I see it, is **we in Australia and around the rest of the developed world have lost sight of the key** business reasons or fundamentals as to why we need to act on climate change.

Yes, there is evidence that supports the global warming scenario – along with evidence that disputes it. Yes, there is evidence that man may be causing it – along with evidence that there may be other causes, such as the sun. There is the Al Gore slide show and movie and the Oscar; there is also “The Great Global Swindle” produced by the BBC and aired here on the ABC.

But no matter where you come down on any of these political and scientific arguments, **a plain fact remains: Right or wrong, governments across the globe, including here in Australia, are advancing new laws and regulations to limit greenhouse gas (GHG) emissions.**

Our point of view: Everyone is going to be required to reduce GHG emissions. It is going to happen. So let’s be ready.

Now, here is our point. **GHG are generated from a variety of sources, but they come primarily from energy use.** Therefore, it makes sense from a pure dollars and cents perspective to conserve resources of all kinds – and especially energy.

There are only **two ways to make money in business: Increase revenues or reduce costs.** By reducing an organisation’s use of resources – e.g., reducing energy consumption (not just offsetting energy consumption), paper use, fuel consumption and other significant polluting actions – we stand to benefit from both a commercial and environmental perspective, as shown in Figure 1.

Fig. 1: Highest Paybacks from Sustainability Investments

Highest Payback Investments	Percent
Energy savings	41%
Waste savings	23
Product innovation	18
Corporate branding	6
Raw materials savings	6
Water savings	6
Total	100%

Source: Corporate Executive Board Research, *Survey of Corporate Sustainability Executives*, 2007.

We view conservation as a major corporate social responsibility. From a principled perspective, our **primary corporate responsibilities** are, first and foremost, to:

- **Serve the needs of our customers;**
- **Increase shareholder value** and protect shareholder interests;
- **Provide good jobs at good wages;**
- **Pay taxes and in other ways support the communities in which we operate** and the needs of the larger society;
- **Advance the national interest** by strengthening the capacity of the nation’s telecommunications nerve centre and providing the nation a foundation for economic growth, productivity improvement, sustainable prosperity, and global competitive advantage; and to
- **Provide good stewardship of the environment** – first and foremost by conservation, reducing operating costs, and minimising our environmental footprint.²

² During the past financial year, for example, Telstra’s business activities: supported more than **50,000 jobs**; paid out **\$3.6 billion in salaries and wages**; paid out **\$5 billion in dividends to shareholders** – including more than 1.6 million Australian shareholders; paid **\$2.1 billion in Commonwealth, state and local taxes** including income tax, fringe benefits tax, petrol excise, payroll tax, mechanical aids and motor vehicle registration fees, rental duty payable for rented products, municipal and water rates, land tax and bank accounts debit tax; and **invested several billion in Australia** to extend the build-out the Next G™ wireless broadband network, continue deployment of ADSL broadband and maintain, repair, and replace network elements owing to age, wear-and-tear and weather events.

Despite the clear business imperative to conserve resources, **the climate change debate has become muddled**. First, the challenge of reducing GHG emissions is different for every industry. We are not looking at a one-size-fits-all solution, as shown in Figure 2 below.

Fig. 2: Risk exposure varies dramatically by industry.

Industry Sector	Cost as % EBITDA	Within Sector Variance
Electric power	25.2	Exelon @ 1.2%
Multi-utiities	21.4	PG&E @ 0.1%
Speciality chemicals	15.9	Praxair @ 3.1%
Diversified chemicals	10.5	DuPont @ 1.4%
Metals and mining	9.7	Newmont @ 1.1%
Pharmaceuticals	9.0	J'son & J'son @ 0.04%
Surface transport	7.7	CSX @ 2.9%

Source: Innovest Strategic Value Advisors, *Carbon Beta and Equity Performance*, 2007

Second, **there are many ways to conserve resources**. Let me briefly report what we have achieved through **voluntary initiatives to reduce our burden on the environment**. During the past year, for example, Telstra has:

- **Saved close to 39,000 tonnes of CO2 equivalent** thanks to new projects targeting energy efficiency – comparable to **removing more than 8,000 cars** from our roads in one year.
- Planted **180,567 tress to offset 48,391 tonnes of CO2 equivalent** through an arrangement with our employee's salary-sacrifice vehicles. This was a 100 per cent increase from the previous year and the equivalent of filling the MCG with trees almost 90 times over.
- **Halved the number of reams of paper used per employee since 2000/01** – 15.2 reams of paper per employee to 7.2.
- **Diverted 18 tonnes of wast printer cartridges from landfill** through the Cartridges 4 Planet Ark initiative compared to 15 tonnes in

20025/06 – a 20 percent increase.

- **Operated 10,693 solar powered sites** including exchanges, radio terminals, small repeater stations and pay phones. We are Australia’s largest private sector user of solar power.
- **Improved our office recycling rates for bottles, cans and milk cartons** by 7.1 percent. This diverted 338 tonnes of waste going to landfill, and we
- **Reduced the kilometres travelled by our technicians by 5.6 percent** thanks to Global Positioning Systems (GPS) installed in technicians’ vehicles.

What is required is a clear focus on reducing GHG emissions, which can be achieved primarily by consuming less energy, as shown in Figure 3.

Fig. 3: Relative Effectiveness of GHG Reduction Strategies

Effectiveness of GHG Reduction Initiatives	Percent
Increasing energy efficiency	84%
Improving manufacturing and distribution	62
Engaging stakeholders in policy discussions	31
Hiring/empowering environmental officer	28
Shifting investments to climate neutral focus	23

Source: 2007 Survey of Switzer Fellow Scientists, *What the Scientists Know: How business can help solve global climate change*. 2007

Meaningful carbon abatement requires large-scale energy conservation – not just offsets and other accounting approaches that may or may not lead to less energy consumption or the more efficient use of resources. In fact, many companies that aim to achieve “carbon neutrality” actually plan to increase energy consumption and increase GHG emissions.

Telstra’s aim is to find ways to resource inputs as a percentage of outputs. Therefore, we embarked on a detailed process to see not only what we can do to reduce our carbon footprint within our organisation, but how we can assist each and every sector of the economy and every community and individual reduce theirs.

To this end Telstra commissioned climate change experts to investigate how telecommunications networks and digital products can enable business enterprises, households, non-profits, and governments to reduce carbon emissions.

Consider space management which accounts for about 40 percent of energy consumption – including everything from heating and air conditioning to the ‘office concierge’ and a ‘hot-desk’ for the telecommuter – the opportunities for energy conservation are huge, as shown in Figure 4.

Fig. 4: Energy Consumption by Facilities

Energy Consumption by Function	Percent
Heating, ventilation, air conditioning (HVAC)	37%
Lighting	18
IT & office equipment	14
Water heating	10
Other	21
Total	100%

Source: World Council for Sustainable Development, *Energy Efficiency in Buildings*, 2007.

Let me take a step back though and explain why Telstra is speaking out at this time on climate change.

There are three main reasons:

- **Telstra touches almost every home and business in this country.** We are the only company in Australia that can say that.
- Our national coverage means that **Telstra's networks can be leveraged by Australian consumers and businesses** to reduce or avoid carbon emissions.
- We can **transform piecemeal and incidental energy saving actions using telecommunications networks** and turn them into an:
 - integrated,
 - deliberate, and
 - comprehensive approach with economy-wide implications.

The approach to achieving this is outlined in *Towards a High-Bandwidth, Low-Carbon Future: Telecommunications-based Opportunities to Reduce Greenhouse Gas Emissions*³, by the experts at Climate Risk.⁴ The Climate Risk report establishes that telecommunications networks can play a nationally significant role in helping to equip Australia to survive and prosper in a future carbon-constrained world.

³ Full report can be found at: http://www.telstra.com.au/abouttelstra/csr/docs/climate_full_report.pdf.pdf

⁴ Climate Risk is an independent, Sydney-based professional services consulting organization that analyses risk, opportunity and adaptation issues around climate change.

Most importantly, **these digital opportunities have application not just for Australia but for all nations.**

By using telecommunications networks, **there are opportunities to reduce Australia's carbon emissions by an amount that meets the Kyoto Protocol target** and is in keeping with the findings of the Intergovernmental Panel on Climate Change (IPCC) and Stern Review.

The Report puts solid ideas into the marketplace – commercial ideas and strategies – about how **we can use telecommunications networks to actually reduce Australia's carbon footprint, most of which are actionable today.**

The increasing capacity of **Telstra's next generation networks (NGN) are providing significant abatement opportunities** without geographic limitations. It is non-discriminatory. It doesn't matter whether you are an individual, a household, a school, a small or big business, a government agency or a non-profit.

Nation-wide availability of virtual desktops, high-definition video conferencing, and accessing a virtual private network remotely are more widely available due to the next generation networks that Telstra has introduced in Australia over the past year.

With Telstra you can:

- work together without having to be together;
- go on a field trip without leaving the school grounds; or
- receive a doctor's care without leaving home.

New high-resolution video-conferences are replacing many of 'real' face-to-face meetings across Australia and the world. To take a Telstra example, during the course of last year, we held nearly 7,500 video conferences,

lasting nearly 20,000 hours, and saved around 4,200 tonnes in our travel-related carbon emissions.

Society has also moved to a place where **everyday people are consuming more and more energy**. Increasing digitisation and affluence are contributing to increasing levels of energy consumption. Mobile phones, computers and TVs are all power hungry – a Plasma TV uses more than twice the power of a traditional TV of the same size.

Household spending for power and fuel is going up. Back in 1988, the average household spent around \$13 a week on domestic fuel and power. Fifteen years later in 2003 that had almost doubled to around \$24 a week.⁵

There are also more people in more cars going at slower speeds. An NRMA survey in 2007 found that more than half of Sydney businesses have seen their fleets spend up to four hours longer in traffic each week compared with a year ago. The same survey found that traffic congestion had:

- Increased fuel consumption (60%)
- Increased operating costs (47%)
- Decreased staff punctuality (42%), and
- Slowed down productivity (33%)⁶.

And in Victoria, the morning peak period is now 30 minutes longer than in 2001 and the afternoon peak up to one hour longer.⁷ Actual travel speed

⁵ Noting the CPI increased 18% over this period and household income grew 28%. ABS household expenditure survey, summary of results, 6530.0, 2003–04 (re issue), page 10

⁶ Source: NRMA website <http://www.mynrma.com.au/cps/rde/xchg/SID-3F5768EC-E4C70D38/mynrma/hs.xsl/4719.htm>

⁷ Source: VicRoads website <http://www.vicroads.vic.gov.au/NR/rdonlyres/5C2E31EC-4AF1-4468-A325-F52526D373D7/0/vrpin01551.pdf>, page 3

during the morning peak in Melbourne is 36 kilometres an hour.⁸ Just think of the situation in New York, in Beijing, or in London and I am sure that you can see the parallels.

More plasma televisions, more air-conditioning, more cars on our roads going at slower speeds means higher energy consumption...higher costs... and higher greenhouse gas emissions.

So it is important to find innovative ways to help others – such as commuters – reduce their energy use.

First of all – for the bottom line. The Climate Risk Report finds that by working together, the telecommunications industry can:

- **Reduce Australia’s total greenhouse gas emissions by nearly 5 per cent** – an amount that equals the annual emissions of nearly two-thirds of Australia’s passenger cars, or the equivalent of turning off every light bulb in Australia for one year and an amount that is enough to meet our Kyoto targets and Stern Report recommendations.
- Together we can **generate financial savings** for Australian businesses and households by up to \$6.6 billion per year.

The Climate Risk report responds to the new dynamics anticipated across Australian industry with the expected introduction of a carbon trading scheme.

However, **instead of focusing on carbon offsets and carbon neutrality goals, the Report takes a forward-looking, conservation approach.** Hence the Report targets seven strategies – or what we call “carbon

⁸ Ibid, page 4

opportunities” – to avoid or reduce the release of fossil carbon into the atmosphere in the first place. These include:

1. Demand-side management to increase renewable energy use

Demand-side energy management helps increase the feasibility of renewable energy⁹ by reducing demand variability. When demand is matched with supply, efficiency goes up and less waste is created.

Many household and business appliances, such as hot water systems, only require intermittent power. If the energy use of such appliances were managed using a telecommunications network, then peaks in demand could be better managed on a national scale without amenity loss.

Deep cuts in Australia’s total emissions will occur only when renewable energy is able to replace a significant amount of the nation’s reliance on coal-fired electric power.

If demand-side energy management of renewable energy is realised nationally, Australia’s carbon emissions could be cut by around **10.1 million tonnes each year** and save Australia nearly **\$86 million in fuel costs a year**.

2. Personalised public transport

Three-quarters of Australian commuters drive to work, and road freight alone creates nearly five per cent of national emissions. Imagine personalised public transport¹⁰, or transport-to-your-door, which is as simple as making a phone call or sending a text message to order a mini-bus to take you from your door to work or to a connecting train.

Fast, flexible, personalised public transport using wireless broadband could help reduce commuter traffic and carbon emissions by an estimated **3.9**

⁹ Listed as Carbon-Opportunity 7 – Increased Renewable Energy

¹⁰ Listed as Carbon-Opportunity 5 – Personalised public transport in the Climate Risk Report

million tonnes each year while also saving Australia around **\$1.6 million each year in fuel**.

3. High-definition video-conferencing

Global studies show that about half of Australia's domestic travel is for business, with many people travelling to attend short meetings.

Face-to-face meetings are essential to business as the nuances of communication rely on body language and facial expressions as much as the spoken word. Until recently, there was no alternative to another business trip to achieve the face-to-face result. But now, "in-person" high-definition video conferencing¹¹ can provide the same result as sitting in a room together.

Using new video conferencing services in this way could reduce Australia's carbon emissions by up to **2.4 million tonnes a year**.

4. Presence-based power

By using motion sensors¹² to turn off devices that are "on" but not being used, significant savings can be made. As a person moves out of a room, wireless-based motion sensors can turn off lights, air-conditioners and computers. If this opportunity were realised in households and businesses, it could reduce carbon emissions by an estimated **3 million tonnes each year** and save households and businesses around **\$270 million each year**.

5. Real-time freight management

Freight vehicles are empty 28 per cent of the distances they travel. Wireless broadband can be used to monitor vehicles in real-time so the data can be used to better assign cargo¹³. This could reduce carbon emissions by an

¹¹ Listed as Carbon-Opportunity 6 – 'In-Person' High Definition Video Conferencing

¹² Listed as Carbon-Opportunity 2 – Presence-based power

¹³ Listed as Carbon-Opportunity 4 – Real-time freight management

estimated **2.9 million tonnes each year** and save Australia around **\$1.1 billion each year in fuel**.

6. Remote appliance power management

Electricity used at home and work produces 20 per cent of Australia's total emissions. Broadband-enabled network sensors can detect when home appliances, such as TVs are on stand-by or mobile phones have finished charging.¹⁴ Sensors can then automatically turn off power to the appliances. If realised, this could reduce carbon emissions by an estimated **1.8 million tonnes each year** and save Australians around **\$170 million annually**.

7. De-centralised business district (CBD)

Networked-enabled homes and regional telework business centres can remove or significantly reduce the emissions generated by people travelling to and from their place of work¹⁵. Teleworking is a way of reducing auto pollution by moving work to people – not just people to work. By enabling people to work either in or closer to home, Australia could reduce carbon emissions by an estimated **3.1 million tonnes each year** and save around **\$1.2 billion each year in fuel**.

This outline of seven carbon opportunities is significant for three important reasons:

- First, because it quantifies the carbon emissions that can be reduced or avoided though using telecommunications networks;
- Second, because the opportunities identified not only reduce or avoid emissions but save consumers and businesses real dollars; and

¹⁴ Listed as Carbon-Opportunity 1 – Remote Appliance Power Management

¹⁵ Listed as Carbon-Opportunity 3 – De-centralised Business District

- Third, because it shows how Australia’s telecommunications industry can play a world-leading role in reducing and avoiding carbon emissions.

It comes down to a choice. There is the ‘Business as Usual’ approach – which means that emissions will continue to rise while people are still ‘talking’, not ‘acting’.

A small reduction could be realised through some anticipated government measures to reduce emissions – such as renewable energy targets – which is a positive step yet a mandated one.

But importantly, through conservation, innovation and a telecommunications network that touches every household, business and enterprise in this country, dramatic reductions in the use of energy and other resources can be realised.

Climate Risk estimate that through these actions we **can reduce Australia’s total greenhouse gas emissions by 4.9 per cent over five years**, and generate financial savings for Australian businesses and households by up to **\$6.6 billion per year**.

As I indicated at the beginning, we need to look at climate change from a business perspective. That means conservation. My CEO, Sol Trujillo, personally endorsed the Climate Risk report. Sol is a businessman. He cares about the environment but also cares about jobs, revenue growth and innovation in our businesses and products. He cares about customers and shareholders. That’s why he endorses **an approach that encourages conservation. That’s why he promotes conservation in every aspect of**

our business, taking advantage of many of the successful management approaches used around the world, as shown in Figure 5.

Fig. 5: Effective management of sustainability initiatives

Location of Sustainability Leadership – ranked by “frequency” –	Location of Sustainability Leadership – ranked by “effectiveness” –
1. Office of the CEO (36%)	1. Office of the CEO (67%)
2. Corporate strategy	2. Corporate Responsibility (CSR)
3. Environment, health & safety	3. Supply chain executive
4. Corporate Responsibility (CSR) officer	4. Environment, health & safety
5. Supply chain executive	5. Corporate strategy
6. Decentralized in business units	6. Decentralized in business units
7. Cross-functional task force	7. Cross-functional task force
8. Corporate communications	8. Corporate communications
9. CTO	9. CTO
10. Real estate	10. Real estate
11. Legal	11. Legal

Source: Corporate Executive Board Research, *Survey of Corporate Sustainability Executives*, 2007.

Using the tangible opportunities identified in this Report, Telstra and its business customers can reduce carbon emissions without financially penalising the consumer – which means that **greenhouse gas reduction and commercial imperatives work together** providing, in effect, a win-win – good for business, good for the environment and good for the consumer.

Of the opportunities I have outlined today, most are available while some are just starting to evolve towards mass market availability. But each deserves consideration if we are to **comply with legislation and regulation** that is clearly on the horizon and if we are to **satisfy customers who increasingly want to know how we are doing our part to reduce GHG emissions.**

This Report is a first step; it is by no means the end of the story. What it clearly shows is how off-sets (the accounting alternative) is not the way to reduce carbon emissions. You reduce carbon emissions by conservation, by using less energy, less water, less paper, and the like.

I encourage you to read the Report¹⁶, which is on the Telstra website or the executive summary that has been provided today.

We welcome your feedback and look forward to seeing what can be achieved by shifting attention from accounting schemes to conservation – the real way to reduce GHG emissions.

Thank you – I'm happy to receive questions or comments.

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¹⁶ The Report can be found at http://www.telstra.com.au/abouttelstra/csr/docs/climate_full_report.pdf.pdf