# Sustainability: The Next Economic Opportunity – An Overview






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Darren Bilsborough
Director of Sustainability PB AP

PB 100 YEARS®

# Do we need Sustainability?

## The challenge is to define our local responses to Global Challenges

# What is Sustainability?

**"development that meets the needs of the present without compromising the ability of future generations to meet their own needs."**

*UN Brundtland Commission Report:1987*

**A Definition of Sustainable Development**

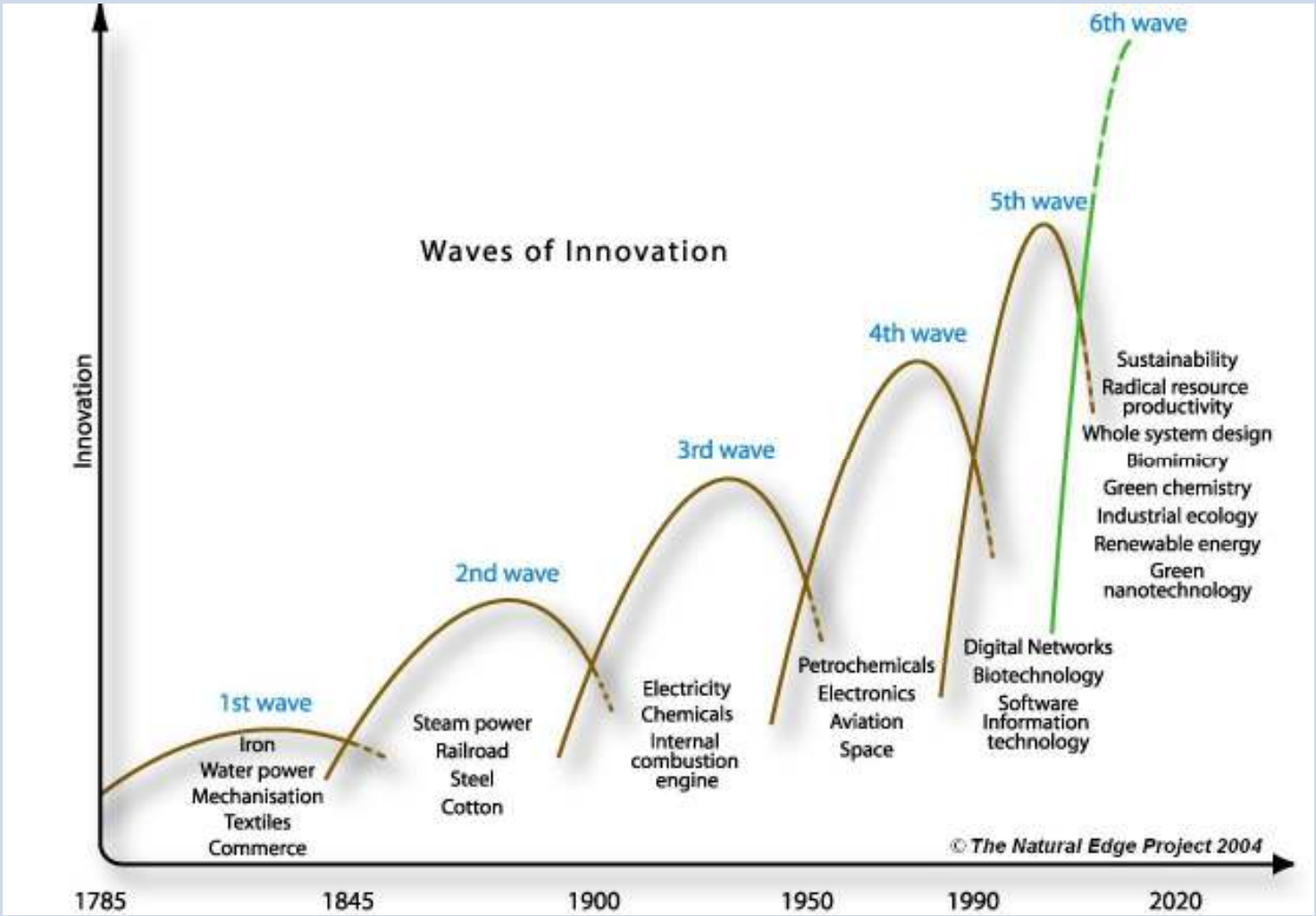
# What is Sustainability?

"Sustainability is an economic state where the demands placed upon our environment by people and commerce can be met without reducing the capacity of the environment to provide for future generations"

*Paul Hawken*

**A Better Definition of Sustainability?**

# The Next Wave?



# Not quite as simple as ABC but for PB it's as simple as IAI

## So….what is it? What is IAI?

- **I**ntegration: Integrate each of the TBL elements (Economy, Environment, Community) – they are not Silos
- **A**daptation: Sustainability is about changing and evolving to promote overall well being, not to sustain the status quo
- **I**nnovation: It's the key to moving forward

*Yogi Berra, said, "If you continue to do what you've always done, you'll continue to get what you've always got." Albert Einstein covered much the same ground when he said, "Insanity is doing the same thing over and over again and expecting different results."*

# The Business Case for Sustainability

- A Business Case for the Environment?
  - Not impossible but hard to do. Will get easier with cost of carbon, increasing petrol prices and increasing electricity prices. Different “language” required……”Cost vs Investment”
- Brand Enhancement
  - Addressing shareholder and customer queries and desires for sustainability.
- Product Value
  - Brand recognition and reinforcement, meeting Market (Community) Expectations and therefore increased revenue and higher returns.
- Corporate Responsibility (Good Business and Governance)
  - Access to capital (SRI funds), recruitment and retention of employees (Health and Productivity), climate change response, etc

# Winds of Change - Corporate Responsibility

***"CSR is an issue whose time has come – it is my opinion that developments in this area are not a short term trend, but represent a fundamental shift in how we do business."***

Senator the Hon Nick Sherry Minister for Superannuation and Corporate Law in a speech to the CEDA, October 2008.

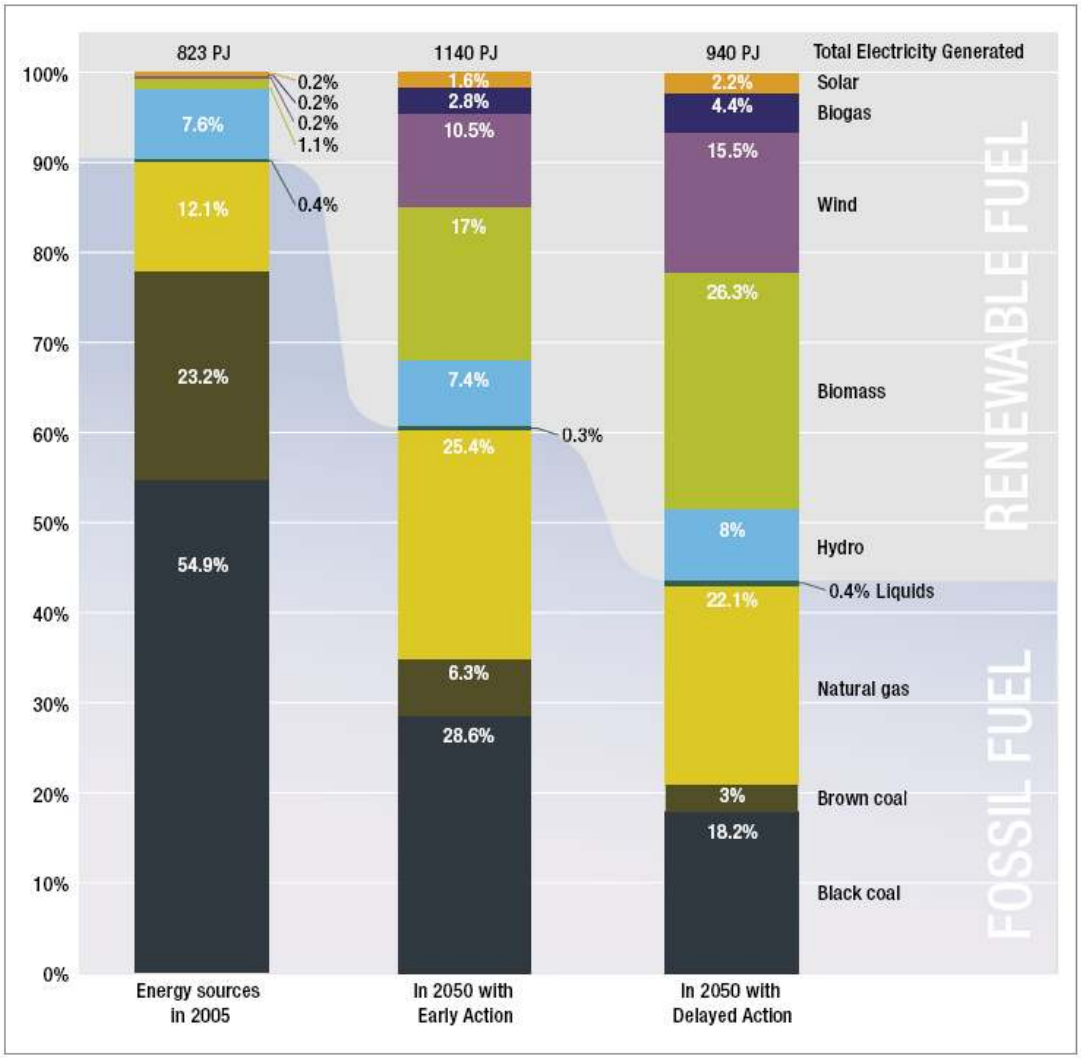
# Responding to the crash... Make sure we don't invest in the old economy that caused the problem...

## New ways Needed – A Change in Direction

- Energy Efficiency and Resource Efficiency
- Energy Generation - Alternate Fuels
- Carbon Capture and Sequestration

# A Possible Future Scenario – The Australian Business Roundtable on Climate Change

**FIGURE 6.** COMPOSITION OF ELECTRICITY GENERATION IN 2005 / PROJECTED IN 2050.




A wide portfolio of technologies will be required to make deep cuts in emissions. By 2050 in both future scenarios, most of Australia's electricity generation is supplied by fossil fuels with CCS and renewable energy.

**Note:** The 'solar' generation sector refers to the amount of energy saved by the use of solar hot water systems. It does not include other solar technologies.

Source: Allen Consulting Group, Deep Cuts in Greenhouse Gas Emissions. Economic, Social and Environmental Impacts for Australia, 2006

# National Institute of Economic and Industry Research (NIEIR)
## *Living in a Turbulent World: Australia at the Dawn of the 21st Century*

**Scenario 3**

**Strong global economic growth sustained by significant advances in technology, including a much greater deployment of renewable energy technologies.**

Under this scenario, it is assumed that environmental imperatives drive global business decisions to a greater extent than in previous decades, with environmental management forming a cornerstone of industry growth and competitiveness. Governments support the development and commercialisation of renewable energy, and other eco-efficient technologies, while industry adopts 'cleaner production' solutions.

| | 2000-2010 | 2010-2020 | 2020-2030 | 2000-2030 |
|---|---|---|---|---|
| **Australia GDP growth rate** | | | | |
| Scenario one | Good | Very good | Very poor | Average |
| Scenario two | Bad | Bad | Good | Poor |
| Scenario three | Average | Good | Excellent | Very good |
| Scenario four | Average | Average | Very good | Good |
| **$CO_2$ Emissions growth** | | | | |
| Scenario one | Poor | Poor | Poor | Poor |
| Scenario two | Poor | Average | Poor | Average |
| Scenario three | Average | Excellent | Good | Good |
| Scenario four | Average | Good | Good | Average |

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- Green Buildings

# Adelaide the best in green buildings...

# What Happened in Adelaide?

**How did every new proposed commercial office development become GREEN?**

**"…more and more a critical factor in attracting and retaining tenants.."**

**CPA Fund Manager commenting on a building's green credentials. AFR November 2006**

City Central Tower 1

Caversham Developments

Image courtesy of Woods Bagot

# Investor Attractiveness

A study released on 6th December 2005 by research analysts Merrill Lynch, entitled **"Green Property: Does it Pay?"** noted the following drivers from one of the large Listed Property Trust's (**LPT's**) for introducing a sustainability policy for their real estate portfolio.

- Improved Reputation
- Enhanced Income
- Lower Costs
- Lower Risks
- Increased Investor Base

# Building Value – Simple Stuff

The Merrill Lynch report, **"Green Property: Does it Pay?"** reminds us that the value of a building can be determined from;-

- The rental potential of the property
- The ability of a property to maintain or attract tenants
- Capital required to maintain the property (including outgoings) and attract tenants
- Existing rental contracts in place

# Economics of Productivity For Green Buildings

The simple economics of “healthy design” for a typical 10,000m² office building can be considered as follows:

- Energy Costs
  - Annual Cost of Electricity per m²/year — $25
  - Total annual energy cost per year — $250,000
- Personnel Costs
  - Average employee cost to company per year — $75,000
  - Average floor space per employee — 15 m²
  - Annual average employee cost per m² — $5000
- Potential Savings
  - Value of 1% productivity increase per m² — $50
  - 1% increase in productivity saves almost two and a half times the annual energy bill

**A 1% INCREASE IN PRODUCTIVITY = DOUBLE THE COST OF ENERGY**

# What's Next ?

*By the year 2035, three quarters of the built environment in the U.S. will be either new or renovated.*

Source: American Institute of Architects

# Energy Efficiency a Key Differentiator in the Short Term (for holders of property assets)?

As a result of required investment in green and renewable electricity generation and new carbon trading mechanisms, it is certain that **electricity prices will rise**.

It is certain that under any carbon trading mechanism **super energy efficient green buildings** will have lower operating costs (by a much greater margin than available to-day due to the future rise in energy costs)

A key initiative raised at the Prime Minister's 2020 summit was " carbon neutrality for all new buildings constructed beyond 2020".

# What are the next drivers for change?

## The challenge is to define our local responses to Global Challenges

**What will be the winning Formula?**

- **The GBCA to take the Lead? More Stars?**
- **IEQ the Original and the Best.**
- **Embodied Energy**
- **Closed Cycle Systems (Zero Waste)**
- **Climate Change, Greenhouse and Energy**
- **The Biodiversity Challenge**
- **Recycle and Reuse (the biggest challenge of all)**

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- Transit Oriented development

# PB-CUSP Alliance Research

**PB-CUSP Alliance approach to sustainability related research centres on the need to build a solid business case for each initiative.**

**A business case that is specifically targeted at creating value.**

**By putting forward a convincing business case we aim to advocate for policy and legislation that will result in a change in the way planners and developers approach the design of the urban landscape within our cities and the infrastructure that serves them.**

# Future Health Liability

**Table 1**
**Trends in Selected Budget Expenditure**

| Budget Item | Cost in 2001-02 (% of GDP) | Est. cost in 2021-42 (% of GDP) | Change (%of GDP) |
|---|---|---|---|
| Pharmaceutical Benefits | 0.6 | 3.4 | +2.8 |
| Aged Care | 0.7 | 1.8 | +1.1 |
| Age and Service Pensions | 2.9 | 4.6 | +1.7 |
| Public Service Super | 0.6 | 0.3 | -0.3 |

Source: 2002-03 Budget Paper No. 5 – Intergenerational Report.

# PB-CUSP Alliance Research – Developing a Business Case for the Sustainable City

**The PB-CUSP research is a broader study of the costs of urban development. Instead of a focus on conventional economic costs the researchers have calculated the infrastructure, transport, environmental and health costs of both urban re-development and fringe development.**

In summary, the consolidated costs show the price of inner city development is $309 million versus a cost of $653 million for fringe development (per 1,000 dwellings).

A focus on inner-city style urban development could save Australia the following.

# PB-CUSP Alliance Research

## Costs to government

•$86 million (or approximately $80,000 per block) – or the cost to provide power, water, sewerage, schools, hospitals and local government services for fringe developments. Road infrastructure is the most significant cost.

## Cost to people

•$250 million in transport costs over 50 years – people in fringe developments drive more frequently and own

more cars

• $ 4.23 million in health costs – people in fringe developments have higher risk of obesity related to lower levels of physical activity for people.

## Cost to the planet

• 4,400 tons of greenhouse gas is saved for 1,000 urban dwellings, which is roughly equal to the amount emitted from 200 homes – an estimated dollar value of approximately $19.32 million.

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- The Photosynthetic City


Photosynthetic Cities

# Edible Cities

Mole Hill Vancouver


Destiny of all life lies
within technology

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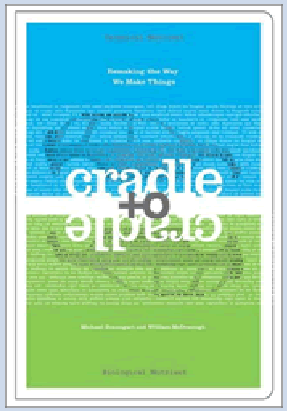
- Biomimicry
- Closed Cycle Systems





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