R&D Investment in Green Building Initiatives in Western Australia

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Project Participants

Queensland Government
Department of Transport and Main Roads

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Department of Public Works

GOVERNMENT OF WESTERN AUSTRALIA

Department of Treasury and Finance
Building Management Works
Office of Strategic Projects

QUT

VTT

SWINBURNE UNIVERSITY OF TECHNOLOGY

Australian Government

Presentation Structure

1. Background to Australia's SBEnrc
2. R&D Investment and Impact Project
   - ***Green building initiatives in WA case***
3. Future collaborations …

Sustainable Built Environment National Research Centre

Our Mission

To be a world-class research and knowledge broker in sustainable infrastructure and building design, construction and management

Growth of Collaborative Research through Australia's SBEnrc

QUT/CSIRO Construction Research Alliance

1996

2001

CRC Construction Innovation
BUILDING OUR FUTURE

2009

2010

2012

Sustainable Built Environment National Research Centre

2015

Sustainable Built Environment National Research Centre

Program 1 - Greening the Built Environment

Program 2 – People, Processes and Procurement

Program 3 - Productivity through Innovation

- A nation-wide collaborative research centre
- Industry, government and research partners
- Applied research and industry outreach across three integrated themes

SBEnrc Core Partners

QUT

John Holland

SWINBURNE UNIVERSITY OF TECHNOLOGY

Queensland Government
Department of Transport and Main Roads

Queensland Government
Department of Public Works

Queensland Government
Infrastructure and Planning

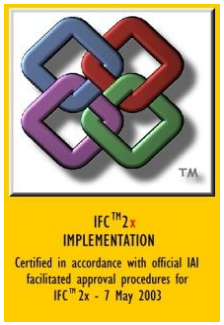
GOVERNMENT OF WESTERN AUSTRALIA

NSW GOVERNMENT Transport Roads & Maritime Services

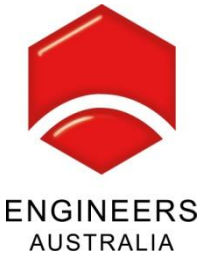
PARSONS BRINCKERHOFF

Curtin University

Collaborating Partners



Collaborating Partners



International Council
for Research and Innovation
in Building and Construction

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Research Program 1: Greening the Built Environment

Research Program 1 will deliver improved environmental performance by the built environment through enhanced ecological efficiencies, including carbon emission reductions and climate change adaptation…

Read more...

Projects

- Design and Performance Assessment of Commercial Green Buildings
- The Future of Roads: The Role of Road Building in Reducing Environmental Pressures and Both Mitigating and Adapting to Climate Change
- Harnessing the Potential of Biophilic Urbanism in Australian Cities
- Sustainable Infrastructure Procurement

Research Program 2: Developing Innovation and Safety Cultures

Research Program 2 will deliver improved social outcomes for built environment workers and the Australian community through increased uptake of sustainable practices and minimising…

Read more...

Projects

- Safety Impacts of Alcohol and Other Drugs in Construction
- Offsite Fabrication and Links to Product and Process Innovation
- Leveraging R&D for the Australian Built Environment

Research Program 3: Driving Productivity Through Procurement

Research Program 3 will deliver economic, environmental and social benefits to the built environment industry through reductions in risks and costs and improved productivity…

Read more...

Projects

- Collaborative Object Libraries Supporting the Facility Lifecycle
- Supporting Infrastructure Management by Combining Sensors and Asset Information Models

Prior Research Program: CRC for Construction Innovation

CRC Construction Innovation
BUILDING OUR FUTURE

Our Research

Publications and information on research undertaken by the CRC for Construction Innovation is available at: www.construction-innovation.info

www.sbenrc.com.au

R&D Investment and Impact Project
Background and Significance

- Australia's R&D spend 2% of GDP
  - Denmark and US 2.5%
  - Finland and Sweden > 3% (DIISR 2010:3)
- Australian Government target
  - 25% increased business engagement in innovation in the next 10 years
  - responses to climate change; improving workplace innovation capabilities; business innovation
- Built environment productivity growth is poor

Project Phases

1. Audit R&D investment since 1990
2. ***Case studies of past investment***
3. Develop strategic roadmap for future R&D
4. Develop policy guidelines to maximise the value of R&D investments

3 Case Studies

Examining mechanisms and impact of research and innovation in organisations

1. Digital Modelling (Qld)
2. Construction Worker Safety (Qld)
3. ***Green Building (WA)***

Data Gathering

- Departmental reports
- Meetings
- Literature review
- Interviews

Interviewees

Role	
Executive (internal)	1
Champion (internal)	-
Project Leader (internal)	1
Implementer (internal)	1
Allied Agency (internal)	2
Supplier (external)	1
Contractor (external)	1
Consultant (external)	3
Industry Rep. (external)	1*
Researcher	2
TOTAL	13

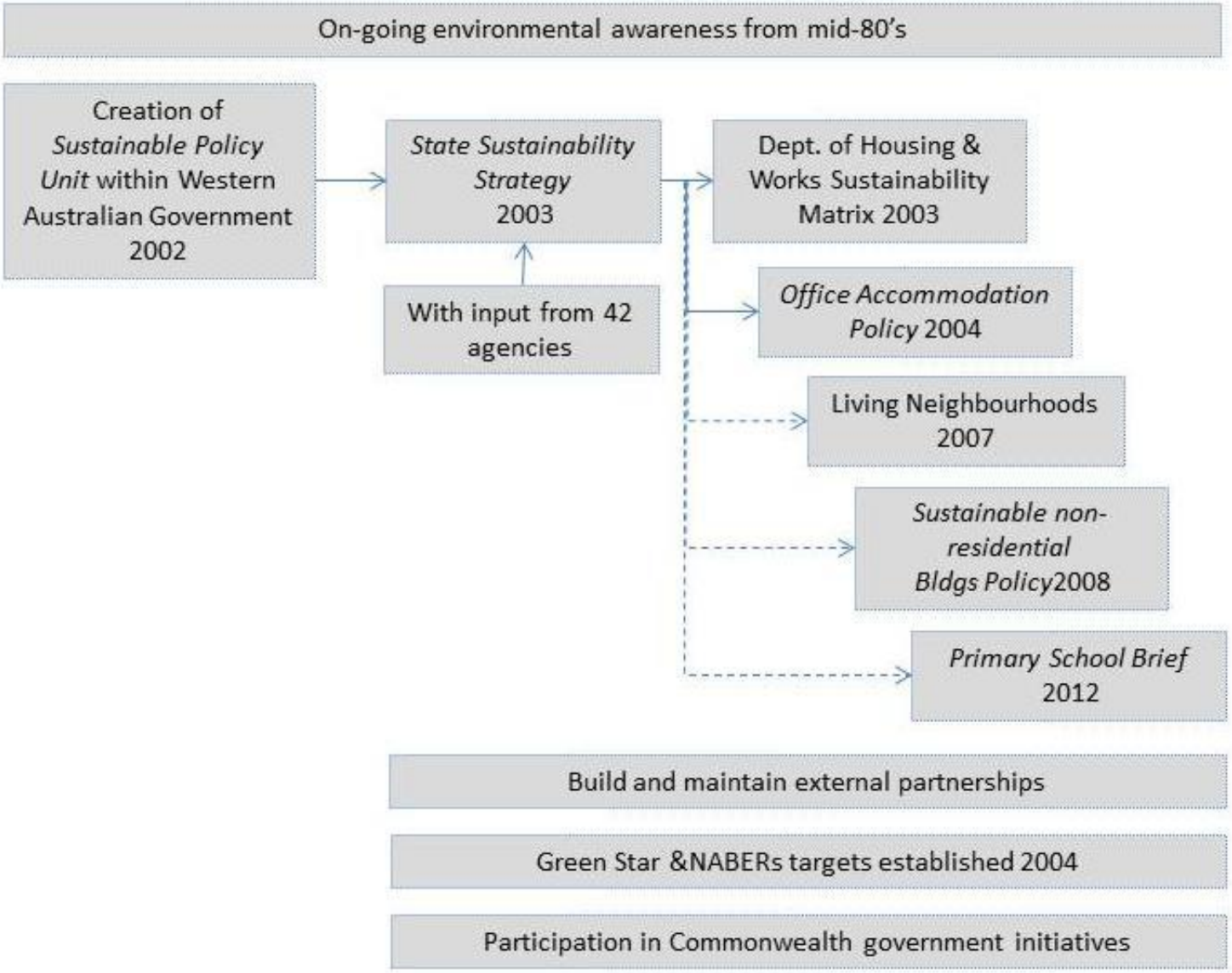
* Previously employed by WAG

Key drivers
The right thing to do; awareness; political and social pressure
State government initiatives, policies and regulations
Commonwealth government initiatives, policies and regulations
Rating schemes
Industry
Cost savings and economic benefits
Reducing water and energy consumption

Successes
Sustainability outcomes embedded in budgets and projects
Consultants on board
Better educated industry and market
Better understanding/awareness of environmental issues
Better guidelines, tools, monitoring and reporting
Reduced resource consumption and associated costs
Improvement in best practice

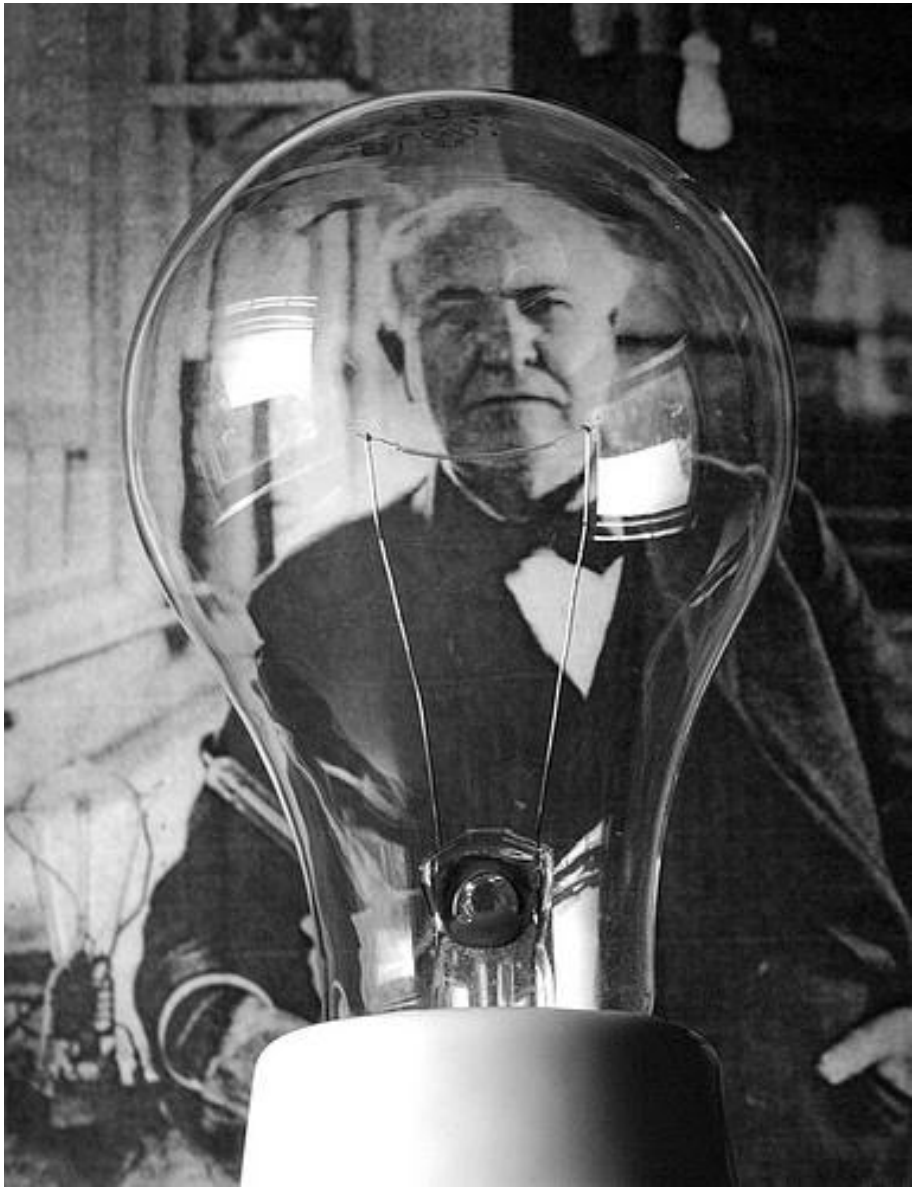
Barriers
Better budget setting and business case writing required
Cost issues and perceptions
Whole of government leadership and mandate
Funding – lack of and split between agencies
Legislation and regulations – outdated, lack of incentives and clarity
Industry - resistance to change and capacity
Adapting research to practicalities
Accounting and monitoring
Loss of key people
Lack of foresight
Lack of awareness/knowledge – esp. in clients and customers
Management issues
Trade based industry

Green Buildings Pathway



Key Outcomes + Messages …

- External innovation linkages are essential
  - GBCA, other state and local authorities, research institutions, supply chain
- Timely and practical research a priority
  - Sustained effort across whole-of-government
  - Cost and market advantages – new metrics
- Range of innovation pathways
  - Product and process development and embedding outcomes in policies and guidelines



5-9 May 2013, Brisbane

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