6th Nordic Conference on Construction Economics and Organisation
Copenhagen, 13-15 April 2011

Personal connections …

- 1999 Study Tour and Report:
  *Innovation in the Construction Process in Denmark and Australia*
  - Selwyn Tucker and Keith Hampson
  - Australian Department of Industry, Science and Resources

- Demonstration Projects
  - Habitat, PPU, PPB, Project House

Presentation Structure

1. Background to our SBEnrc
2. Leveraging R&D Investment
3. Challenges and Responses
   … some thoughts

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
- CRC Construction Innovatior
- Sustainable Built Environment National Research Centre

A warm Danish welcome!
24 November 1999
It’s about people


- First direct engagement of CSIRO in Queensland
- Leveraged CSIRO global research with QUT’s regional strength
- Developed early digital modelling and integrated sustainability and procurement analysis
- Reviewed Australia’s first building project alliance
- Initiated valuable partnerships with industry, government and research partners nationally and internationally

CRC for Construction Innovation 2001 - 2009

- A$70M in cash and in-kind over 8½ years
- Industry, government and research partners
  - 28 partners; 450 people involved = 65 EFTS
- Headquartered at QUT in Brisbane
- Only national centre in Australia focusing on building, infrastructure and FM supply chain
- Key industry outcomes in innovation, productivity, digital modelling, safety and dispute resolution

Working collaboratively

Program Leaders

Peter Newman
Curtin

Russell Kenley
Swinburne

Robin Drogemuller
QUT

Sustainable Built Environment National Research Centre 2010 - 2012

- A nation-wide collaborative research centre
- Industry, government and research partners
- Applied research and industry outreach across 3 integrated themes

Program 1 - Greening the Built Environment
Program 2 - Creating Innovation and Safety Cultures
Program 3 - Productivity through Procurement
Research Space

Leveraging R&D Investment for the Australian Built Environment

Project Support

Background and significance

Partners

The Leveraging R&D Project

• Background and significance
• Research method
• Outcomes/Discussion

Project Support

• SBEnrc support from strategic level
• Australian Built Environment Industry Innovation Council support from national level
  – on Project Steering Committee
• OECD support
  – Innovation Strategy: Getting a Head Start on Tomorrow, 2010

Background and significance

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

1. Audit R&D investment in the Australian built environment since 1990
2. Examine impact of research and innovation in public and private organisations (case studies)
3. Develop a strategic roadmap – assess industry future that R&D will respond to and help shape
4. Devise policy to maximise the value of R&D investments to public and private organisations

Foresight Framework


- Inputs
- Analysis
- Interpretation
- Prospection
- Outputs
- Strategy

Inputs
- “What seems to be happening?”
- “What’s really happening?”
- “What might happen?”
- “What might we need to do?”
- “What will we do?”
- “How will we do it?”

Outputs
- Forward-looking insights
- “What will we do?”
- “How will we do it?”

OK … pause, reflect and gather breath while we change gear …

Challenges and Responses to Sustainable Management of the Built Environment
Recent Queensland Events

- Rainfalls of double the intensity than average across broad area of Queensland
  - 20,000 homes inundated Nov 2010 and Jan 11
  - Cyclone Yasi – Jan/Feb 2011
- 35 people dead
- Cost to Queensland $10B
  - Mines, farms, tourism ++
- An opportunity to re-think … ?
Internal QUT email 1\textsuperscript{st} Feb 2011…

- How huge is this big mother of a cyclone? Very very scary!

This is the US Government Satellite site and it gives you a better picture of the next Cyclone, it’s much bigger then Anthony (Very scary stuff).

http://www.goes.noaa.gov/soheml/sohemloops/shirgmsc forty.html
Background

• Last major flood 1974
• Brisbane’s population doubled since then
• Construction of major water storage and flood mitigation dam – Wivenhoe Dam
  – False sense of security?
• Drought for last decade – and severe water restrictions in place
• Sub-tropical climate and flood prone land

Early responses ... adaptation

• Dam operations
  – Flood mitigation Vs water storage
• Planning laws
  – 565 councils in Australia; 8 state or territory governments
  – Brisbane City Council
    • New building levels, building heights, security of building services
  – Need for nationally coordinated approach?
• Infrastructure design and management
  – Riverside developments, dredging, waterway management
  – Resilience of critical infrastructure

But let’s keep our problems in perspective ...
The bend in the road is not the end of the road unless you refuse to take the turn.

Thank you for your attention …

www.sbenrc.com.au