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# LOCAL STRATEGIES FOR GREENING JOBS AND SKILLS

Case studies from Australia

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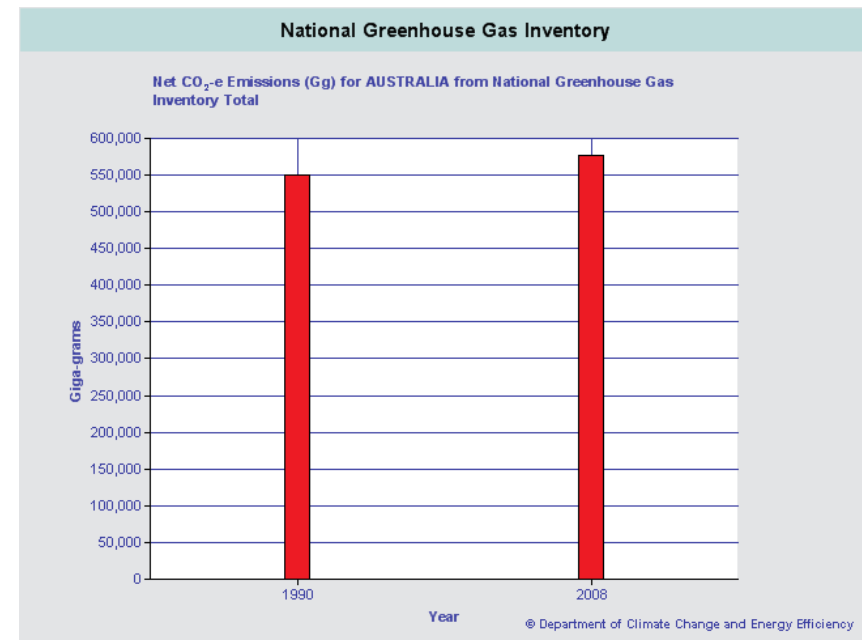
LEED OECD seminar

Graham Larcombe, Strategic Economics

10 June 2010

# Climate change: Australia's dilemma

- Exceptionally sensitive to climate change: drought, agriculture, coastal settlements
- Well positioned to make a major global contribution (GDP/capita)
- Increased community awareness, but cheap energy impedes transition
- Carbon-intensive industries & exports
- Australia signs up to Kyoto (2007)
- National Strategy on Energy Efficiency
- Post-Copenhagen confusion, legislative & political uncertainty
- Greenhouse gas emissions are increasing – 5% above 1990
- Building community support & market opportunities



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# Skills and Sustainability

- Planning & investment in skills, & innovation policy, are central to the transition to sustainable economy
  - Skill shortages are a barrier to sustainability  
eg lack of solar hot water heater installers, poor installation of double glazed window.
  - Skills upgrading required in all sectors & occupations.
  - Local initiatives impeded by absence of carbon taxes/emission trading schemes
  - Improving utilisation of new technologies and innovation
  - Sustainability challenges are creating new business and learning models.
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# Sustainability skills needed in the built environment

- All construction and building tradespeople
- Site and project managers of quality assurance and environment management systems
- Supply chain managers
- Building Designers
- Builders
- Surveyors
- Planners
- Ecologists (urban waterways reconstruction, wetlands, watercourses)
- Industrial Designers (eco design principles)
- Interior Designers (eco design principles)
- Financial and Marketing Professionals
- Solar Water Heating Installers

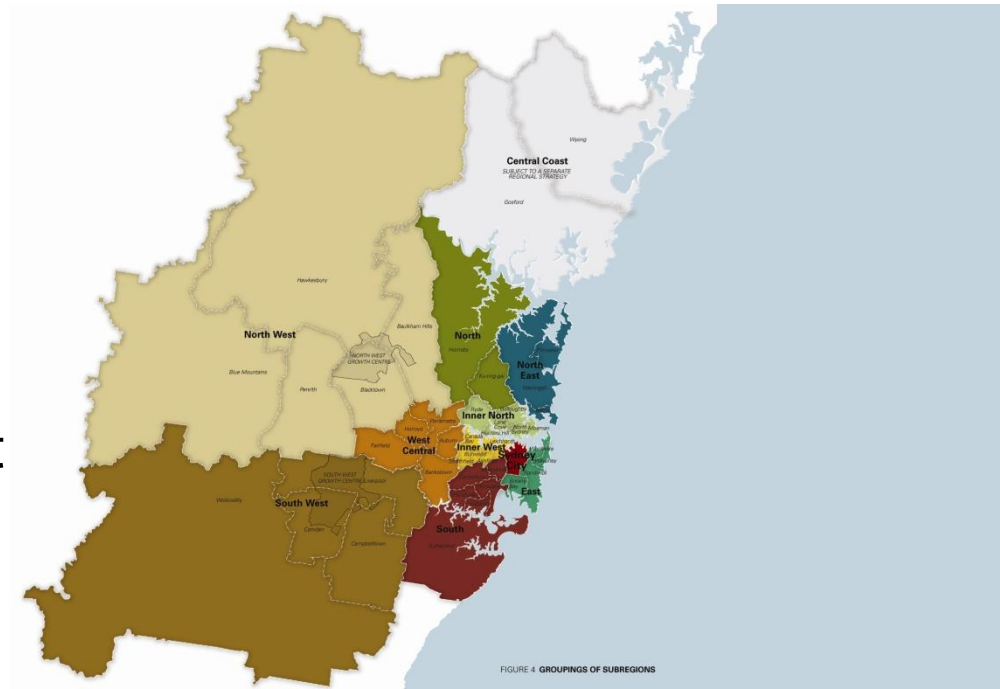
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# Three Australian case studies

- **Sydney – Council and metropolitan area**  
Local leadership and partnership building
  - **Landcom – public owned land developer, partnerships with private sector**  
Best practice in planning and sustainable communities
  - **Townsville Smaller Tropical city**  
Government leadership and local city/energy provider partnership in a local climate
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# Sydney context

- Metro population 4.4m
- Forecast pop. 6m – 2036
- High environmental awareness but:
- High density centre & low density suburbs legacy
- 2.4m vehicles increasing at twice rate of pop. growth
- World's largest house size 262.9 m<sup>2</sup> with energy intensive appliances
- Governance challenges



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# Sydney partners for OECD Climate change & employment project

Sydney Institute  
of Technology

South West  
Sydney  
Institute

City of  
Sydney

Northern Sydney  
Institute

Regional Development  
Aust. /  
Department of  
Industry & Investment

Western Sydney  
Institute



# City of Sydney

- 1 of 43 metro councils
- Population 170,000 but 8% GDP
- Location of 40% of Australia's top 500 companies
- Sustainable Sydney 2030
- Australia's first carbon neutral council

## 2030 Targets

- 70% reduction in CO2 emissions
- At least 330MW of CCHP or trigeneration to deliver 70% of the City's electricity requirements
- 25% to 30% of electricity to be met by renewable energy

## Actions

- "Show by doing" principle
- CCHP Master Plan (energy mix, sites) and renewable Energy Master Plans



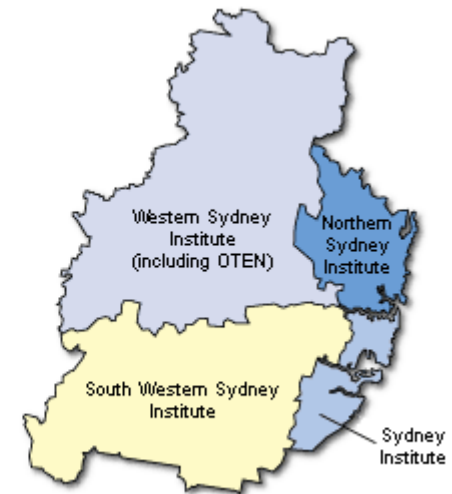


# Importance of vocational education & training

- Comprises public and private providers
- Covers construction, manufacturing, logistics, finance & business services etc.
- Skills for Sustainability report (2007)
- Four Sydney TAFE institutes – 250,000 students
- Seeking collaboration with government and industry

## Metropolitan Institutes

- Northern Sydney Institute
- South Western Sydney Institute
- Sydney Institute
- Western Sydney Institute (including OTEN)



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# Building on current initiatives/ achievements

## ***Northern Sydney Institute (NSI)***

- ISO14001 Environmental Management System certification
- Skills for Sustainability National Training Award 2009

## ***South Western Sydney Institute (SWSI)***

- Macarthur Building Industry Skills Centre (MBISC)
- Affordable housing and sustainability expertise

## ***Sydney (SI)***

- Sydney Green Skills Alliance
- Sustainable Hydraulics Centre

## ***Western Sydney Institute (WSI)***

- Eco Technical Skills Centre
  - Refrigeration Project
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# All Institutes are delivering

- Unique specialist courses in each Institute
  - Green Skills inclusive courses
  - Sydney Water 'Every Drop Counts' Program
  - Department of Environment and Climate Change *Sustainability Advantage* program
  - Water and energy efficient building adjustments
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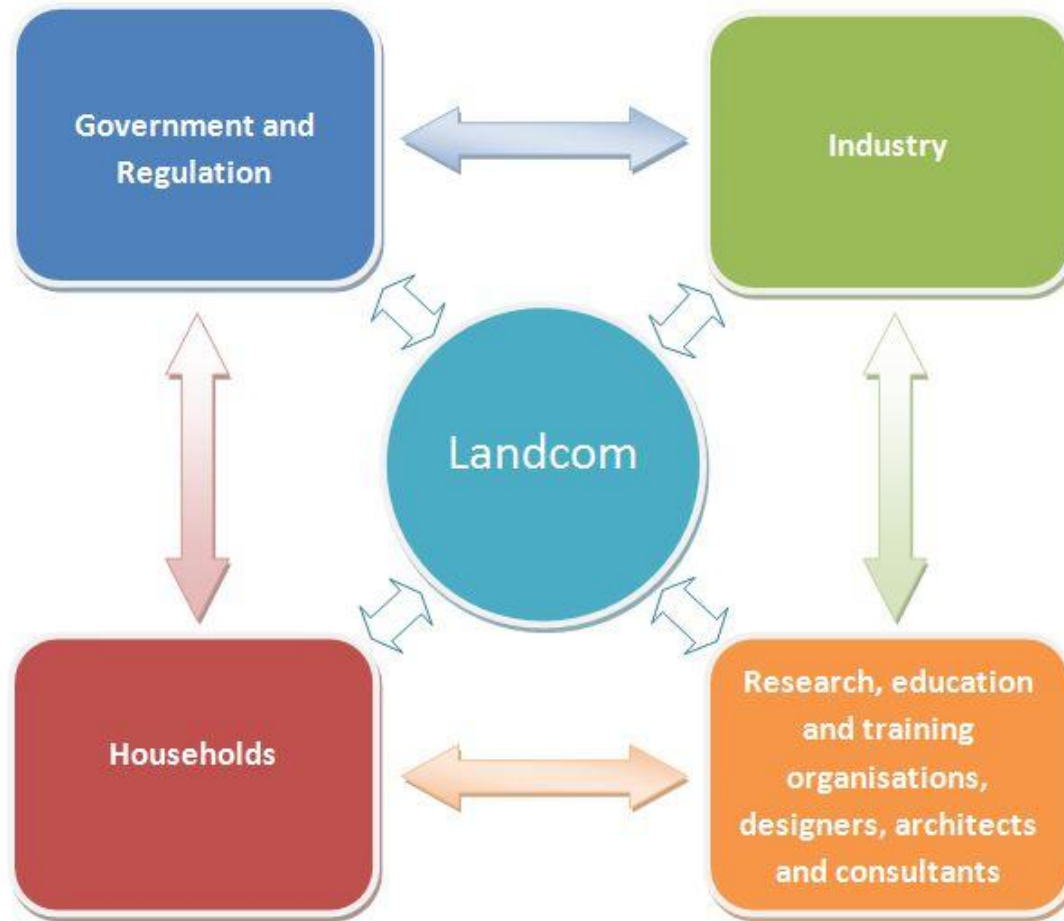
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# Landcom

## Public land and housing development agency

- Initiated new engineering standards to improve water and energy efficiencies and to incorporate water sensitive urban design.
  - Investment in staff to improve skills in urban design/ built environment.
  - Supported government in demonstrating BASIX, the new regulation requiring 40% savings in water and energy consumption in new houses.
  - New guidelines underpinned by sustainability principles: design of built forms & communities, water management, streets, open space & trees.
  - Sustainability reporting, participates in the Global Reporting Initiative representing Australia in real estate and construction industries.
  - Sustainability policies, practices, targets and guidelines are incorporated into joint venture and other contractual agreements between Landcom and the private sector.
  - Sustainability outcomes evaluated at each stage of a project: Master Plans, civil works, built form, and completed projects
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# Landcom: driving innovation and skills



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# Landcom: best practice achievement

- Improving market awareness about climate change and sustainability
- Diffusion of skills through contractual arrangements and “learning by doing”
- Sustainability reporting
- New product development PRECINX

6 modules: onsite energy, embodied CO<sub>2</sub>, water, transport, housing diversity, stormwater.

4 Performance indicators: Greenhouse Gases (tonnes CO<sub>2</sub>/per year), Potable water (kL H<sub>2</sub>O/year), Total Affordability (\$/week) and Vehicle Hours Travelled (hours/week).

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# Townsville: Queensland Solar City Project

## Nationally funded: locally driven

- Tropical city: pop. 175,000
- One of 7 solar cities supported by the Australian Government - \$50m
- Council partnership with Ergon Energy distributor
- Magnetic Island solar suburb- free energy assessments, install solar PV systems and smart meters, new centre for education and engagement.
- Major energy savings in first year.
- Key priority: tropical design

