





**Asia-Pacific  
Economic Cooperation**

**APEC SYMPOSIUM  
ON THE IMPLEMENTATION OF GOVERNMENT  
ENERGY EFFICIENCY PROGRAMS**

Kunming, China  
2-3 August 2004

**Session 4: Experience and Best Practice  
in Specific Economies (cont'd)**

Australian Government  
Australian Greenhouse Office


## Energy Use in Australian Government Operations

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## Outline of Presentation


- Acknowledgement to colleagues in AGO
- “Tale of Two Acronyms” – WOWER, EDGAR – more details later
- Two messages
  - publication is critical
  - reporting can be simplified
- Reports publicly available on AGO web site



Australian Government  
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## WOWER


- The Whole-Of-Government Energy Report
- Tabled in parliament annually
- Encourages accountability through public scrutiny
- Data presented in comparison tables and summarised by agency
- Provides useful benchmarking data



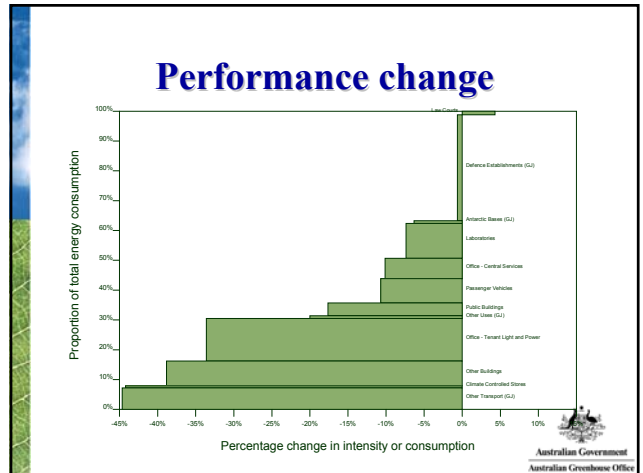
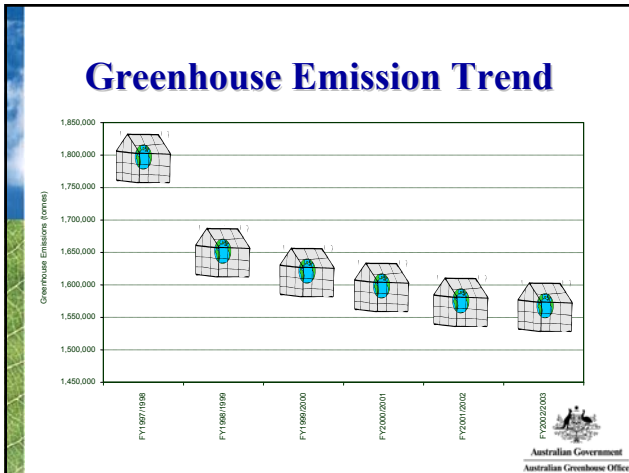
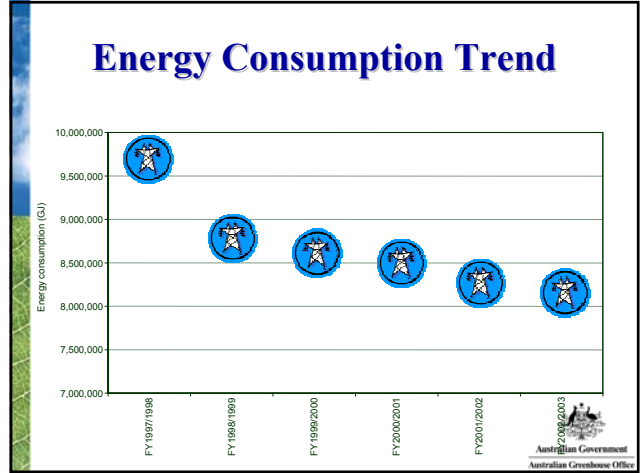
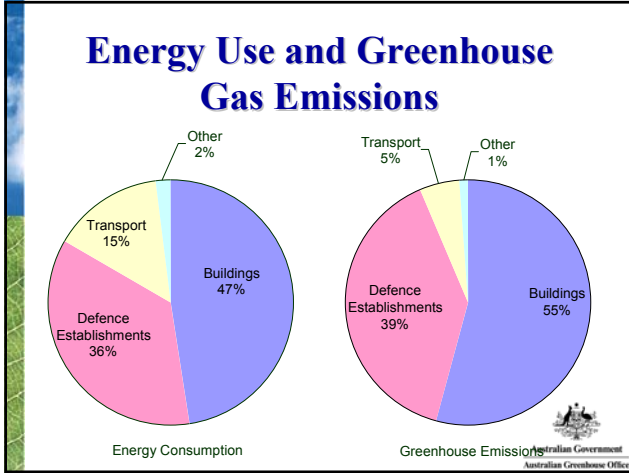
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## Energy Efficiency in Government Operations

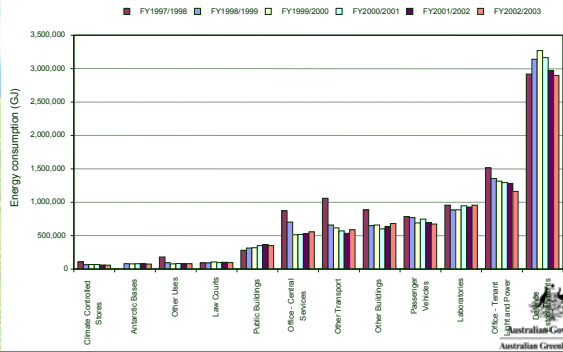
- Introduced in 1997
- Performance targets 2002-03
  - Based on aggregate performance of energy intensity in individual end-use categories
- A number of required measures including:
  - Minimum standards for new buildings
  - Gross leasing agreements
  - Regular performance audits
  - Minimum standards for appliances and equipment



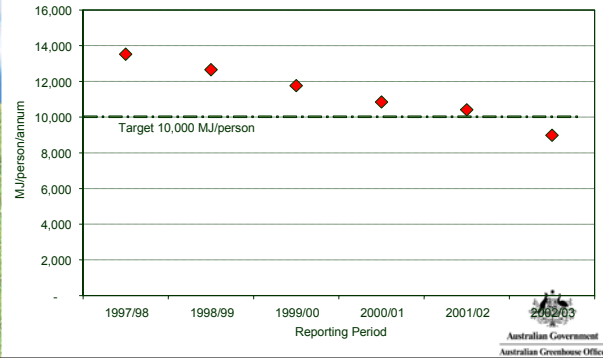
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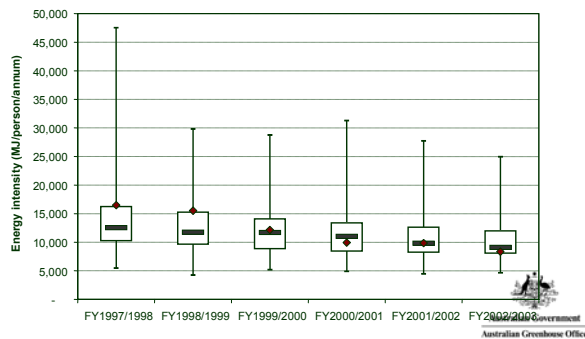
## Energy Consumption Moves



## Tenant Light & Power Intensity Trend

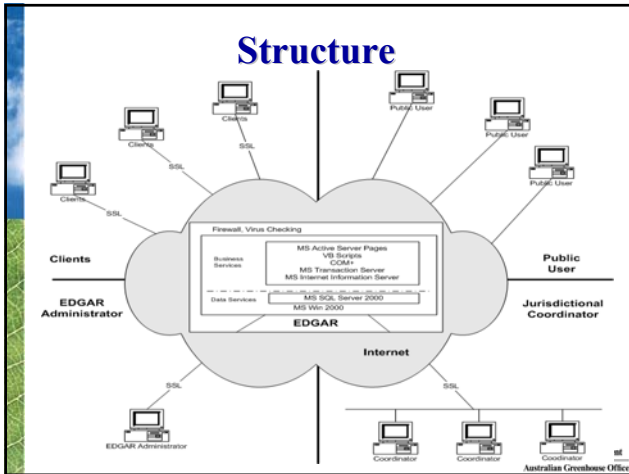



## Tenant Light & Power Trends

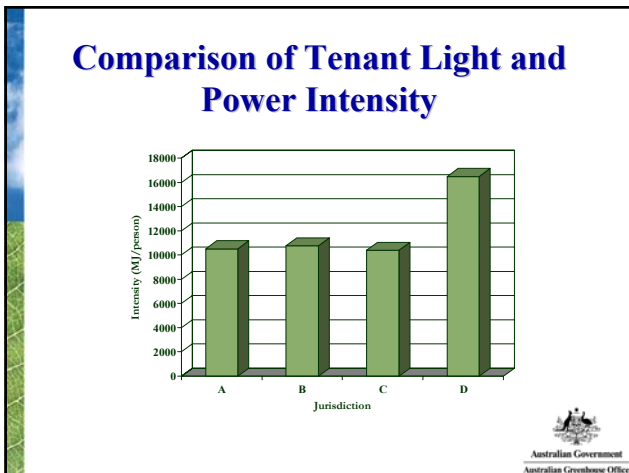



## What is EDGAR?

- On-line energy data gathering and reporting
- Manages client relationships
- Used for the last three government energy reports
- Used by NSW, VIC, SA, WA and ACT
- Supports nearly 4 000 entities and 2 700 users
- Secured by password access



- ### Experience with EDGAR
- Helped us better understand reporting, data and software development issues
  - Facilitated collaboration between Commonwealth, state and territory governments
  - Allowed us to collect and analyse data in very short time frames
  - Showed us that every new system creates unforeseen opportunities
  - Shown us that reporting drives change
- 



- ### Benefits of reporting
- Awareness of energy and greenhouse issues
  - Measures relative performance
  - Provides a benchmarking tool
  - Tracks changes and trends over time
  - Identifies high intensity areas
  - Transparency encourages improvement
- 

## Extension of EDGAR for Greenhouse Challenge

- Improved data collection efficiency
- More accurate data
- Greater data usability
- On-line operational experience
- Add value to the reporting process
- Potential to promote nationally and internationally consistent reporting



## Compatibility

- Consistent with existing National Greenhouse Gas Inventory approaches
- Contributes to improved projections and assessment of Challenge impact
- Promote bottom up reporting
- Can input into a wider data warehouse
- Aligns government and industry reporting



## Data collection efficiency

- Data directly into the database
- Workflow management reduces redundant work
- Conversion factors and coefficients are preset
- Different hierarchical levels of reporting
- Structured and specific reporting templates



## Data accuracy

- Anomaly identification
- System generated conversion factors, coefficients and calculations
- Calculation assumptions are controlled within the system
- Bulk quality checks focussing on exceptions



## Reporting tools

- Provides faster, more accurate response to ad-hoc queries.
- Promotes performance improvement by showing year-on-year trends and relative performance.
- Assist members prepare progress reports



## Issues

- Going on-line won't fix a flawed process
- Reporting is not everyone's favourite pastime
  - Avoid duplicating requirements
  - Clearly understand what you want to measure
  - Ask for the minimum information required to measure effectively
- Confidentiality
- All tools have a useful life



## Conclusions

- Measurement is critical for all energy efficiency programs – if you don't know where you started, or where you are going, you have no idea of policy and program effectiveness
- Measurement costs money, but it can become more effective through well-designed and adequately resourced programs such as EDGAR



## Thank you

- [www.greenhouse.gov.au](http://www.greenhouse.gov.au)
- [www.energyrating.gov.au](http://www.energyrating.gov.au)
- [www.yourhome.gov.au](http://www.yourhome.gov.au)



# Energy Management in New Zealand

APEC Symposium 2004  
Government Energy Management Programmes

Dan Coffey  
Government Account Manager



## New Zealand

- Land of 36 million sheep
- 4 million people
- \$100 billion GDP (US\$65b)
- \$9 billion energy spend (US\$6b)
- Energy efficiency promoted by the Energy Efficiency and Conservation Authority (EECA)

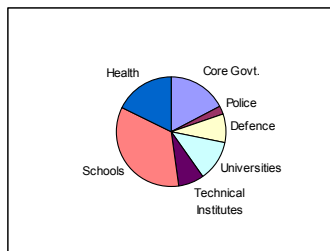


## Energy Expenditure

Total expenditure  
\$35 billion (US\$23b)

Direct expenditure  
\$20 billion (US\$13b)

Energy expenditure  
\$130 million (0.65%)  
(US\$85m)



## Government Energy Management programmes

- 1989** - Government Energy Management Programme (GEMP) - \$20M
  - Mandatory participation through CE Performance Agreement
  - Results patchy
- 1993** - Government Energy Efficiency Leadership Programme (GEELP) - \$20M
  - Voluntary
  - Demonstrated savings of \$550,000 p.a.
- 2000** - EnergyWise Government Programme - \$100M
  - 15% reduction target over 5 years to June 2005
  - Accounts of > \$100,000 p.a. (85)
  - Voluntary





## EnergyWise Government Programme Operation

### Voluntary

- Strong ministerial endorsement...but...not compulsory
- Memoranda of Understanding (MOU) with participants (51/85)
- Continue to work with the remaining organisations

### Participants

- Designate energy manager
  - Committed person
- Run energy management programme
- Report progress annually to EECA



## EnergyWise Government Programme Operation

### EECA Support

- Mentoring and advice
  - Account Managers (0.4 – 0.6 FTE)
  - Personal contact - phone, email, fax, conferences, visits
- Audit grants - audit subsidy up to 50%
- Loans - low cost loans (Max 5 yr payback)
- Information and referrals [www.emprove.org.nz](http://www.emprove.org.nz)
- Training
  - EECA seminars (up to 1 day)
  - Support for other providers
  - Marketing and promotion
    - Direct mail
    - Account Managers



## Energy management assessment tools

### Energy Achiever

- Presentation based

### Energy Management Progress Report (EMPR)

- Paper based report format

Based on the UK Energy Efficiency Office, General Information Report No.12 Energy Management Guide 1993



## Energy Achiever

### Presentation based

- 15 key areas
- 3 levels / area

### Include appropriate people at all levels

- Finance Manager
- Property Manager
- Energy Manager
- Maintenance person

### Client's session - EECA just facilitates

### Software generates

- Report
- Action plan

### Identifies common areas of concern

Repeat every 12 months



Energy Achiever - Results

### Section 2 - Your Results

Module	0. Not Yet Considered	1. Needs Attention	2. Room for Improvement	3. Got it Right	Critical
1. Leadership			●		
2. Accountabilities			●		
3. Awareness and Training	○				Critical
4. Understanding of Savings Opportunities				●	
5. Planning		●			
6. Targets and Key Performance Indicators	○				Critical
7. Budgets and Purchasing				●	
8. Energy Load Management	○				Critical
9. Energy Supply				●	
10. Operating Procedures	○				Critical
11. Maintenance Procedures			●		
12. Innovation		●			
13. Metering and Monitoring			●		
14. Reporting Systems	○				Critical
15. Achievement		●			

Visit [www.eecaa.co.uk](http://www.eecaa.co.uk)

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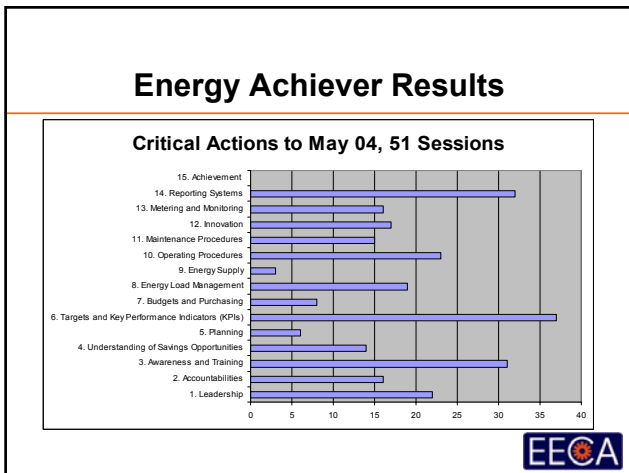
Energy Achiever

### Section 3 - Your Critical Actions

Module and Achievement	Recommended Action	By Whom	By When
3. Awareness and Training	○ Conduct energy conservation awareness activities (e.g. signage, newsletters, residential programs, competitions). <small>For more information visit... <a href="http://www.eecaa.co.uk/0400030006.asp">http://www.eecaa.co.uk/0400030006.asp</a></small>	John Swales	Aug 03
6. Targets and Key Performance Indicators	○ Incorporate energy cost reductions in overall cost savings targets for your business. <small>For more information visit... <a href="http://www.eecaa.co.uk/0400030006.asp">http://www.eecaa.co.uk/0400030006.asp</a></small>	Pam Smith	Sept 03
14. Reporting Systems	○ Regularly create and review energy efficiency trends. <small>For more information visit... <a href="http://www.eecaa.co.uk/0400030006.asp">http://www.eecaa.co.uk/0400030006.asp</a></small>		
8. Energy Load Management	○ Assess the opportunity for peak electrical demand control (max kVA/W control). <small>For more information visit... <a href="http://www.eecaa.co.uk/0400030006.asp">http://www.eecaa.co.uk/0400030006.asp</a></small>	Peter West	Aug 03
10. Operating Procedures	○ Ensure your staff turn off equipment when not needed (e.g. during breaks, after hours, weekends). Confirm that they have the valves/switches in place to turn off supply to key areas. <small>For more information visit... <a href="http://www.eecaa.co.uk/0400030006.asp">http://www.eecaa.co.uk/0400030006.asp</a></small>		

Energy Achiever should be repeated every 6 months to update critical actions, so that you continue to improve your energy management.

Model 01/000001, 12 June 2002  
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## Energy Management Progress Report (EMPR)

**Why should they bother?**

- Internal reporting template
- Company report profile
- Internal assessment tool

**Provides feedback to EECA on:**

- kWh & cost (All fuels), Budget (\$), Area (m<sup>2</sup>) & Staff Nos.
- Initiatives (last year & next year)
- Vehicles (Qty & fuel consumption)
- Management procedures

**Return rate 40% - 70%**

**Depends on relationship - Account Manager/Client**

EECA

## Programme monitoring

**1994** – kWh & cost (All fuels)

- Budget \$, Area (m<sup>2</sup>) & Staff Nos.
- Accounts sent to local branches
- Energy use data (kWh, GJ etc.) unreliable
- Area leased & owned

**1996** – Gave up on kWh – Cost only

**1997** – Started collecting (projects) savings data

**2000** – Expanded programme

**2002** – EMPR – Recorded 4.2 % improvement

**2003** – EMPR – Lots of activity ...but...recorded no improvement

**2004** – EMPR – More emphasis on project savings data



## Procurement

**Currently no dedicated government initiative**

**Regulated Minimum Energy Performance Standards (MEPS)**

- Tubular fluorescent lamps
- Ballasts

**Provide purchasing advice**

- EECA design briefs
- Office equipment (EPA Energy Star)
- Database of Service Providers

**Investigating syndicated procurement**

**Leases**

- Get the pricing signals right
- Make sure the energy user pays the bill



## Energy Services Industry

**Government an attractive target**

- Prepared to accept longer payback periods
- Aware of Government target
- Successful companies have emerged
- EECA Promoting
  - Energy Performance Contractors - provide savings guarantee
  - Energy Management consultants - Run energy management programmes
  - Design Audits - Build it right to start with



## Achievements

- High levels of awareness
- Most organisations have energy managers
- High attendance at energy management courses
- Energy Achiever being used with most accounts >\$500,000 p.a.
- Most have done energy audits
- Most have implemented some energy savings initiatives
- Up to 70% EMPR return rate
- Savings?



## Lessons learned

### Energy Management must be demand driven

- Empower committed people (Champions)

### Provide effective support

- Personal contact
- Management diagnostic tools - Energy Achiever

### Energy audits - only get the easy stuff

#### Get it right to start with:

- Buy right: Buildings, Equipment, Vehicles
- Promote Performance Contracting

### Programme monitoring

- Demonstrate value for the organisation
- Collect project data
- Encourage the use of consultants



Improving energy choices

[www.eeca.govt.nz](http://www.eeca.govt.nz)

