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Department of Resources, Energy and Tourism

# ENERGY EFFICIENCY OPPORTUNITIES

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TO: Energy Management Action network (EMAK)  
workshop

26-27 January 2010

Item 1-5



National Framework  
for Energy Efficiency

**Energy Efficiency**  
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# OVERVIEW

- Energy policy in Australia
- Barriers to energy efficiency
- Legislation and requirements for Energy Efficiency Opportunities
- Program structure and delivery
- Results so far
- Program successes



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# ENERGY POLICY OBJECTIVE

**Achieving energy security that delivers economic prosperity in a lower carbon economy.**

*"Energy efficiency is a key element in tackling the challenges of climate change and energy security. Businesses, governments and individuals must fundamentally change the way they understand and manage energy".*

Hon Martin Ferguson AM MP, Minister for Resources and Energy



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# ENERGY EFFICIENCY OPPORTUNITIES

- EEO announced in 2004 in response to:
  - market failures in the industrial sector
  - perceived poor performance in improving energy intensity compared to other OECD countries
  - organisational and cultural barriers



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# BARRIERS TO ENERGY EFFICIENCY

Energy is **important** but not **urgent**

- Core business – growing the business is the priority for resources and capital followed by licence to operate
- Operational cost cutting – focus on visible
- Energy is potentially complex
- Lack of metered data and analysis skills
- Audit mentality insufficient
- Lack of knowledge – perceived risk
- Poor data = poor business case = poor results



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# EEO PROGRAM OVERVIEW

- Legislation mandates largest energy using corporations assess energy use and report on opportunities
- Does not mandate implementation
- Rigorous and comprehensive assessment
- 6 Key Elements and 19 Key Requirements
- Full verification of compliance + penalties
- Reports must be made public



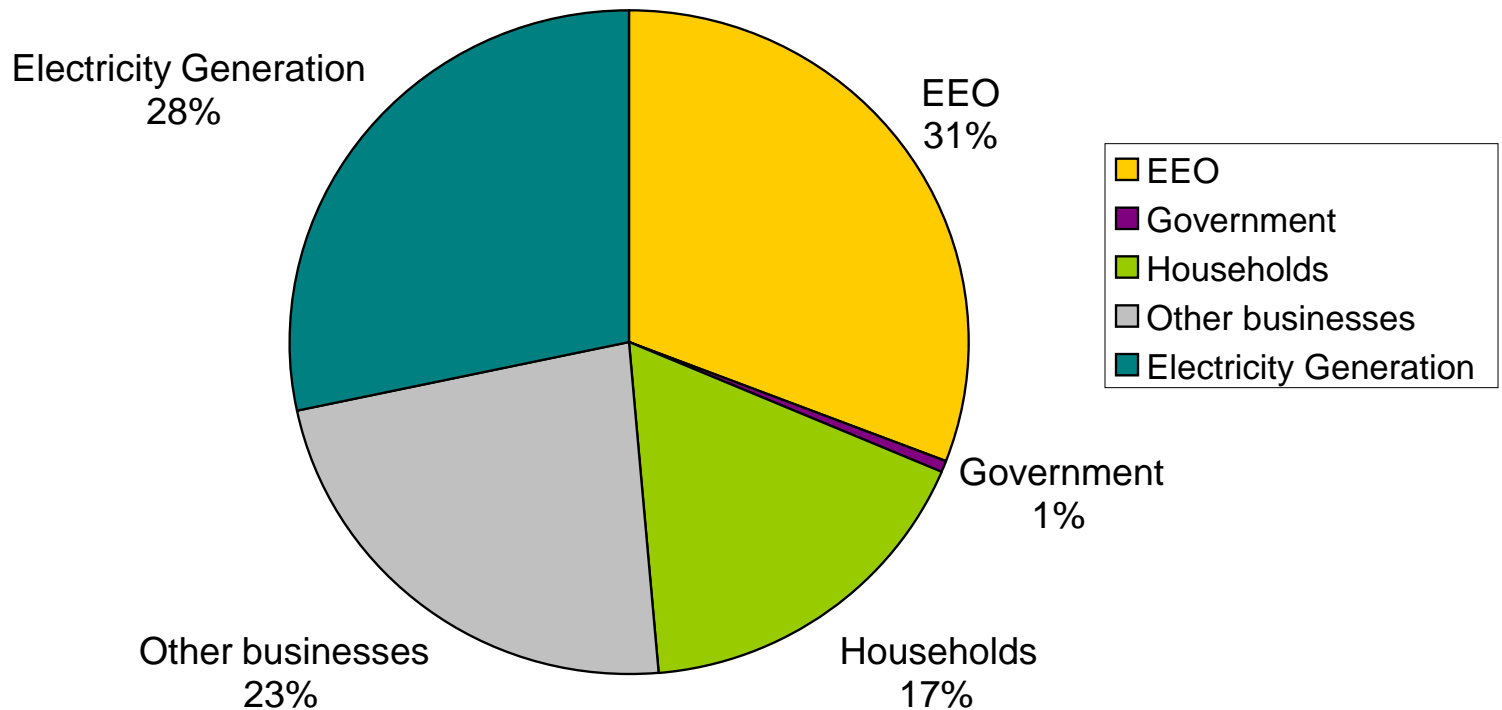
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# EEO PROGRAM ENERGY USE

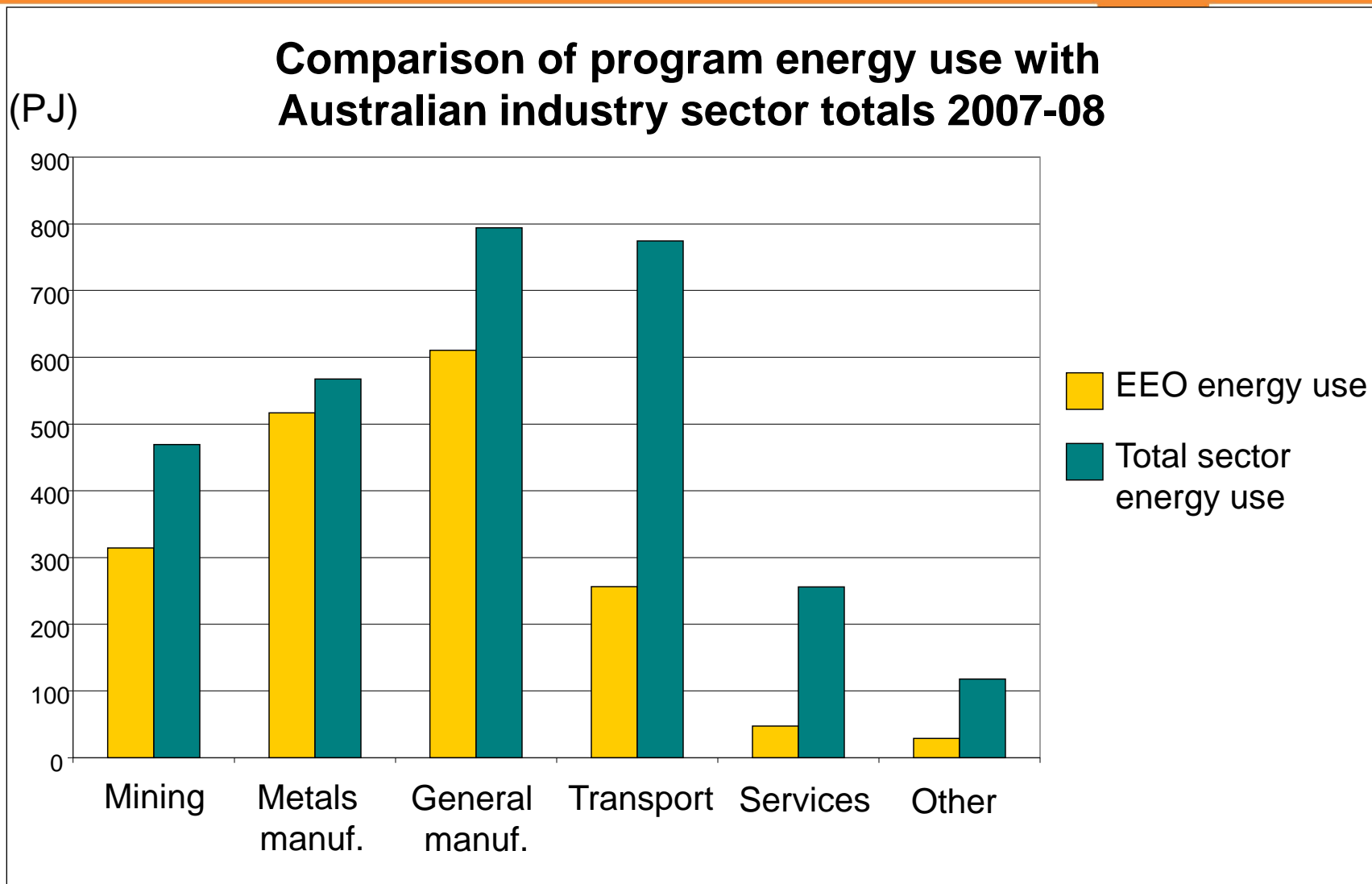
## Australian total energy use shares - 2007-08 (PJ)



**All corporations that use more than 0.5 PJ  
are required to participate.**

**230 or so participating corporations use 60% of business energy end  
use and around 45% of Australian energy end use**

# EEO PROGRAM ENERGY USE



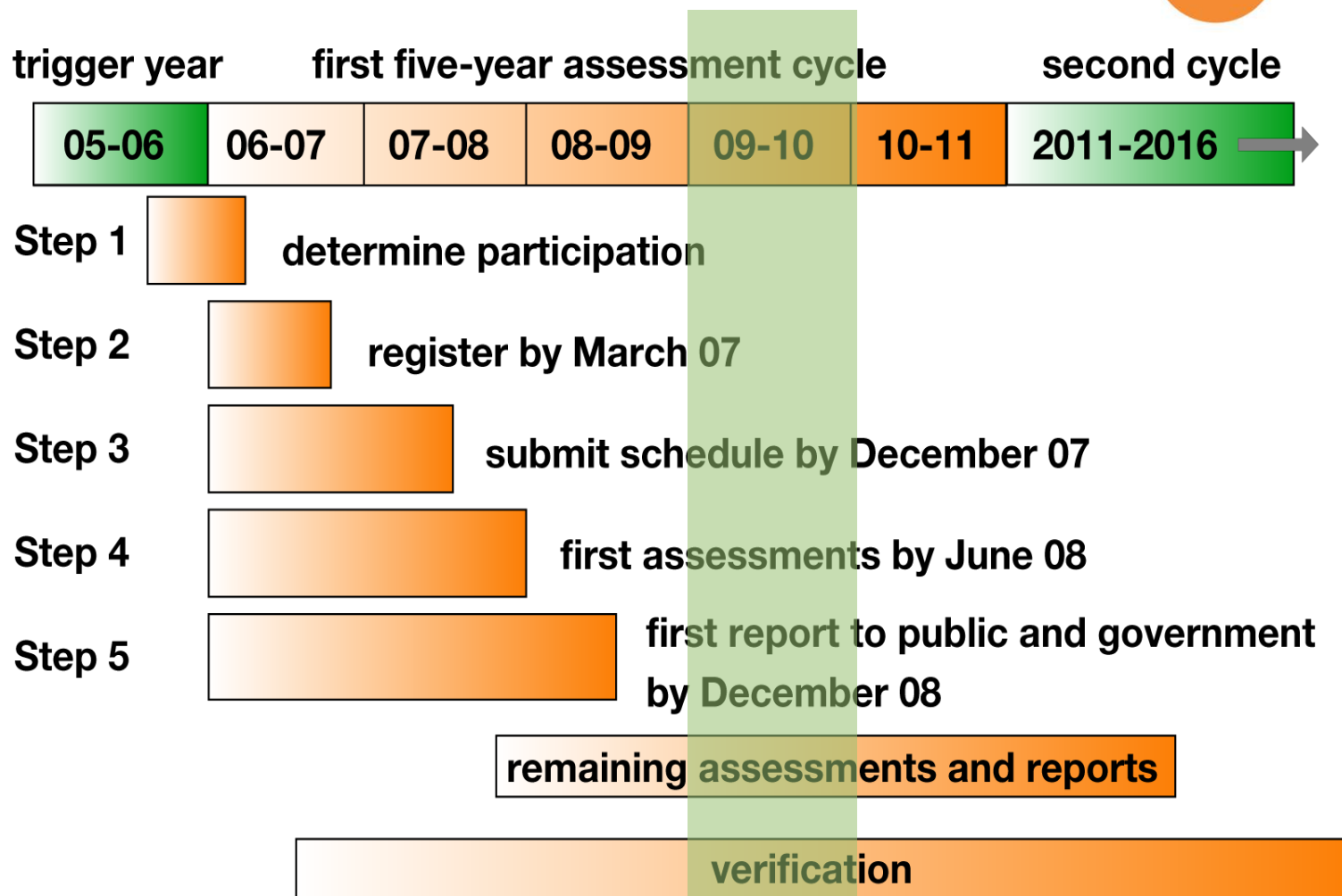
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# TIMELINE



# PROGRAM REQUIREMENTS

Rigorous and Comprehensive  
Assessments



Leadership

People

Information, Data & Analysis

Opportunity Identification & Evaluation

Decision Making

Communicating outcomes

Six key elements



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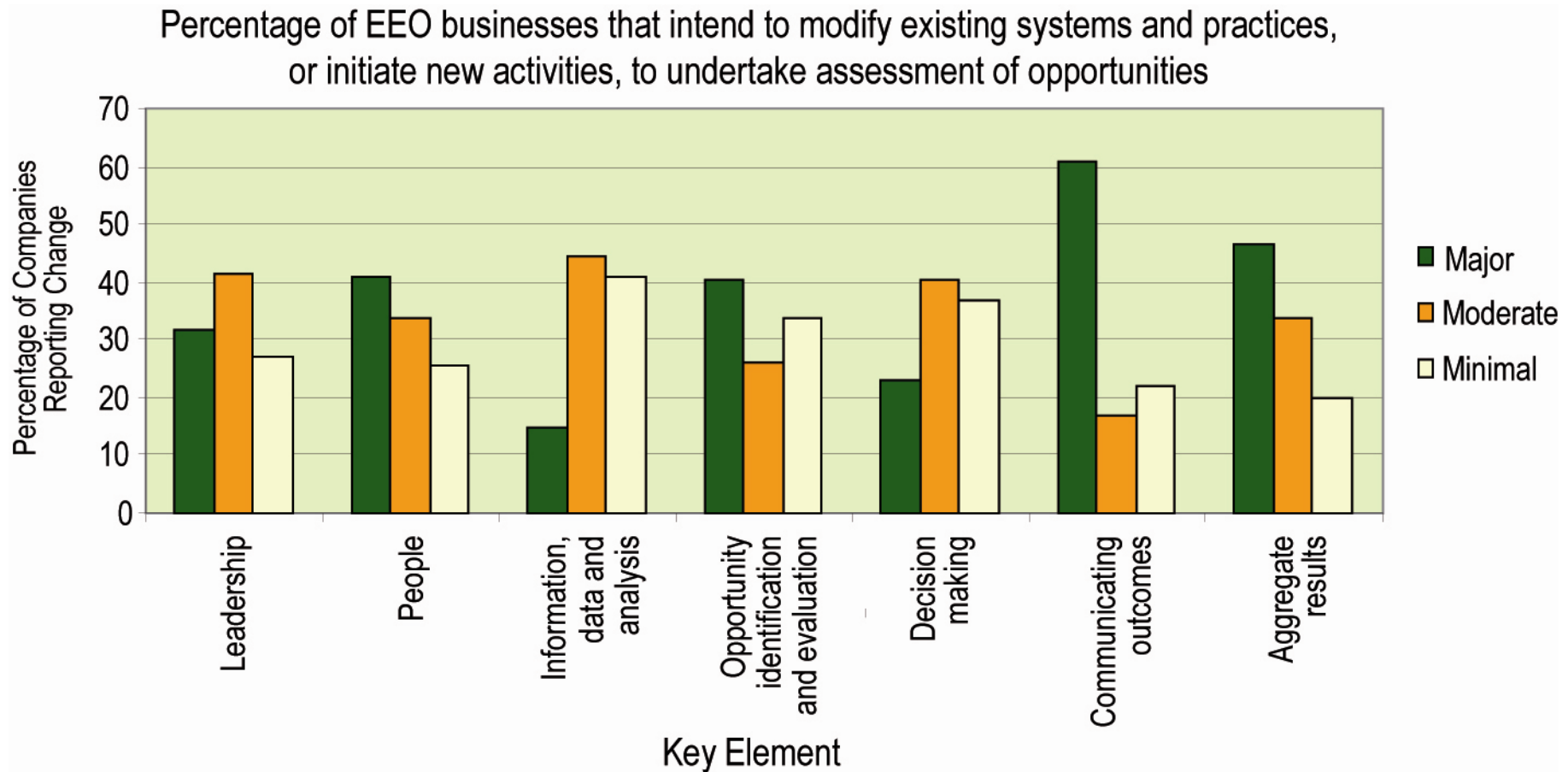
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# 19 KEY REQUIREMENTS - EXAMPLES

Key element	Key requirement example
1 – Leadership	<ul style="list-style-type: none"><li>- Senior management establish energy improvement objectives</li><li>- Resources made available</li></ul>
2 – People	<ul style="list-style-type: none"><li>- Appropriate personnel – internal influence on energy use and external expertise</li></ul>
3 – Information, Data & Analysis	<ul style="list-style-type: none"><li>- Energy use 24 months and 5% accuracy</li><li>- Energy mass balance or similar</li></ul>
4 – Opportunity Identification & Evaluation	<ul style="list-style-type: none"><li>- All opportunities with 4 year payback or less are evaluated</li></ul>
5 – Decision making	<ul style="list-style-type: none"><li>- Information presented to management</li></ul>
6 – Communicating outcomes	<ul style="list-style-type: none"><li>- Board reviews and notes public report</li></ul>

# INTENDED CHANGES TO SYSTEMS



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# BUILDING CAPACITY

- Encourage rather than censure
- Dedicated client liaison officers
- Resource materials
- Workshops
- Verification – identify further knowledge gaps



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# WHERE ARE WE UP TO?

- Halfway through first 5 year cycle
- 227 corporations registered
- 199 initial reports completed – 1099 reporting entities (subsidiaries)
- All public & government reports received
- 57% of energy assessed



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# RESULTS SO FAR

Opportunities identified by corporations	Savings as % of energy assessed	Energy savings per year (PJ)	Net financial savings per year (\$m)
Opportunities to be adopted*	4.1%	41.6	\$503
Opportunities under investigation	2.4%	24.2	\$218
Opportunities not to be implemented	0.2%	1.8	\$15
<b>Total identified opportunities</b>	<b>6.6%</b>	<b>67.7</b>	<b>\$736</b>

\* includes business responses: implemented, implementation commenced and to be implemented.



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# RESULTS SO FAR

Identified energy savings	Number of corporations	Identified savings (PJ)
0%	14	0.0
0-2%	34	2.3
2-5%	41	20.3
5-10%	40	6.0
10-20%	38	15.0
20% +	32	24.1
<b>Total</b>	<b>199</b>	<b>67.7</b>



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# LARGE ENERGY SAVINGS

- Reconfiguring plant and operations
- Large scale heat recovery
- Major equipment replacements or upgrades
- Improved plant maintenance & measurement systems
- Large scale cogeneration projects



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# PROGRAM SUCCESSES

- Raising the profile of energy efficiency
- Boosting energy assessment capabilities
- Engagement of site personnel
- Improving measurement & metering
- Project evaluation and tracking



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# Thank you

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