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Department of Resources, Energy and Tourism

# Energy Efficiency Opportunities - Lessons for Policy Pathways

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National Framework  
for Energy Efficiency

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# AIMS AND FEATURES OF THE PROGRAM

- Corporations and electricity generators using more than 0.5 PJ energy per year are required to participate
- Must undertake an energy efficiency assessment using the EEO Assessment Framework to identify cost-effective opportunities (< 4 year payback) to reduce energy use
- Results of the assessments must be signed off by the Board, and reported to government and publicly to the community
- Implementation is not mandated under legislation however corporations are publically accountable.
- Verification that assessment meets regulations and reported results are true and accurate.



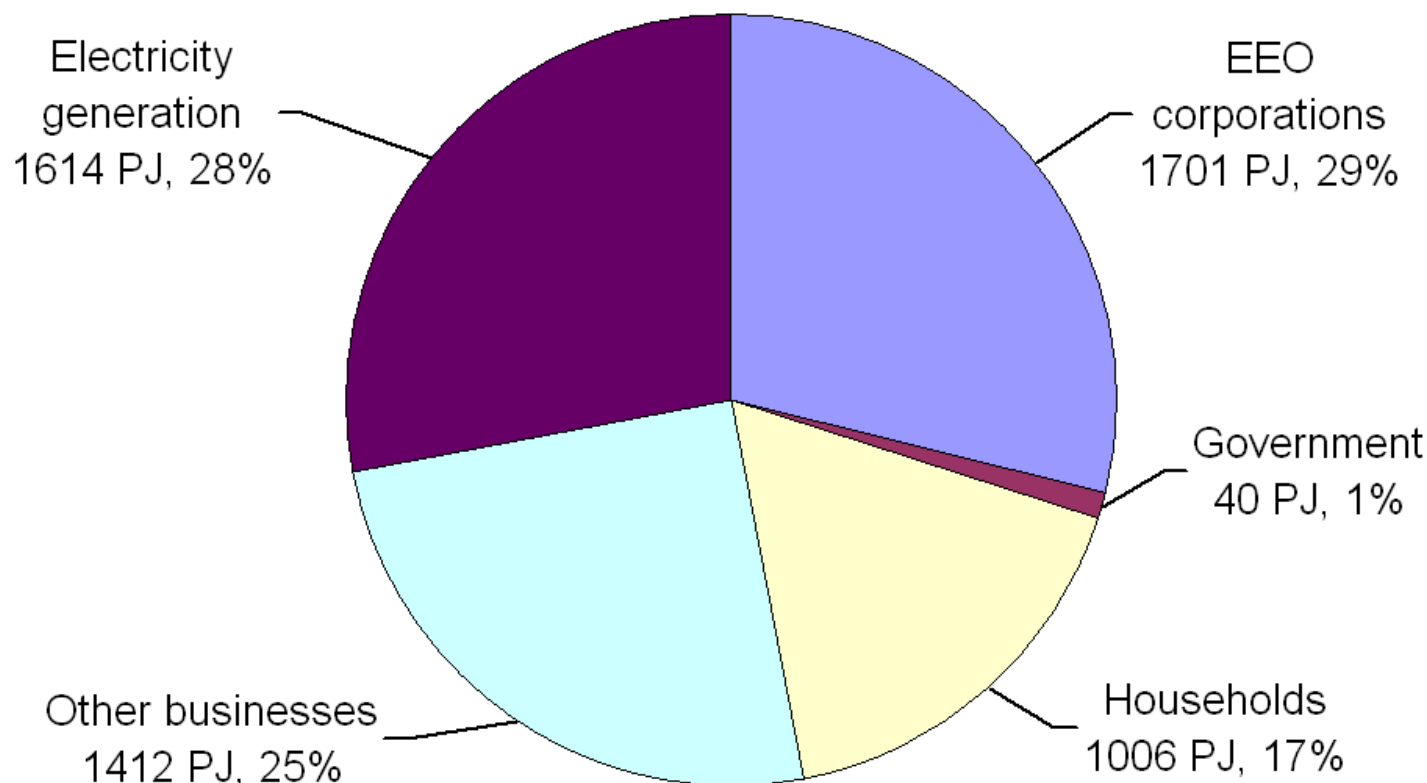
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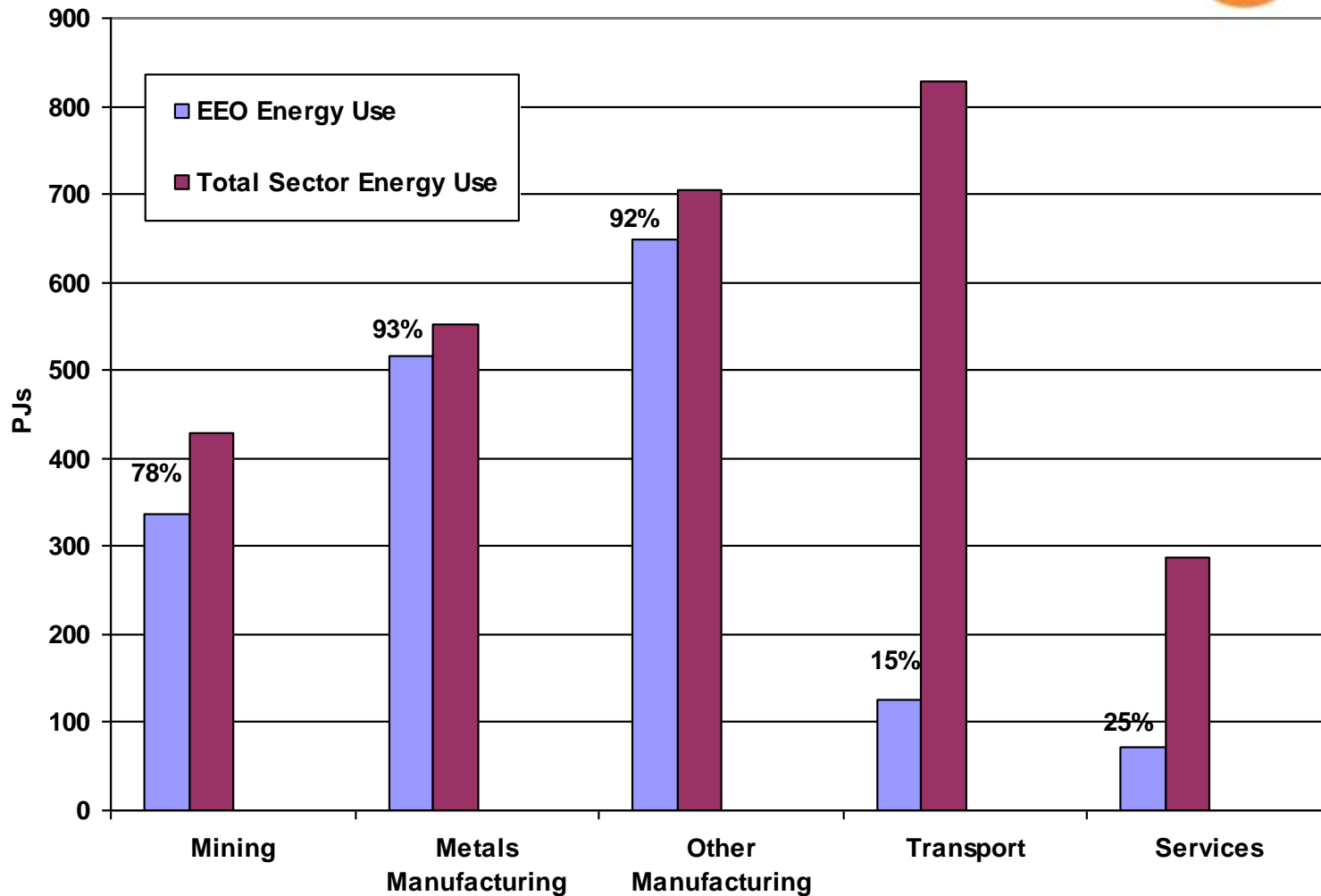
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# EEO PROGRAM ENERGY USE IN CONTEXT

## Australian total energy use - 2009-10 (PJ)



# EEO PROGRAM ENERGY USE COMPARED TO TOTAL SECTOR ENERGY USE, 2009-10



# Australian Context pre EEO

- Historically plentiful supplies of low cost energy
- Energy Intensive Industrial Sector
- Australian NZ Audit Standard – used 30 times & funded audit reports sit on shelf
- Energy Efficiency Best Practise
  - Found benchmarking not useful in Australian context
  - Trialled new approach – stretch goals, question assumptions, involve cross section of people and suppliers, buy in from senior management and measure energy use (rather than guesstimate)
- Energy White Paper 2004 – Mandates Audits for Australia's largest energy using corporations



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# Lessons from EEBP and Consultation integrated into EEO Assessment

- Responsibility of the company not the auditor.
- Direction from the top and linked to core business concerns
- Build on and enhance existing business improvement systems
- Intent not checking up – Egos are involved
- Energy Management Systems are necessary to manage but they don't necessarily find big energy savings.
- Accurate data and analysis approaches that ask how much energy is required to deliver this product or service – rather than how we manage the norm.
- Information needs to reach decision makers in a format that matters to them.



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# ASSESSMENT FRAMEWORK

## Seeks to remove barriers by:

- Delivering quality information
- Encouraging decision makers to consider projects

## Comprises:

- Six Key Elements, with
- 19 Key Requirements

Rigorous and Comprehensive Assessments



Leadership

People

Information, Data & Analysis

Opportunity Identification & Evaluation

Decision Making

Communicating outcomes

Six key elements



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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 using whole of business evaluation.</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>



# CONCLUSIONS

## Large energy users can identify significant energy savings

207 corps identified 141.9 PJ in energy savings in 2010.

Represents:

- 9.8% of corporations' total assessed energy,
- 2.5% of total Australian energy use, equivalent to
- Around 2% of Australia's total greenhouse gas emissions.

## Change is occurring

- Barriers to *identification* of opportunities being reduced
- Barriers to *implementation* reduced but not to same degree, and influenced by other factors
- marked Improvement in systems, processes & accountability
- greater awareness at Board level

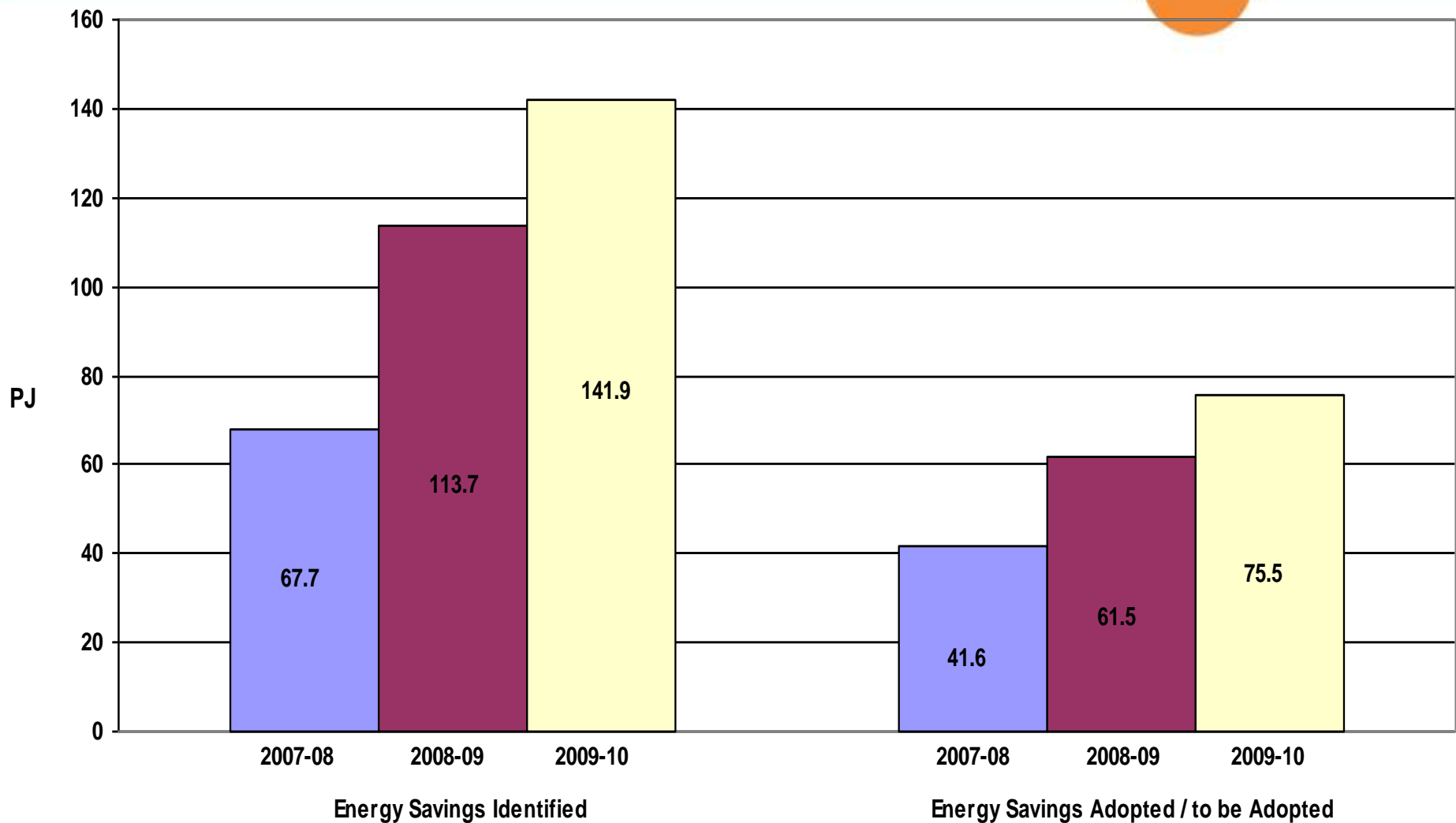


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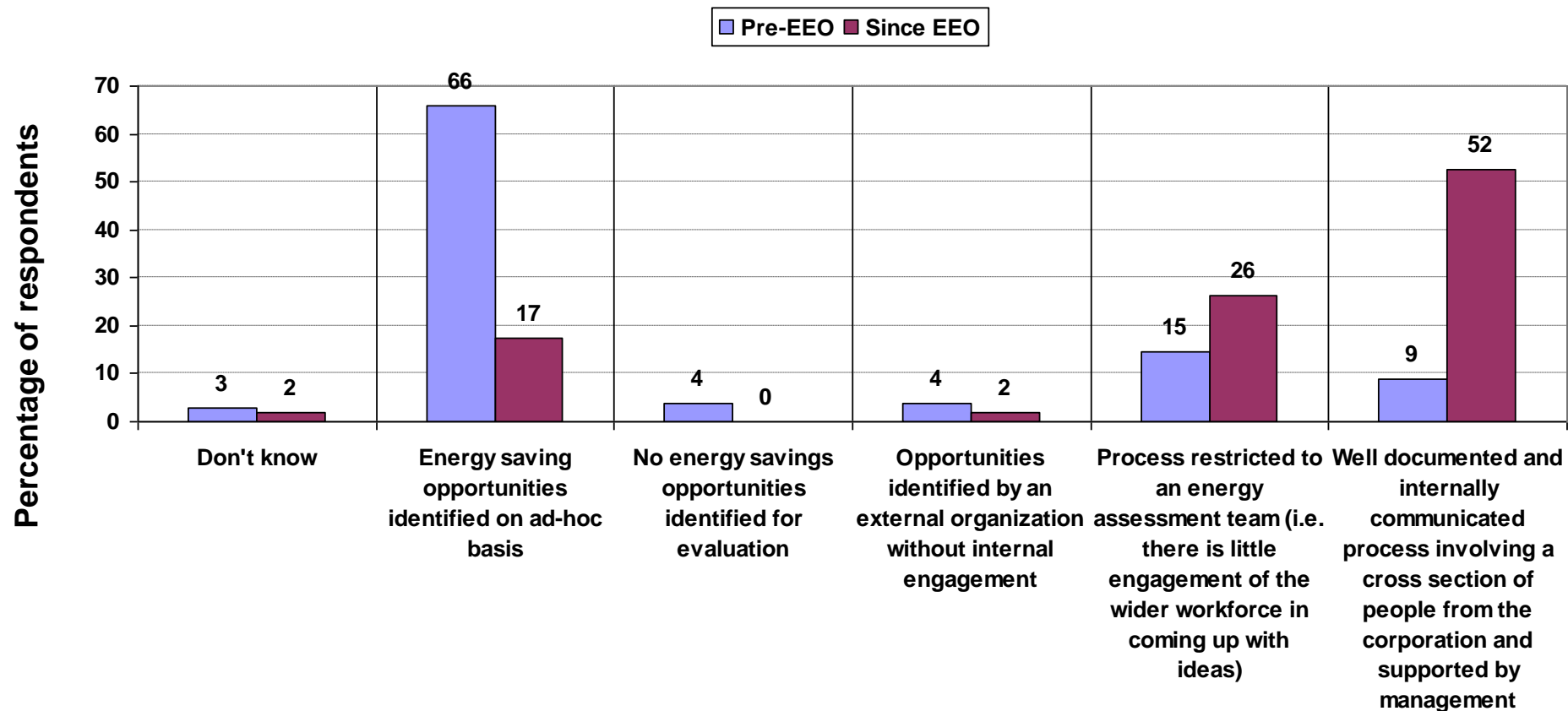
# RESULTS – ENERGY SAVINGS REPORTED, DECEMBER 2008- DECEMBER 2010



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# RESULTS – ORGANISATIONAL CHANGE: IDENTIFICATION & EVALUATION



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# EEO INNOVATIONS – LESSONS FOR POLICY PATHWAYS

- **Consultation**
  - cultural context of your businesses
  - establish clear purpose & business can help
  - buy in and champions
- **Learning networks** – maintains focus, builds capacity enhances outcomes & reduces non compliance
- **Assessment Framework**
  - How you assess energy use and losses is important
  - Good data and analysis approaches can identify greater savings than companies thought possible
  - integrate and enhance core business systems
- **Increase Transparency & Accountability (and hence management) thru Board sign off and public reporting**

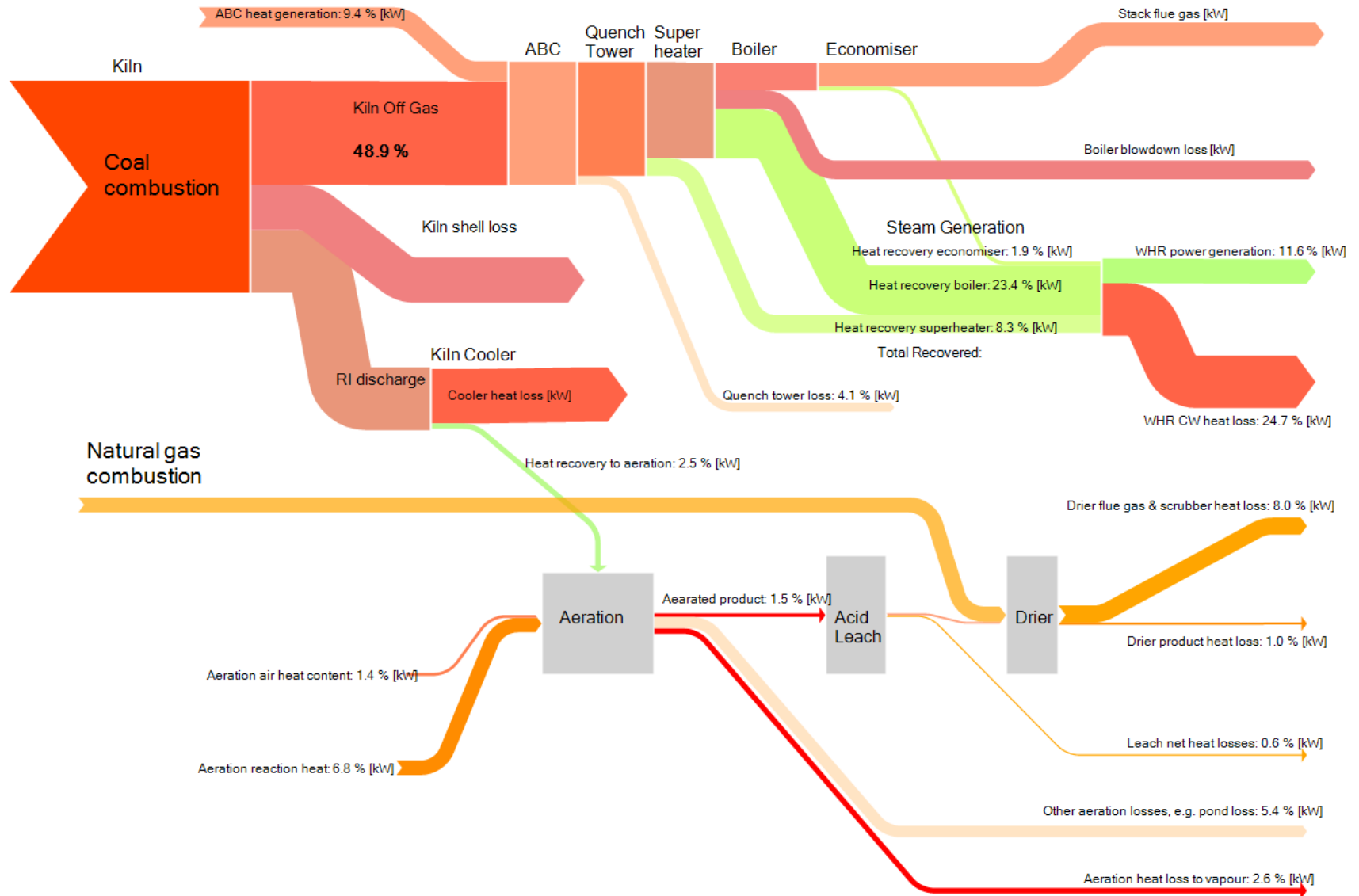


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# ILUKA RESOURCES: ENERGY-MASS FLOWS



# EXAMPLE: ILUKA RESOURCES

- Iluka Resources uses 8.7PJ p.a (over 170,000 households) has two large minerals processing sites at Midwest and Southwest WA contributing over 50% of Iluka's energy use and CO<sub>2</sub> emissions.
- Energy Mass Balance team undertook process modelling for these sites
- Savings identified:
  - 338TJ (9% of Midwest site energy use)
  - 191TJ (5% of Southwest site energy use)
  - These savings are equivalent to the energy use of over 10,500 households



Thank you

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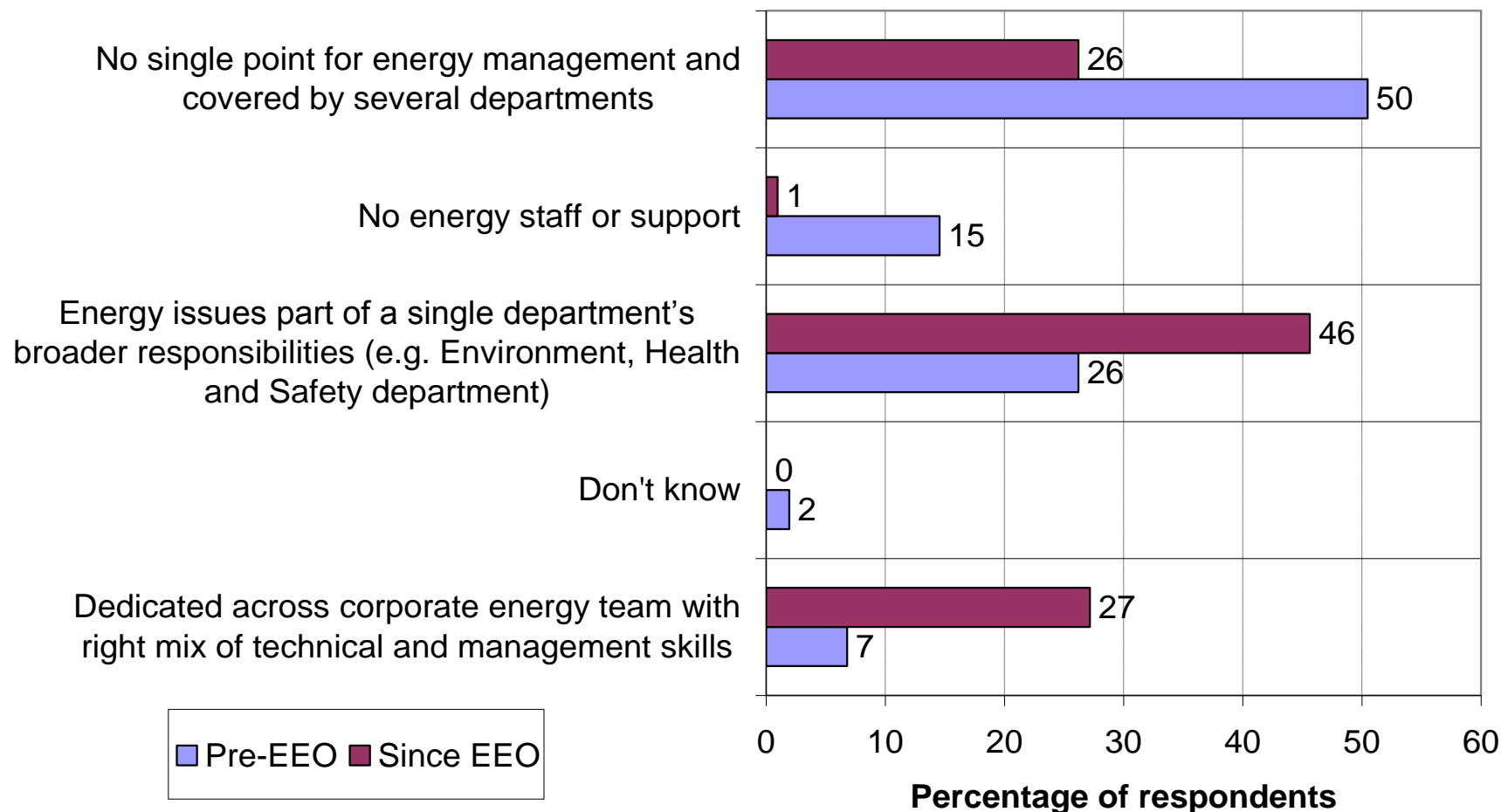


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# RESULTS – ORGANISATIONAL CHANGE: PEOPLE





# OVERVIEW

- **Why we have EEO – the importance of large energy users** and industrial energy use in Australia
- **Barriers** to energy efficiency
- **Program design** and delivery – addressing barriers to change
- **Results** – organisational change & energy savings
- **Innovations** – lessons for Policy Pathways



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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 license 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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# RESULTS – ORGANISATIONAL CHANGE: LEADERSHIP

