



IEA Energy Efficiency In Emerging Economies Training Week

Industry Stream: The Australian Energy Efficiency Opportunities program case study

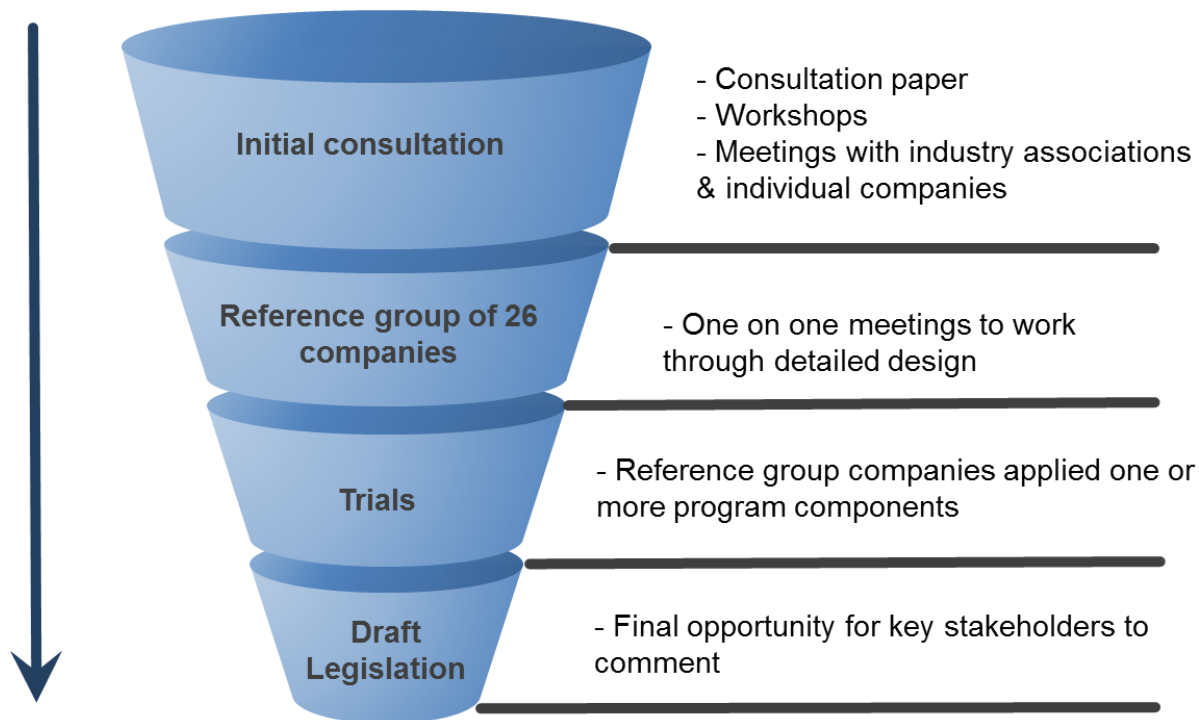
Joseph Ritchie - IEA, Paris, 15-17 May 2018



#EnergyEfficientWorld

- Established in July 2006, operated until 2014
- Built on previous voluntary programs
- 18 month industry consultation (2004-05)
- Objective of EEO program was to:
Improve the identification and evaluation of energy efficiency opportunities by large energy-using corporations and, as a result, encourage implementation of cost-effective energy efficiency opportunities.

EEO stakeholder consultation process



Annual workshops supported peer to peer learning



Energy Efficiency Coordinator, Nigel Hogarth (right) and Kilns Supervisor, Mike Robson, discussing the Midland Brick kiln door project.

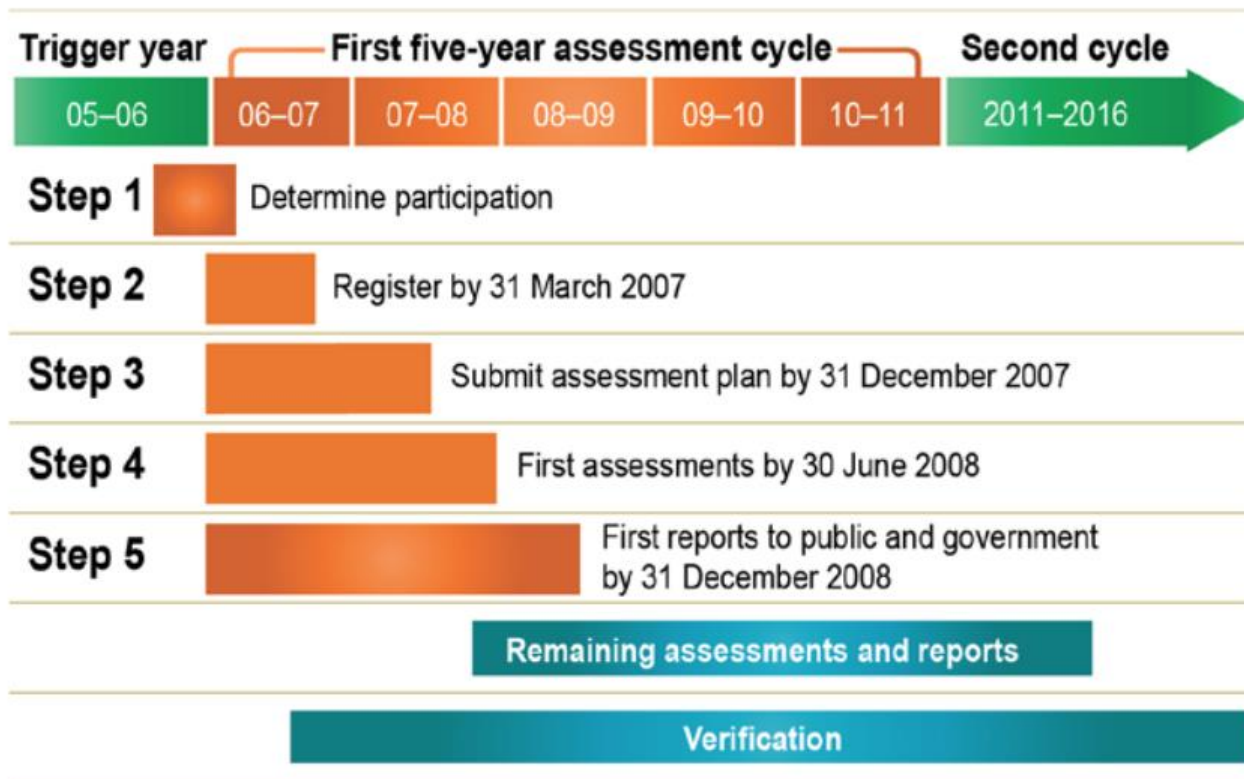
- Responsibility needs to be with the company not the energy auditor
- Need buy-in from company executives and links to core business concerns
- Process should build-on and enhance existing business improvement systems
- Energy Management Systems are necessary, but do not compel action or find big energy savings.

Mandatory participation ensured strong coverage



- Participation mandatory for corporations that used more than 0.5 PJ per financial year
- Corporations in the mining, manufacturing, commercial, services, transport and electricity generation (from July 2011) sectors.
- 56 % of Australia's energy use, manufacturing largest energy using sector

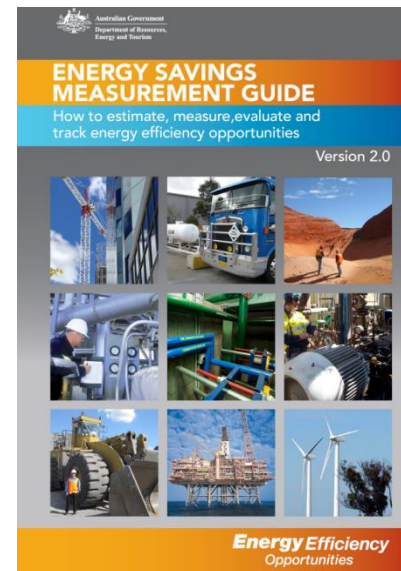
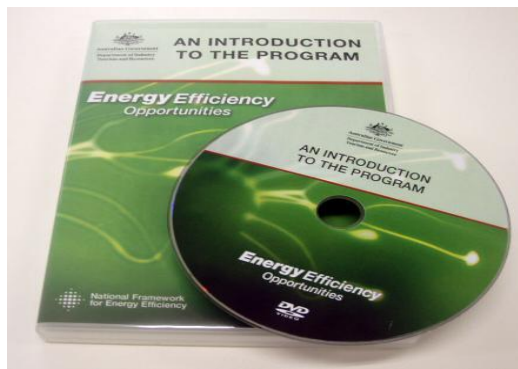
A step by step approach





Companies were provided with a lot of support

- Guidance materials
 - DVDs, handbooks, how-to guides, case studies
- Dedicated points of contact within Government Department
- Annual workshops in every state
 - Update new participants on program requirements
 - Share lessons



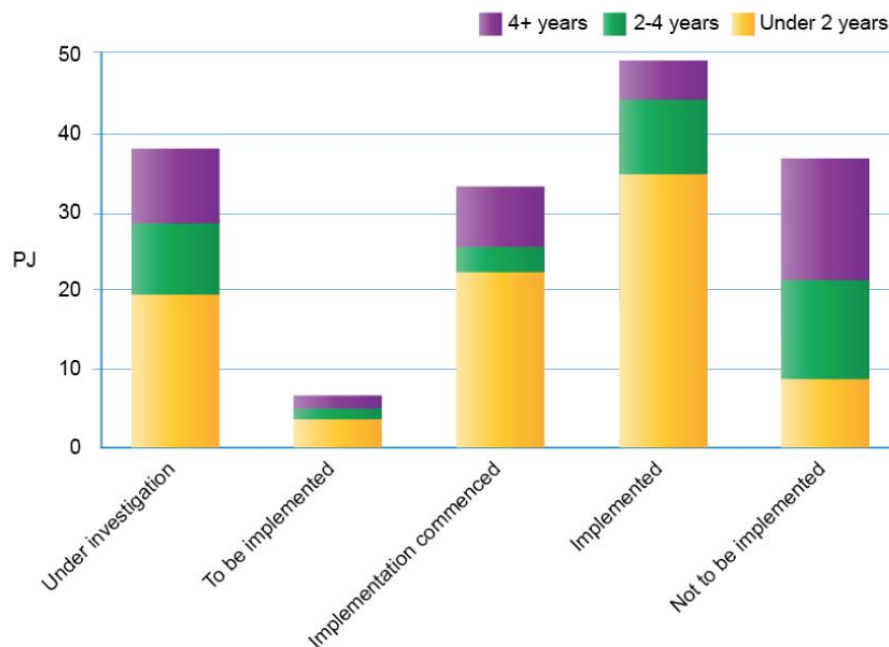
Reporting was an important program component

- Annual public reports, published on company website
- 2 Government reports every 5 years
- Data reported included:
 - Opportunities identified (number, energy savings, payback)
 - business response (implemented, not implemented etc.)
 - Savings by energy type (electricity, gas etc.)
 - Example opportunities
- Board review and note results and information to be published



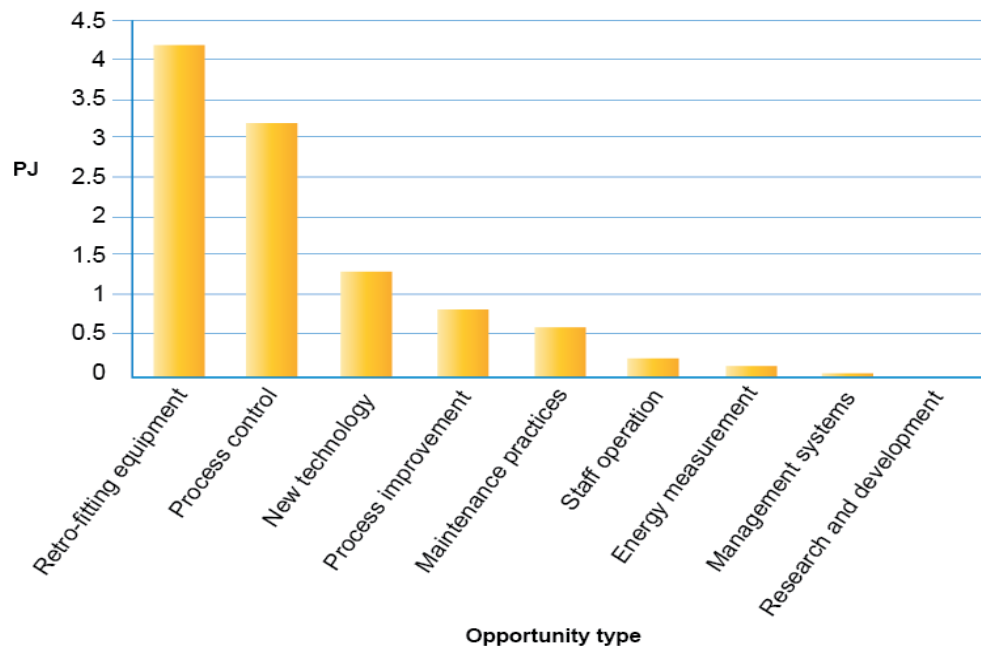
Data from reports was a valuable resource

Identified energy savings by business response and payback period, 2006-11



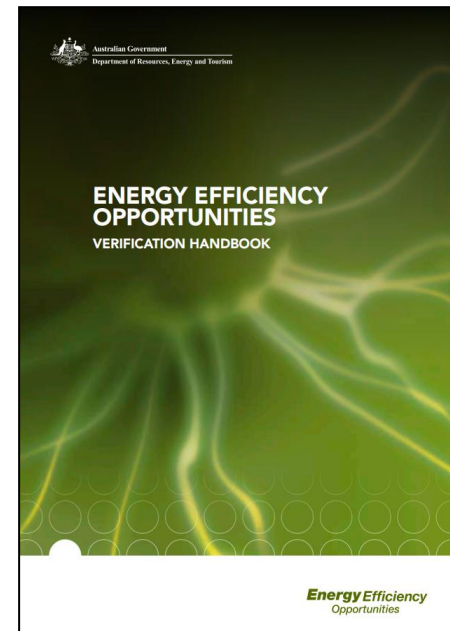
Corporations reported that over half of the identified savings occurred in projects that had a less than two-year payback. 68% of these savings, were in projects that had been adopted.

Adopted energy savings by opportunity type, 2006-11

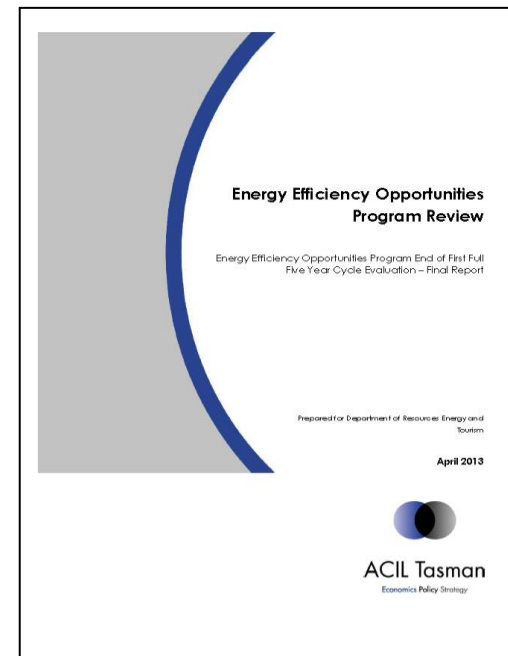


Equipment retrofits, particularly VSDs on electric motors and improvements to process control, were the most commonly report energy efficiency opportunities

- Ongoing compliance checks through annual reports.
- Desktop verification (100 per year):
 - Company survey
 - Risk rating for company
- Full verification:
 - Selected based on desktop review
 - Site visit and full day interview
 - Checking compliance against all components of EEO Assessment Framework
 - Verification report prepared and recommendations made
- Penalties could be applied for serious non-compliance.



- Legislated requirement for the EEO Program to be evaluated against objectives.
 - Mid-term review and end-of-cycle review
- Undertaken by independent third party
- Used data reported by participating companies and surveys
- Recommendations to improve program administration



Evaluation findings were very positive

- The EEO Program:
 - Was **effective**
 - Was **additional** - responsible for approximately 40 per cent of the energy efficiency improvements in the Australian industrial sector
 - Was **complementary** to a carbon price
 - Was an **appropriate** policy for addressing market failure

Benefits and costs at the end of the first EEO Program cycle

| Cumulative energy savings per year | Cumulative emissions reductions (unadjusted) | Cumulative administration costs | Cumulative assessment / implementation cost | Cumulative private sector financial savings | Financial return ratio |
|------------------------------------|--|---------------------------------|---|---|---|
| (PJ) | (tonnes CO ₂ -e) | (\$) | (\$) | (\$) | (total cumulative financial benefit /total cumulative cost) |
| 88.8 | 26,364,000 | 18,950,000 | 914,514,376 | 3,531,614,376 | 3.67 |

There were many lessons from the EEO Program

- Company success relied on the people involved in the assessment
 - Consultants are valuable, but best results when company owns the process
- Data was critical, but reporting must not become the sole focus
- Need to allow different means of complying with program requirements
 - Energy assessment approaches vary across industry sectors
- Mandatory energy efficiency policies force action, but does change focus of company
 - Compliance becomes priority, not energy efficiency.
- Without incentives, industry may not go beyond business as usual
- Constant engagement essential for industry policy



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