The multiple benefits of industrial energy efficiency policy – experience in Australia and Mongolia

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IEA Roundtable: Capturing the multiple benefits of energy efficiency
Session 3: The bigger picture on industrial energy efficiency impacts
27 January, 2013
Linking policy design, execution and results – Australian context

Why focus on multiple benefits?

How can policy makers encourage a focus on multiple benefits?

What can we learn from successful organisations who have changed their energy management practices over time?
Initial response by sample of ‘leaders’ to EEO legislation (commenced July 2006)

1. Government EEO legislation
2. Corporate energy practitioner contracts energy management consultant
3. Energy consultant conducts assessment
4. Consultants have limited knowledge of core business processes
5. Focus on ancillary equipment, rather than core business processes
6. Focus on energy cost savings as main benefit
7. Poor quality business case proposals
8. Difficult to access funding
9. Limited interest and availability for site personnel to contribute
10. Little support for improvement in core processes, including low cost procedural changes
11. Limited energy data is available
12. Few projects implemented and limited benefits delivered
13. Limited support from senior management

Established (Institutionalized) energy audit practices have limited focus on ‘multiple benefits’

Source: Crittenden 2013, PhD Thesis DRAFT
Over time, leading organisations have improved their focus on multiple benefits – delivering improved results.

- The next slide depicts the application of ‘new’ energy management practices amongst sample of ‘leaders’ -

Source: Crittenden 2013, PhD Thesis DRAFT
Learning cycle from one assessment to the next

Source: Crittenden 2013 PhD Thesis DRAFT
Other design features of the Energy Efficiency Opportunities Act that encourage a focus on multiple benefits

- Organisations required to account for multiple costs and benefits when evaluating projects
- Peer to peer learning events and case studies enable good practices examples to be shared
- Organisations not explicitly required to use a consultant but do have to involve people with relevant expertise
- Requirement to involve decision makers appropriate to the project being considered
- Reporting to an organisation’s board and the public increases visibility and engagement of senior management
Linking policy design, execution and results – Mongolian context

Why focus on multiple benefits?

How can policy makers encourage a focus on multiple benefits?

How to best integrate a focus on multiple benefits into the policy design process?
# Key benefits associated with the proposed Mongolian energy efficiency legislation

<table>
<thead>
<tr>
<th>Benefit</th>
<th>Description</th>
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<tbody>
<tr>
<td><strong>ECONOMIC BENEFITS</strong></td>
<td></td>
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<tr>
<td>Energy reductions and cost savings</td>
<td>Lower energy use and associated costs for businesses</td>
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<tr>
<td>Business productivity and competitiveness</td>
<td>Energy efficiency projects typically deliver non-energy business benefits that lead to improved productivity and competitiveness for businesses</td>
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<tr>
<td>Energy security</td>
<td>Lower demand leading to fewer supply interruptions and a relative reduction in electricity imports</td>
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<tr>
<td>Reduced energy-related public expenditures</td>
<td>Lower subsidy payments from government on electricity supply</td>
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<tr>
<td>Energy provider and infrastructure benefits</td>
<td>Fewer supply interruptions and infrastructure expenditures</td>
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<tr>
<td><strong>SOCIAL BENEFITS</strong></td>
<td></td>
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<tr>
<td>Health / air quality</td>
<td>Reduces air pollution and health impacts associated with electricity generation</td>
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<tr>
<td>Job creation</td>
<td>Employment of energy managers, energy auditors, trainers and personnel associated with implementation of identified projects</td>
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<tr>
<td><strong>ENVIRONMENTAL BENEFITS</strong></td>
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<tr>
<td>Reduced greenhouse gas emissions</td>
<td>Reduces greenhouse gas emissions at the electricity generation source</td>
</tr>
<tr>
<td>Reduced air/water pollutants</td>
<td>Reduces air and water pollutants at the electricity generation source</td>
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</tbody>
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Source: Crittenden Report, August 2013
Survey of industry energy management practices to obtain baseline information

• 325 of largest energy using entities in Mongolia responded
• Conducted in April/May 2013
• Provides an opportunity to understand which issues are of most relevance to industry
• Establishes a baseline of energy management practices that can be compared with subsequent surveys to fine tune policy implementation and to support evaluation
• Contributed towards development of the regulatory impact assessment

Note:
The assistance and support of GIZ, the Mongolian Ministry of Energy & Ulaanbaatar University is acknowledged. Enkhtuya Gombosuren and Sven Ernedal in particular provided valuable input and coordination of this research.
Example: Impact of supply interruptions

- 290 respondents stated that their entity had experienced interruptions to their energy supply. Only 35 entities had not experienced any interruptions.

- Interruption to the energy supply has an economic impact
  - 144 respondents highlighted that energy supply interruptions would create an additional budgetary cost
  - 95 respondents suggested that an interruption would decrease sales

- Energy efficiency assessments proposed in the law can help companies understand their energy use and therefore reduce the impact of supply interruptions.
Some conclusions

1. Productivity benefits are difficult to quantify and yet they are likely to be substantial

2. ‘Multiple benefits assessment’ should be incorporated into training and education programs

3. Programs can incorporate a requirement that project evaluation incorporates ‘all business benefits’ rather than simply energy cost savings.

4. The productivity benefits of energy efficiency should be communicated clearly using country and industry specific examples

5. Peer-to-peer learning events provide a powerful means of legitimizing new energy management practices such as those required to incorporate ‘multiple benefits’
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