Submission on EEO Repeal Bill 17 June 2014

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Summary

This submission challenges the rationale behind the Abbott Government's decision, announced without notice or electoral mandate, to abolish what has proved to be one of the world's most effective energy and carbon saving schemes, the Energy Efficiency Opportunities program. It questions why the government would drop an innovative government:business partnership scheme that was costing the businesses involved around $20,000 a year in compliance costs while saving

each of them on average $3.3 million a year. It presents financial modelling showing that the Government's decision, far from saving business from "red tape" or compliance costs, will actually cost an average participating business up to $6.4 million by 2021. The abolition of the EEO scheme appears to be a triumph of misguided ideology over sensible economic and energy policymaking. With energy efficiency to take centre stage at the G20 summit in November, the decision is particularly ill-advised.

The Energy Efficiency Opportunities program was proposed in the Howard Government's 2004 *Energy White Paper*. The program requires participants (who use more than 0.5 Petajoules per year of energy – large consumers with multi-million dollar energy bills) to conduct regular energy efficiency assessments to identify and cost opportunities to save energy on a five year cycle. They must also publicly report on the opportunities they have found and the actions they have taken to implement them. Participants have no specific energy saving targets, nor are they required to implement any specific measure, even if it is cost-effective. This approach recognises that there may be business reasons not to pursue some measures at a particular time, and that each business is unique, so setting targets is impracticable.

The scheme began operation in 2006-07. In recent years it has been expanded to include large electricity generators and major new energy intensive development projects. By 2011, at the end of the first 5-year cycle, 252 participants in the scheme reported that they were saving energy valued at $808 million annually due to the scheme. The end-of-cycle review adjusted the saving due to EEO down by 60% to $323 million, on the grounds that participants would presumably have made the other savings in response to increases in energy prices and other factors.

The EEO scheme is widely recognised within Australia and internationally as a very successful program. So it is surprising that the government proposes to repeal the legislation, having already defunded implementation and, in early June 2014, repealed the regulations under that legislation, especially since **the independent end of first cycle review recommended continuation.**

The arguments put forward by the government for repeal are that compliance costs are very high and are an unnecessary burden on business; that the program has been so successful that it is no longer needed, and industry is now able to capture energy savings without the support and external discipline of EEO.; and that the scheme duplicates other programs at state and national levels.

This submission shows these claims are incorrect, and that government documentation of the repeal proposal fails to provide evidence to justify the repeal.

At the end of the first 5-year cycle, 2010-11, EEO had cost the 252 participants that reported an average of under $20,000 annually in compliance costs while they reported that they were saving $808 million annually, an average of $3.3 million annual saving per participant. The Department of Industry has estimated that program savings continued to increase to $1,200 million in 2012-13. If we accept the 60% down-scaling of 2010-11 savings proposed in the end of cycle review, this would still be an average annual EEO-caused saving of $1.3 million per participant in 2010-11. Since energy saving measures continue to affect energy costs for 5 to 25 years, these annual savings will continue in future years without significant additional expenditure.

Some industry groups claim that compliance costs are now $17.7 million annually. For the 464 participants now involved, this is $38,000 each. These compliance costs are still, in fact, tiny compared with the benefits the participants are gaining.

Modelling and analysis carried out for this submission shows that repeal of EEO program will cost an average participant up to $6.4 million ($3 billion for the overall program) in lost energy savings over the period to 2021.

The proposed repeal is poor policy based on very limited and flawed cost-benefit analysis. Indeed, this program offers remarkable value, and it should be expanded, not shut down.

The claim that EEO has served its purpose is not backed-up by evidence. Indeed, if it had achieved the claimed optimal level of business management of energy efficiency after seven years, Australia would have achieved something no other country has done over much longer periods of effort.

The claim that EEO duplicates other programs and policies is out of date: Commonwealth and state governments have recently closed most of the programs listed as being duplicated. Others are not duplicated by EEO but are complementary.

Continuation of the EEO scheme would support greater take-up of more cost-effective abatement action under the Emission Reduction Fund, as it provides a mechanism for firms to identify energy saving (and hence emission reducing) actions and prepare good quality business cases for them, which would form a key part of any ERF application.

Declaration of interest and relevant experience

Alan Pears AM was involved in the design, development and trialling of the EEO scheme. However, he has not had direct involvement in the scheme since 2011.

Mr Pears has worked in the energy efficiency field since the late 1970s, including in a wide range of industries and businesses. In the early 1980s he worked briefly at the Gas and Fuel Corporation's Industrial Energy Management Centre. In the late 1980s, he ran the Victorian Government's Government Energy Management program as part of broader responsibilities. In the mid 1990s, he helped to develop the Greenhouse Challenge program which operated for some years under the Howard Government. In the late 1990s he helped to develop and implement the NSW Sustainable Energy Development Authority's Energy Smart Business Program. In the early 2000s, he helped to develop and implement the highly regarded Energy Efficiency Best Practice program under the Howard government, the lessons from which fed into EEO, which was also introduced under the Howard government. More recently he has co-authored some of the materials on the Energy Efficiency Exchange website for industry.

In recognition of his contribution to energy efficiency and climate response policy, Mr Pears was awarded an AM (Member of the Order of Australia) in 2009, and has received a number of industry awards.

Introduction

The case for repeal of the Energy Efficiency Opportunities Act is presented in an Explanatory Memorandum (EM) submitted to Parliament. This includes a Regulatory Impact Statement.

The EM provides several arguments for repeal of the EEO Act:

- Compliance costs are unreasonably high, so EEO is an example of 'red tape' and should be removed to cut business costs
- EEO's positive impact to date and other factors including increasing energy prices have meant that Australian industry is now motivated and skilled, and acting optimally to capture energy efficiency potential in their businesses, so EEO has outlived its useful life.
- EEO duplicates other programs

These arguments are identical to those put by three influential industry organisations in press releases, copies of which are included in Appendix 2.

The claims are not valid. The EEO scheme offers ongoing large net benefits for Australian business. It should be retained and enhanced. Compliance costs are very low relative to benefits. Further, the design of the scheme (and ongoing and potential modifications) means that firms achieving a high level of competence in managing energy efficiency can pursue streamlined compliance paths at lower compliance cost. EEO program staff have been working with participants to further reduce compliance costs for some time. Critics do not seem to be aware of this.

The independent review at the end of EEO's first 5 year cycle, by ACIL-Tasman Consulting (2013), concluded that EEO had delivered significant benefits, and would continue to do so in a second 5-year cycle. **It recommended continuation of the program.** This consulting firm is seen as conservative; indeed, its successor has been commissioned to do the economic modelling for the Renewable Energy target Review.

The Explanatory Memorandum made available by the Senate Inquiry does not mention ACIL-Tasman's recommendation even though it relies heavily on its data and analysis.

Industrial gas prices are expected to rise dramatically, diesel fuel prices are high and volatile, and electricity prices are likely to continue to increase, although at a slower pace than in recent years. Australian industry continues to face a high A$. International pressure to reduce greenhouse gas emissions is increasing, and failure to aggressively pursue energy efficiency improvement as a key climate response undermines both business and government reputations.

It is perverse to remove a proven program that empowers and delivers demonstrated benefits to Australian industry at a time when pressures on them are increasing. It is also premature to repeal the EEO program, given that new energy efficiency measures will not be finalised until the Energy White Paper process is completed later this year, and energy efficiency action will be discussed at the G20 meeting in Brisbane in November. Leaving EEO in place and reinstating funding for its implementation, including provision of support services, will minimise dislocation, uncertainty and loss of existing capabilities in government and industry participants.

EEO is well regarded

At an international level, EEO is seen as one of the more successful 'moderate intervention' industrial energy efficiency programs. For example, ACIL-Tasman (2013) point out (p.87):

> IEA Executive Director, Maria van der Hoeven, recently identified the EEO Program as a successful example of how government can work with industry to reduce energy use. She noted that:
>
> > The IEA considers energy efficiency as the most cost effective option in the short to medium term to reduce global emissions. Australia's EEO Program provides a leading-edge example of how best to reduce energy use and improve energy management systems.[45]

ACIL-Tasman (p.74) also noted that respondents to their survey of EEO participants showed attitudes to EEO staff were very favourable.

"Indeed, in feedback provided as part of the survey of EEO Program participants found Departmental staff to be communicative, proactive, responsive, helpful and not unduly focussed on compliance. Several corporations noted that the Department's approach was superior to that of other Departments."

Resources designed to help participants were also generally very well received, as shown in Figure 1.

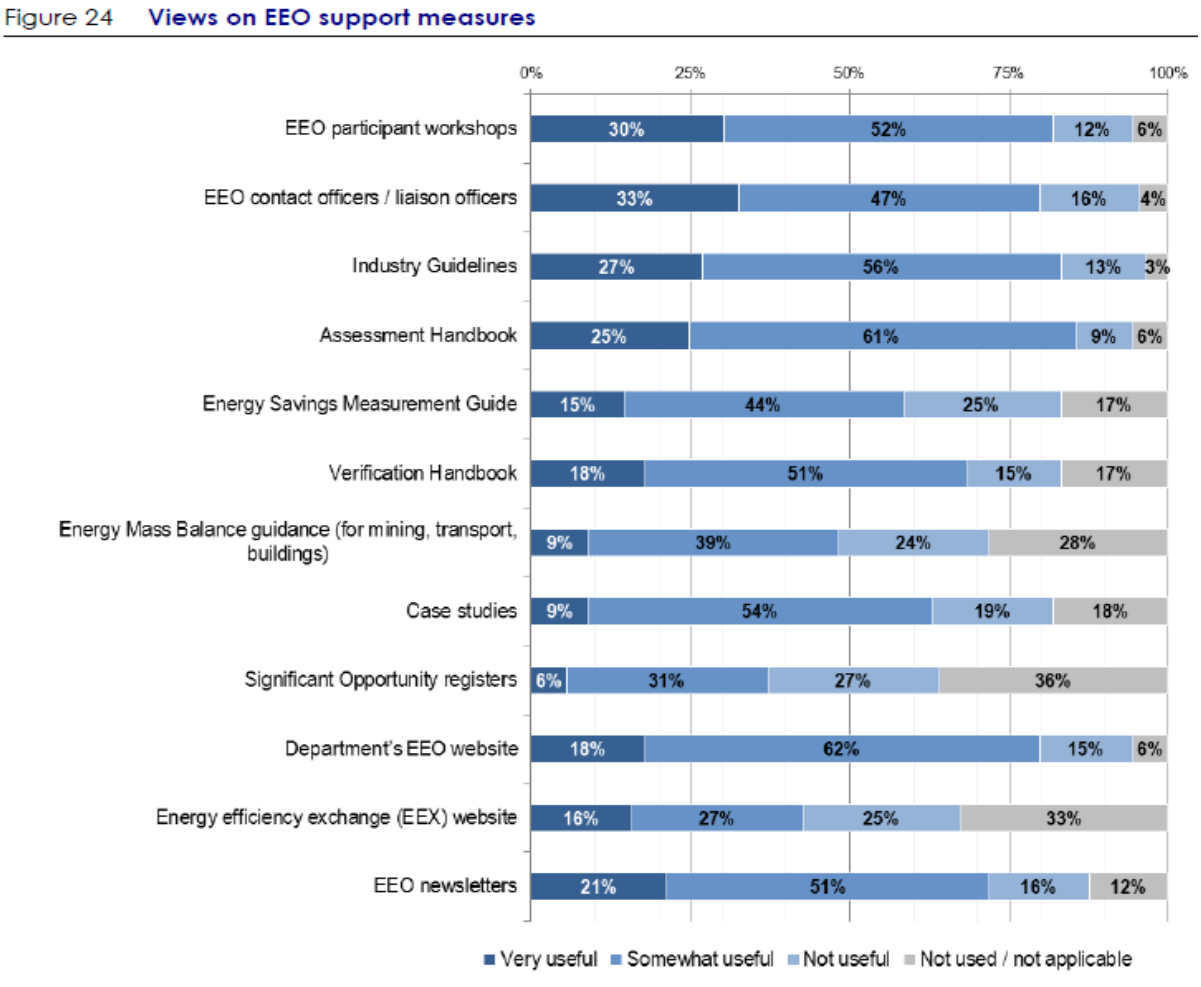
Clearly the overall approach adopted in EEO implementation was to facilitate participants to capture maximum benefit from the program. This has limited the 'regulatory burden'. Further, as documented in the Department of Industry presentation at the 2013 Melbourne EEO workshop, the EEO team has been actively working with participants to streamline and simplify compliance processes while maintaining the integrity of the program.

The government's Explanatory Memorandum also makes it clear that the scheme is considered very successful to date. Its argument is that it has now achieved its objectives, after only seven years.

It is useful to consider the role of a government program such as EEO. The EEO program and team's relationship with participants has some similarities to that of a parent and child. The parent and the EEO team both have the long term interests of their charges in mind, even when they make their lives hard. In this context, the strong opposition to EEO from some industry bodies may not be in their own or their members' interests, somewhat like a rebellious teenager, even though they strongly believe they would be better off without the scheme.

Energy efficiency is a complex and rapidly changing field. Even for experienced specialists, there are new lessons every day. For the less experienced, there are many 'unknown unknowns' as well as many 'known unknowns'. And the rapid rate of change means ongoing learning and support, innovation and sharing of experience are key requirements for success.

Figure 1. ACIL-Tasman survey respondent views on EEO support resources (p.84)



Source: ACIL Tasman survey of EEO Program participants (responses to question 15).

Flawed analysis of costs and benefits in Explanatory Memorandum

The cost-benefit analysis of options for EEO contained in the Explanatory Memorandum (EM) is seriously deficient and distorted.

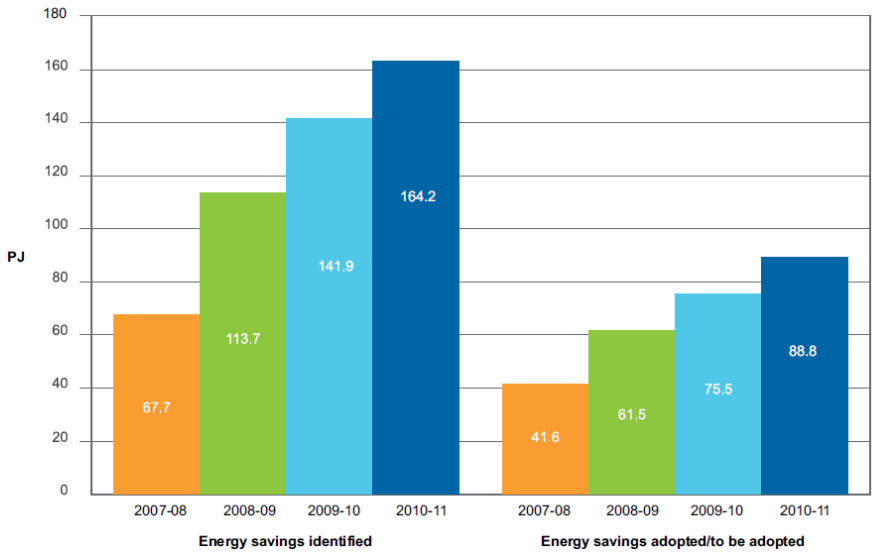
The EM's analysis of future costs and benefits of EEO assumes that repeal will lead to no reduction in achievement of energy savings, on the grounds that firms now have the capacity and the incentive to continue to act at the present level. That is, continuing EEO will deliver ZERO additional energy savings relative to repeal while ongoing compliance costs are expected to increase. Put another way, present EEO participants and growing businesses are expected to maintain and increase their present energy saving achievements without EEO.

No significant evidence is provided in the EM to support this assumption. In contrast, EEO reports have shown ongoing increases in implemented savings year on year for each cohort (Figure 2) and, even if reductions in future savings occur, EEO would continue to deliver substantial net economic benefits, as shown by the analysis presented later in this submission.

It is unrealistic to expect that the same level of savings will be achieved if EEO is repealed: this implies no back-tracking of savings activity at all will occur when the support services and compliance obligations of EEO are removed, as discussed below. It is obvious from the positive feedback noted above and later in this submission that loss of these factors would undermine future capability and motivation. EEO provides important support and external reporting pressures that maintain a focus on energy efficiency.

Figure 2. Trends in identified and adopted savings by EEO participants (from *Continuing Opportunities,* EEO 2012 p.4).

Figure 1 - Comparison of energy savings identified and adopted by corporations over the reporting years 2007–08 to 2010–11.



The EM acknowledges that, by the end of the first cycle of EEO, it was delivering a total of $323 million per annum of additional energy savings as of 2011 (40 percent of savings actually reported by participants as being due to EEO), a benefit:cost ratio of 3.67 and a carbon abatement cost of around minus $95 per tonne of emissions avoided (from the ACIL-Tasman end of first cycle review). This is a very positive benefit for participants. The cost of abatement (actually a large saving) is very impressive compared to likely abatement costs through the proposed Emission

Reduction Fund – likely to be a cost of $12-$20 per tonne of abatement paid by government, on top of implementation costs for successful bidders.

According to industry press releases (see appendix 2) and the EM, present EEO compliance costs for the 464 participating firms are $17.7 million per annum. This is equivalent to an average annual compliance cost of $38,000. ACIL-Tasman's estimate suggests an average annual compliance cost per participant of around $20,000 (p.70 estimates first 5-year cycle compliance costs at $95,000 per participant). This higher cost of compliance seems to be coincident with broadening of the scheme to include electricity generators and new development projects. The lifetime value of savings during design and construction of new developments is likely to be much larger than for existing businesses, so this higher compliance cost may unfairly distort perceptions of compliance costs for the majority of participants and overall program cost-effectiveness.

EEO data also shows that, in the first two years of participation, higher compliance costs are incurred as systems are put in place, but these decline over time. In any case, these tend to be offset by implementation of fast-payback energy saving measures that are identified early in the program.

Costs and Benefits of EEO

The Explanatory Memorandum's costing approach is described as:

"The options are measured in financial terms against the status quo, that is, the continued administration of the EEO Program. Options have been costed using the Commonwealth Regulatory Burden Measurement framework. The benefits of each option are stated in qualitative terms." (p.24)

In other words, the EM does not rigorously evaluate the financial benefits of maintaining EEO!

The EM summary of costs and benefits (p.26) estimates annual compliance costs of over $88,000 per participant (note that the value of $85,000 in the Table was corrected after the original publication), over four times more than ACIL-Tasman's estimate of actual average annual compliance costs in the first cycle. This discrepancy is not explained, and costs are more likely to fall, given ongoing efforts to streamline compliance, as discussed earlier.

If these forecast higher compliance costs are associated with new developments or new categories of participants, this may also reflect EEO influencing much larger capital investments, which could be expected to deliver much larger lifecycle energy savings.

The EM's cost-benefit analysis shows no financial benefits are expected from continuing EEO. **This implies an assumption that continuing EEO will deliver no energy or other savings compared with repeal.** This implies all former participants will capture all the savings they would have implemented under EEO if the scheme had continued. Yet the ACIL-Tasman study suggests substantial ongoing savings could reasonably be attributed to EEO if it continued, which is why it recommends continuing the program. This is ignored in the Explanatory Memorandum.

Apparently Australian industry is expected to be the first in the world to achieve an economically optimal rate of adoption of energy efficiency through a perfect market. After just seven years of the EEO program and decades of limited action! This can only be seen as miraculous – or absurd.

Modelling of EEO future savings

The following is an attempt to carry out a preliminary but more comprehensive analysis of benefits of EEO relative to costs. It is not intended to be definitive, but to show the kinds of variations in outcomes that can occur under different assumptions. It also highlights the extent of the shortcoming of the EM in failing to rigorously analyse potential future benefits of EEO.

This analysis considers four scenarios for each of two situations: for an EEO participant that joined at the start of the program, and for one that joined at the start of the second five-year cycle. The detailed assumptions and results of the analysis are in Appendix 1.

Some key issues explored in this analysis are:

- What is the impact of varying the compliance costs?
- How do varying assumptions about future energy savings levels under ongoing EEO and the repeal scenario affect cumulative benefits?
- What factors have the most significant impact on financial outcomes for an 'average' participant?

The four scenarios considered are:

1. EEO 'as is', that is ongoing savings and costs similar to those achieved under the first five year cycle
2. EEO with lower savings in the future and higher compliance costs
3. Repeal of EEO with the assumption of the same energy savings as in scenario 2
4. Repeal of EEO with lower savings than under EEO

Figures 3 and 4 show the overall results of the analysis; the cumulative net savings to an 'average' EEO participant. Note that overall program savings are 300 to 460 times this, depending on how many firms participate.

Figure 3. Discounted cumulative financial savings for an average participant joining EEO at the start of cycle 1 under four scenarios.

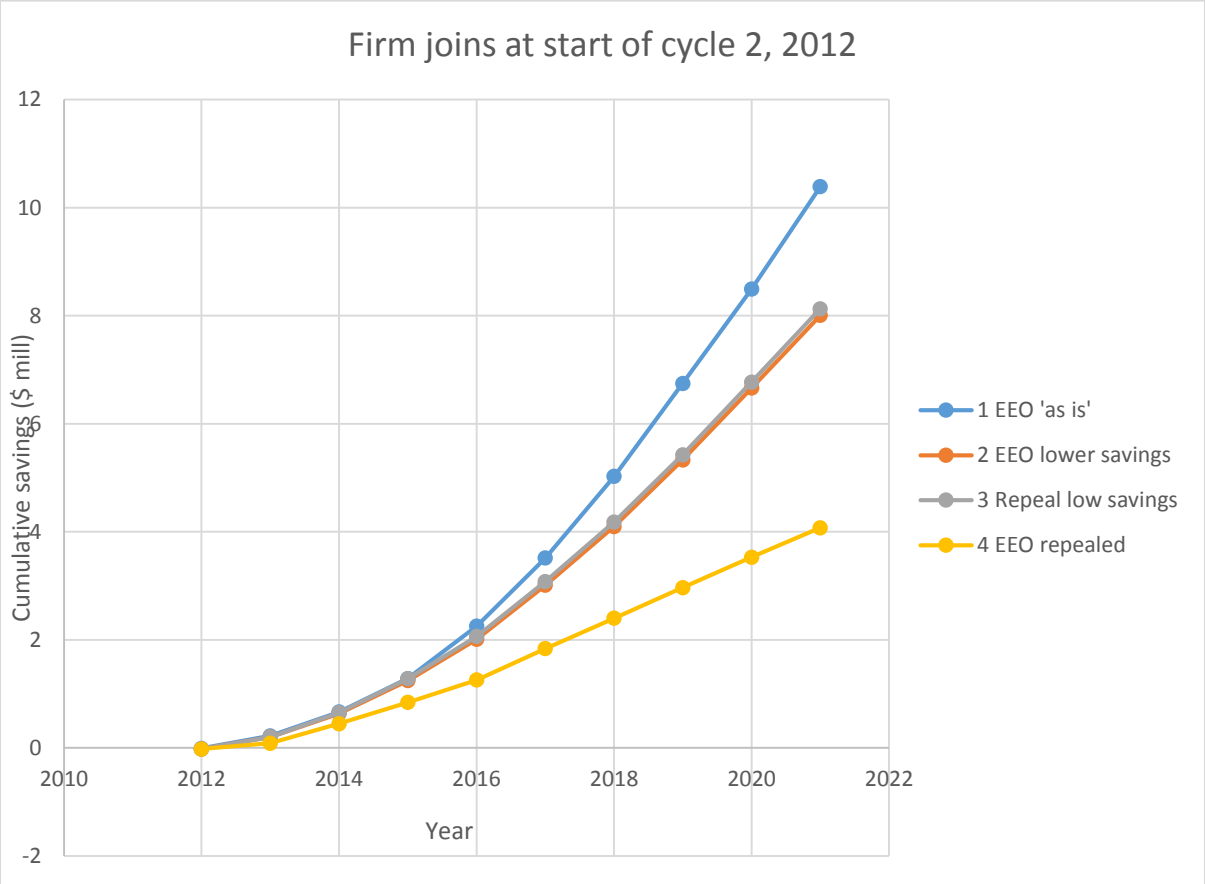
For a firm that began participating at the start of the program, the ongoing savings 'locked-in' in the early years tend to dominate the net outcome well into the future, because they are expected to continue saving energy for 10 years after implementation, while not adding to costs. So the impact of repeal tends to be masked until the third cycle of EEO.

Nevertheless, the cumulative difference between scenarios 1 and 4 in 2016, at the end of the second cycle, is around $1.1 million per average participant. Depending on the number of participants, this could be up to $500 million of energy savings for the whole program. **By the end of the third cycle, 2021, the cumulative difference in savings can be as much as $6.4 million – up to $3 billion for the overall program.**

The differences between scenarios 1, 3 and 4 in particular show the significance of assumptions about the level of savings that would be achieved after EEO is repealed. **Estimates of the level of savings have impacts that far outweigh the effect of changes in compliance costs.**

Scenarios 2 and 3 show that, if you assume the same level of savings with and without EEO, repeal does look slightly more attractive because compliance costs are avoided, but the difference is very small. **This comparison highlights the very small significance of compliance costs in the outcome, yet high compliance cost has been used as a major factor in the argument for repeal of EEO.**

Figure 4. Discounted cumulative financial savings under four scenarios for an average participant that joins at the start of the second five year cycle.



This comparison shows larger relative differences sooner between the continuation and repeal of EEO, as the ongoing common benefits of savings from the first five year cycle for all scenarios are removed. In this case, at the end of the second cycle, the difference in cumulative savings per

average participant between scenarios 1 and 4 are still around $1 million, but this is a much larger proportion of total savings. By the end of the third EEO cycle (the second cycle of participation for these firms), the cumulative gap between maintaining EEO and repealing it is $6.3 million per participant, close to the gap for participants participating from the start of the program.

This modelling highlights a number of issues:

- Sustaining energy saving effort over a longer period pays off, as the cumulative benefits build: for most energy efficiency measures, a 'once-off' investment delivers ongoing savings for some years. Failure to consider the lifetime savings of energy saving measures leads to large understatement of the benefits.
- Given the outcomes of scenarios 2 and 3, it is clear why the Explanatory Memorandum shows repeal of EEO has a net financial benefit. If you assume the same level of energy savings but a reduction in compliance costs, the participants are better off. But the benefit is very small compared with the potential benefits of continuing to capture larger savings under an effective EEO program (scenario 1).
- If repeal of EEO does lead to lower savings (scenario 4 compared with scenarios 1 and 2), the net financial loss to a participant is substantial over the period considered.

Overall, this analysis shows that the risk of a net financial loss through maintaining the EEO program is very small, while the potential loss from repeal is large, and is very sensitive to the extent to which future savings are reduced by repeal.

To suggest that, under the repeal scenario, savings would not be reduced is to suggest that loss of the popular and effective support services offered by the highly regarded EEO program, and the discipline of public reporting in maintaining management focus on energy efficiency, will have no effect at all on the level of savings. The Explanatory Memorandum provides no research evidence to support this view. In contrast, experience from the EEO program, extensive literature on barriers to energy efficiency, and AiG industry surveys presented later in this submission, suggest that serious barriers remain, and that EEO is an effective means of addressing them.

Benefits beyond energy savings

There is evidence that significant numbers of EEO participants have gained benefits from participation above and beyond the energy savings reported. These include outcomes such as:

- Improved worker productivity and morale
- Enhanced Occupational Health and Safety outcomes
- Improved communication within the organisation
- Improved product quality
- Improved productivity of plant and equipment, including improved reliability (and hence fewer interruptions to production) and optimisation of maintenance
- Avoided peak energy demand, which can reduce the required capacity and cost of plant and equipment, as well as reducing peak demand charges on energy bills
- Improved management effectiveness due to improved monitoring, reporting and analysis of performance
- Improved management of capital through better information on equipment performance and condition
- Training of staff, access to specialist expertise, increased capacity of service and equipment providers.

Several papers and a PhD thesis by Dr Patrick Crittendon demonstrate that such benefits were gained. Presentations by participants at EEO Workshops (available on the EEO website) confirm that participating firms recognised value from these outcomes, as described in *Industry Perspectives from the 2012 EEO Workshops* (EEO website, 2012). In practice, the value of these 'side benefits' is often far greater than the value of energy savings. The EM made no attempt to place a value on these real benefits.

Policy options considered in the Explanatory Memorandum

Three options were compared:

1. A claimed 'business as usual' EEO with 'substantial' compliance costs. This included a major expansion of the program, maintenance of implementation inefficiencies that have already been under review and a 'substantial' increase in compliance costs for no obvious reason, when a decline is more likely
2. Repeal of the EEO legislation
3. A revised EEO scheme targeting a smaller number of businesses using over 2 PJ of energy, with reduced compliance costs.

Essentially, options 1 and 3 are classic 'straw men' that are easily criticised and rejected in favour of option 2. As discussed earlier in this submission, the benefit:cost comparison failed to estimate and consider the benefits of options 1 and 3, based on the claim that they would give similar outcomes to the present situation. While market idealists may argue that there would be no reduction, anyone with real world experience would expect, and at least consider, such an outcome from such an effective program.

This analysis has not satisfied the COAG guidelines for evaluation of policy options. These guidelines require a far more comprehensive analysis of costs and benefits.

EEO at end of its useful life?

A key element of the case for repeal of EEO is that the program has served its purpose, and is no longer needed.

The Explanatory Memorandum (p.5) summarises this position:

"The Energy Efficiency Opportunities Program has been successful. It has lifted energy management capability and awareness significantly with many corporations reporting that key elements of the program are now standard business practice. With energy productivity now core business for many Australian industries, industry is best placed to define the right processes and make decisions on how best to manage energy within their businesses. The energy market has also changed – increasing energy prices, in particular electricity, have been the driver for better energy management. The need for such a regulatory response to improve energy management is no longer required."

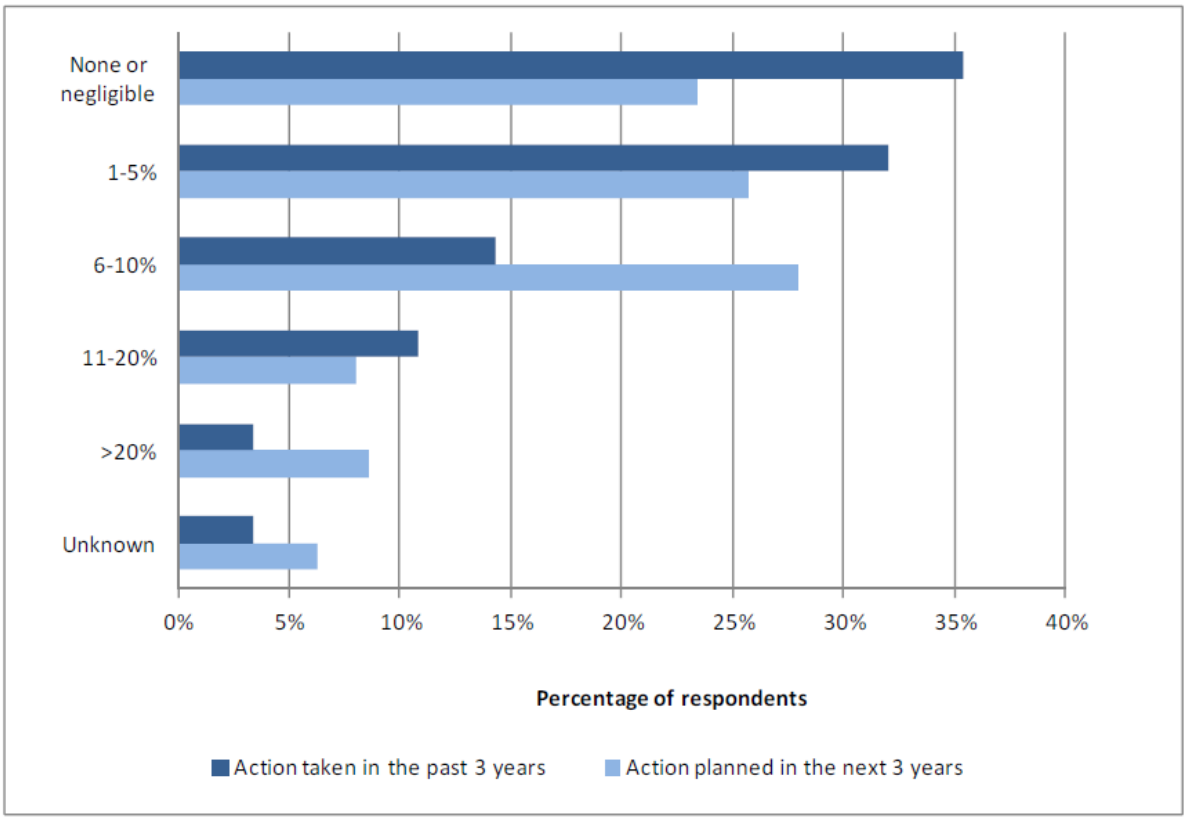
No solid evidence is presented to justify this claim. This shows a serious lack of grasp of the evolving nature of energy efficiency and the still large scope for ongoing improvement, as well as lacking recognition of the large proportions of businesses that are still at a very basic level of EE performance. It also fails to recognise the ongoing importance of the discipline of public accountability, as discussed below.

The suggestion by some industry associations and the Explanatory Memorandum that EEO and increasing energy prices have miraculously overcome all these barriers in a few years is simply absurd.

Figure 3 from an AiG 2012 survey report shows that even after substantial increases in energy prices half of the firms surveyed intend to do little or nothing to improve energy efficiency: and that survey was done when they were in fear of a 'devastating' carbon price on energy.

This outcome is consistent with the argument that EEO has an ongoing useful role in motivating and helping Australian industry to take stronger action to capture the benefits of energy efficiency improvement.

Figure 3. From AiG 2012 report *Energy Shock: pressure mounts for efficiency action*. This presents responses to a question on past action on energy efficiency relative to planned future action.



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Pressures for and against ongoing energy efficiency improvement

Business focus on energy efficiency

Those who have achieved least in energy efficiency improvement tend to be the most sceptical of its benefits. In many cases these people are senior business executives or economic policy analysts. This reflects their ignorance of the subtleties and complexities of energy efficiency, as reflected in many studies of the barriers to successful energy efficiency action – see for example, various International Energy Agency publications and the 2008 Garnaut climate change review. Also, some industry associations seem to be driven more by broader ideological agendas than advice from their members' internal staff and specialists about how businesses really work.

Over decades of consulting and engagement, I have found that the views of senior management and knowledgeable staff within their organisations regarding their energy efficiency performance are often very different – see comments on the importance of public reporting, below). In this context, it is interesting that AiG, who has closer links to actual site management issues than some other high

profile business groups, has not, to my knowledge (having checked many documents on their website), been publicly critical of maintaining EEO.

Many firms that engage effectively in energy efficiency discover that, the more improvements they make, and the better they understand their processes, the more savings they find. There need not be diminishing returns, as improving knowledge and advancing technology and management systems open up new opportunities. Further, technology, analytical techniques and management tools are all improving rapidly. An ongoing commitment to driving energy efficiency can help to capture ongoing benefits from these changes.

However, it is difficult to maintain such a commitment: energy is a 'non-urgent' relatively minor issue that is usually delegated to specialist groups that are not strongly linked to core management. It is easily swamped by other pressing challenges, even in energy intensive firms. Addressing barriers like this is one major role of EEO.

Public reporting

The EEO requirements for senior management sign-off and public reporting introduce an important element of discipline, accountability and empowerment on energy efficiency that has existed in few Australian firms in the past.

As one industry respondent to ACIL-Tasman's survey commented (p.88):

"EEO to be blunt allows me to stir senior management up on energy efficiency and keep its profile high. Without EEO and NGERS many of the Programs would not get off the ground and this has little to do with cost or benefit."

The ACIL-Tasman report (p.82) notes that industry views on public reporting varied widely:

> Reporting is an area that attracts considerable attention from EEO Program participants. Many corporations have strong views on the subject, both positive and negative. Examples of the former include corporations' representatives who said that public reporting provided significant impetus to their efforts to identify and implement energy efficiency opportunities. Some went so far as to argue that in the absence of public reporting their corporation would expend much less effort on energy efficiency.

The continuation of EEO's public reporting and verification activities offers an important mechanism to encourage business management to maintain a focus on energy efficiency performance, and to capture the resulting multiple benefits. Of course, some businesses intensely dislike public reporting, as it means shareholders and policy makers may be better informed.

Access to capital for EE

The Explanatory Memorandum (p.13) notes that an area where EEO has lacked success is "capital and non-capital barriers to implementation [which] have not declined as much over the period and in some cases have increased".

Many factors can influence this issue. For example, the Global Financial Crisis and high exchange rate apply pressures to businesses to limit capital investment and focus on rapid financial returns. Large investments in mining and resource processing have been confronted by declining export prices and high operating costs. Even though energy efficiency can help cut operating costs, short term strategies often focus on other areas such as cutting jobs, rearranging financing and selling off non-core assets. In many cases, these actions undermine the long-term viability of the business, but seem effective in the short term.

It may well be that linking EEO to financing mechanisms such as CEFC, ARENA and the Emission Reduction Fund could address this effectively by improving access to capital for energy efficiency measures while also helping to build internal capacity to identify and implement savings measures.

Overlap and duplication

The EM argues that EEO overlaps and duplicates other state and commonwealth programs. This argument is now out of date, due to the actual or foreshadowed closure of many programs (eg VEET, EEIG) and proposed removal of a carbon price.

The suggestion that NGERS and EEO measurement, monitoring and reporting duplicate each other shows a lack of understanding of these two schemes. Most of the EEO focus is on detailed diagnostic measurement, monitoring and analysis of local process scale energy and material flows. NGERS operates at a much broader level. Similarly the focus of EEO reporting is on measures identified and actions taken. NGERS focuses more on energy use and emissions at site or business level.

Claimed duplication between NABERS and EEO in the commercial sector is also questionable. NABERS rates overall annualised energy-related greenhouse gas emissions at a building and/or tenant level. While it provides a market incentive (a higher star rating) for efficiency improvement, the rating system itself does not facilitate specific actions. EEO supports identification, evaluation and implementation of specific measures. In any case, NABERS can be used as one element of EEO compliance. It also applies only to a limited range of commercial building types. The Commercial Building Disclosure scheme only applies to office buildings at present, and relies on NABERS and a lighting calculator: these can be used for EEO compliance.

It is pleasing to see that the government plans to explore options for improving energy productivity in its Energy White Paper process. But surely it would make more sense to leave EEO in place until that process is completed, instead of creating yet another ‘stop-start’ confusing policy mess for Australian business to cope with.

The government also seems to think the Emissions Reduction Fund could replace some elements of EEO. While it may provide funding for EE measures, ERF relies upon previous actions by bidders to identify EE measures, and prepare a quality business case for their implementation. EEO provides the tools and framework to do this, so it is a complement to ERF. Indeed, funding available through ERF could help to improve the effectiveness of EEO while EEO could help ERF to attract quality bids. The two programs are a natural fit.

Influence of energy prices

The EM adopts varying attitudes to the role of energy prices in influencing energy efficiency improvement.

On one hand, it argues that increasing energy prices will keep business focused on energy efficiency – indeed, it is implied a perfect market will emerge. It then hedges its bets by considering what might happen if prices decrease:

“If energy prices were to decrease in the future, a significant proportion of businesses have developed improved capacity to address energy management as part of the overall productivity of the business. This would negate the need for the EEO legislation to be re-introduced in its existing form. Information failures or asymmetries are affected by a range of factors other than changing energy prices. Therefore supporting information would still be made available for those businesses that wished to access it.”

So energy prices are not the only important factors driving energy efficiency? If so, how can the EM assume all businesses will optimally pursue energy efficiency in its cost-benefit analysis, which it does by assuming that maintaining EEO will save no additional energy relative to repeal?

I agree that energy prices are just one factor affecting pursuit of energy efficiency. Indeed, EEO is one of the most successful programs globally to overcome some major market failures related to industrial energy efficiency. So why shut it down before the Energy White Paper process comes up with an effective alternative, or world leaders discuss energy efficiency at the G20 meeting later this year?

Recent experience has suggested that, if energy prices increase significantly, at least some operators of older energy intensive industrial facilities will simply move activity overseas, rather than attempt to improve energy efficiency to offset price increases. EEO provides a mechanism to at least help them to identify and evaluate options to maintain the viability of their Australian plants.

Estimation of value of energy savings from EEO

ACIL-Tasman's discounting of savings attributed to EEO by 60 percent from the original 2011 EEO estimate reflects an attempt to adjust for the effects of other factors such as increasing energy prices. However, this adjustment may be excessive, for a number of reasons.

This 60 percent downward adjustment is based on response to its survey, which found 36 percent of respondents relied on EEO for savings, while 52 percent relied on a number of approaches including EEO. So discounting credit for savings by 60 percent really means EEO is given very little credit for savings achieved by participants other than the 36 percent that gave it full credit. So it is a rather arbitrary decision. If, for example, it was assumed that the respondents who relied on multiple techniques relied equally on (say) three approaches, then a third of their energy savings would be credited to EEO and a discount factor of 50 percent instead of 60 percent could be applied with an equally justifiable rationale.

This approach to discounting EEO savings, which applies equal weight to all survey respondents, also fails to take into account the possibility that respondents have widely varying energy consumption. A few large (or many small) energy users that relied heavily on EEO could swing the proportion of actual energy savings due to EEO in either direction.

Further points following show that EEO upskilling and monitoring infrastructure investments may have underpinned the capacity of other measures to drive savings, so that other influences, techniques and programs may not have been able to deliver savings without EEO.

Before EEO, most firms did not have the measurement and monitoring equipment and staff skills and capacity to analyse energy use in sufficient detail to identify savings potential and produce a credible business case that would meet the standards expected by finance departments. In many cases, firms saw energy as a non-controllable cost. During the EEO program many firms were very reluctant to invest in improved monitoring, as it did not directly save money. But without such infrastructure, it is very difficult to identify energy waste and estimate the business benefits of change! A classic 'catch 22'. This problem is still widespread, but EEO has addressed it more effectively than other programs.

Other potential facilitative roles EEO plays include:

- While complying with EEO, process changes were often made that allowed plant operation levels to be varied (eg variable speed drives on motors) and sensors were installed to track performance in 'real time'. Previously, many items of equipment were left operating

unnecessarily, operated at higher levels than necessary, or even used crude valves and dampers that varied output but increased energy consumption. EEO made better management possible.

- Lack of communication across 'silos' in firms meant that energy was often wasted. EEO specifically targeted this issue, as recognised by ACIL-Tasman.
- Even for many 'energy intensive' industries, energy is a relatively small proportion of total input costs (see AiG, 2012). For example, some aluminium smelters have been paying around 3 cents per kilowatt-hour for electricity, compared with 25 cents for households. Not only does this reduce the significance of energy to their bottom line, but it has traditionally made it more difficult to demonstrate a business case for energy efficiency measures. This has built a culture that tends to undervalue the potential benefits of energy efficiency. This history has entrenched energy inefficiency in many firms.
- EEO encourages firms to look at the detail of their energy contracts. Often these are long-term and include provisions that penalise energy efficiency. Changes can free up potential to capture value from energy saving actions. The features of energy contracts often lead to disempowerment and the assumption that energy costs cannot be managed in the short to medium term. But when contracts are re-negotiated, the value of flexibility is often ignored in the search for low costs under existing circumstances.
- Staff often perceive risks in implementing energy efficiency measures they are unfamiliar with, as making changes to production processes can lead to costly production interruptions or 'teething troubles' that can adversely affect personal reputation. EEO has helped to overcome these perceptions of risk by building networks, raising awareness of new solutions and encouraging sharing of experiences of innovative approaches and ways of overcoming or avoiding problems.

So, without EEO, many businesses simply could not have responded effectively to substantially improve energy efficiency to manage the impacts of increases in energy prices or in response to many other programs. They did not have the physical or organisational infrastructure. On this basis, I argue that the impressive savings attributed to EEO to date actually underestimate its actual benefits to a substantial extent. This makes the proposed repeal of the program even more risky and damaging to Australian business success.

Australia's energy efficiency vacuum

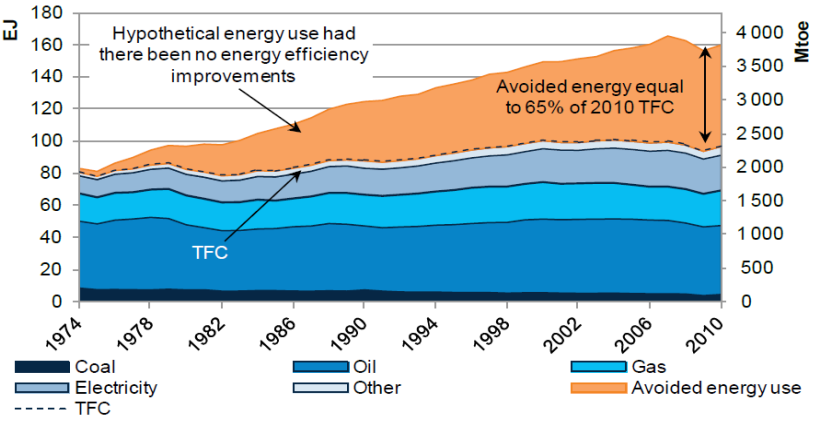
Around the world, there is unanimous agreement that energy efficiency is the central strategy to cut energy costs, reduce greenhouse gas emissions and air pollution. It is also a key element of innovation and, in turn, future competitiveness. The International Energy Agency has pointed out that, across developed countries, energy efficiency (in fact energy intensity per unit of GDP) estimated from a baseline of 1973 is now the biggest source of 'energy supply', as shown in Figure 4.

Yet In Australia, we focus on the supply side, while energy efficiency struggles with limited funding and little top-level government or business commitment and leadership. This strategy is increasingly risky, as rapid and uncertain change may leave expensive energy infrastructure under-utilised. Managing energy efficiency is a lower risk, lower cost option.

Australia must shift priorities toward energy efficiency – or energy productivity if that name is preferred, as a matter of urgency. Hopefully the Energy White Paper process will address this issue. However, if government is not prepared to apply the full range of policy tools, including regulation, removal of existing subsidies that encourage energy waste, and energy pricing, it will have limited impact.

Figure 4. Role of OECD energy efficiency in recent history (IEA *Energy Efficiency Markets Review Summary* 2011)

Figure ES.2 The "first fuel": avoided energy use from energy efficiency in 11 IEA member countries



Notes: TFC = total final consumption. The 11 countries are Australia, Denmark, Finland, France, Germany, Italy, Japan, the Netherlands, Sweden, the United Kingdom and the United States, those for which sufficient data is available to undertake analysis. "Other" includes biofuels plus heat from geothermal, solar, co-generation and district heating. Co-generation refers to the combined production of heat and power.

Source: IEA indicators database.

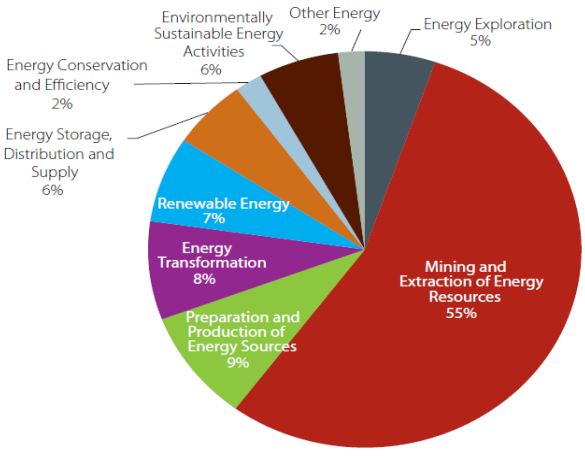
Energy efficiency R&D

R&D is not a direct focus of EEO. However, they are linked. EEO applies pressure for service and product suppliers to innovate and build new skills. The experience and expectations of large customers drive cost reduction, product and service improvement. Innovations often provide new potential to achieve higher energy efficiency in equipment performance, process design and management – often as an unexpected but welcome side-benefit. EEO helps to increase adoption, which makes future innovation more attractive.

Australia's performance of energy efficiency R&D is poor, as shown in Figure 3. EEO potentially provides a useful means of increasing R&D in energy efficiency and related areas. This could be enhanced by cooperative arrangements with other programs such as the ERF.

Figure 3. Breakdown of Australian private sector energy R&D expenditure (BREE *Energy in Australia 2013* p. 113) Total $2.722 billion in 2009-10 (ABS 4655.0.55.002 - Information Paper: Towards the Australian Environmental-Economic Accounts, 2013)

Figure 36: Australian business energy R&D, by objective, 2010-11



Source: ABS 2012, Research and Experimental Development, Businesses, Australia, cat. no. 8104.0.

Appendix 1 Modelling of EEO energy savings

Four scenarios were modelled for two cases; an 'average' firm that began EEO in its first year, and a firm that began EEO in the first year of cycle 2. The scenarios were:

- EEO savings continuing as in cycle 1, with a progressive lengthening of the payback period of new measures from 2 years to 3 years.
- A 'conservative' EEO scenario where annual additional savings decline over time while payback period for measures increases
- An estimate of savings for an EEO repeal at end of 2013-14 with the same assumptions as scenario 2.
- A scenario for repeal in which energy savings are significantly lower than earlier scenarios, to illustrate the impact of repeal leading to lower savings than proposed in the Explanatory Memorandum.

Assumptions included:

- An average EEO participant consumed 7.3 PJ in 2010-11, based on EEO's estimate that the 252 firms that reported consumed 1834 PJ
- Annual additional EEO saving based on the average annual increase in savings over the first cycle: 0.072 PJ/year (see Fig 2: 88.8 PJ of savings over the five years of the first cycle from 247 firms reporting – this excludes 5 of the 252 firms included by EEO). This is equivalent to approximately a 15% saving above 'BAU savings' over the 15 years considered, which is a modest increase relative to typical rates of energy efficiency improvement from international studies. BREE (2012) report on energy intensity states that between 1989-90 to 2009-10 Australian manufacturing improved its efficiency by 0.7% pa, transport at 0.6% pa and mining energy efficiency declined by 2.3% pa. It is sometimes argued (eg NSEE) that Australian industry's rate of energy efficiency improvement has been slower than in many other countries.
- The savings are evaluated over 3 cycles of EEO for one option, and the last two cycles for the second option
- Value of energy savings per PJ of EEO savings $10.4 million per PJ and energy prices (p.28 Table 9, *EEO Program – the First Five years: 2006-2011* (2013)) maintained at constant real price. This is the value estimated by EEO analysis. It includes some non-energy financial benefits identified by each firm, such as reduced waste disposal costs.
- Real discount rate on net annual additional savings 7% pa (real)
- Average life of each energy saving measure of 10 years. In practice, there is wide variation, but this is a reasonable value based on experience
- Average simple payback period is typically under 2 years for EEO. Typically early years focus on short payback measures, so the initial years of action include measures with payback periods of 1 and 1.5 years, while in the third cycle, payback period extends in steps.

Tables A1 to A4 show the actual data and results.

The scenarios show outcomes for a range of savings attributable to EEO or equivalent savings activity. The impact on net savings of variations in compliance costs is very small, so the scenarios mainly show the impact on potential financial savings resulting from varying assumptions about the level of savings relative to a 'zero savings' (beyond what would otherwise have occurred).

It can be seen that the judgement about the scale of change business energy saving action between ongoing EEO and its repeal dominates the outcomes.

As discussed earlier in this submission, to assume no reduction in energy savings from repeal of the EEO program is to assume a high level of competence and commitment from business, well beyond that of most businesses, and well above historical rates of efficiency improvement. While some EEO participants are certainly well positioned to continue to apply EEO-type action, both the ACIL-Tasman review and AiG surveys suggest many will either not reach full EEO average outcomes, while others will downgrade focus on energy efficiency when the support and compliance features of EEO are removed.

It can be seen that only a very low level of additional savings from an ongoing EEO are needed to achieve cost-effectiveness. Further, many of the benefits of EEO go beyond energy costs, while some EEO measures are necessary to underpin ongoing non-EEO savings.

On this basis, the modelling in the Explanatory Memorandum is clearly flawed, as it simply assumes the future savings will be the same for both ongoing EEO and repeal of EEO.

TABLE A1. Average EEO participant that joins at start of program (cycle 1)

SCENARIO 1 'as is'	cycle 1					cycle 2					cycle 3				
year (end of fin year)	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
annual extra saving $mill	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
total annual saving $mill	0.75	1.5	2.25	3	3.75	4.5	5.25	6	6.75	7.5	7.5	7.5	7.5	7.5	7.5
implementation cost $mill	-0.75	-1.125	-1.5	-1.5	-1.5	-1.5	-1.5	-1.5	-1.875	-1.875	-1.875	-1.875	-1.875	-2.25	-2.25
compliance cost $mill	-0.02	-0.02	-0.02	-0.02	-0.02	-0.016	-0.016	-0.016	-0.016	-0.016	-0.016	-0.016	-0.016	-0.016	-0.016
Net annual saving $mill	**-0.02**	**0.355**	**0.73**	**1.48**	**2.23**	**2.984**	**3.734**	**4.484**	**4.859**	**5.609**	**5.609**	**5.609**	**5.609**	**5.234**	**5.234**
Cumulative saving $mill	-0.02	0.335	1.065	2.545	4.775	7.759	11.493	15.977	20.836	26.445	32.054	37.663	43.272	48.506	53.74
assumed payback period	1	1.5	2	2	2	2	2	2	2.5	2.5	2.5	2.5	2.5	3	3
	fast payback measures done first								measures over 10 years old no longer save money						
discount rate (real)	7														
	1	0.930	0.865	0.804	0.748	0.696	0.647	0.602	0.560	0.520	0.484	0.450	0.419	0.389	0.362
Discounted net ann saving	-0.02	0.330	0.631	1.190	1.668	2.076	2.416	2.698	2.719	2.919	2.715	2.525	2.348	2.038	1.895
Discounted cumulative saving	-0.02	0.310	0.942	2.132	3.800	5.876	8.292	10.990	13.709	16.628	19.343	21.867	24.215	26.253	28.148

SCENARIO 2 EEO lower savings	cycle 1					cycle 2					cycle 3				
year (end of fin year)	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
annual extra saving $mill	0.75	0.75	0.75	0.75	0.75	0.7	0.65	0.6	0.55	0.5	0.45	0.4	0.35	0.3	0.25
total annual saving $mill	0.75	1.5	2.25	3	3.75	4.45	5.1	5.7	6.25	6.75	6.45	6.1	5.7	5.25	4.75
implementation cost $mill	-0.75	-1.125	-1.5	-1.5	-1.5	-1.75	-1.625	-1.5	-1.65	-1.5	-1.35	-1.4	-1.225	-1.05	-1
compliance cost $mill	-0.04	-0.04	-0.04	-0.04	-0.04	-0.032	-0.032	-0.032	-0.032	-0.032	-0.032	-0.032	-0.032	-0.032	-0.032
Net annual saving $mill	**-0.04**	**0.335**	**0.71**	**1.46**	**2.21**	**2.668**	**3.443**	**4.168**	**4.568**	**5.218**	**5.068**	**4.668**	**4.443**	**4.168**	**3.718**
Cumulative saving $mill	-0.04	0.295	1.005	2.465	4.675	7.343	10.786	14.954	19.522	24.74	29.808	34.476	38.919	43.087	46.805
assumed payback period	1	1.5	2	2	2	2.5	2.5	2.5	3	3	3	3.5	3.5	3.5	4
	fast payback measures done first								measures over 10 years old no longer save money						
discount rate (real)	7														
	1	0.930	0.865	0.804	0.748	0.696	0.647	0.602	0.560	0.520	0.484	0.450	0.419	0.389	0.362
Discounted net ann saving	-0.04	0.312	0.614	1.174	1.653	1.856	2.228	2.508	2.556	2.716	2.453	2.101	1.860	1.623	1.346
Discounted cumulative saving	-0.04	0.272	0.886	2.060	3.713	5.569	7.797	10.305	12.861	15.576	18.029	20.130	21.990	23.613	24.959

SCENARIO 3 Repeal no change	cycle 1					cycle 2					cycle 3				
year (end of fin year)	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
annual extra saving $mill	0.75	0.75	0.75	0.75	0.75	0.7	0.65	0.6	0.55	0.5	0.45	0.4	0.35	0.3	0.25
total annual saving $mill	0.75	1.5	2.25	3	3.75	4.45	5.1	5.7	6.25	6.75	6.45	6.1	5.7	5.25	4.75
implementation cost $mill	-0.75	-1.125	-1.5	-1.5	-1.5	-1.75	-1.625	-1.5	-1.65	-1.5	-1.35	-1.4	-1.225	-1.05	-1
compliance cost $mill	-0.04	-0.04	-0.04	-0.04	-0.04	-0.032	-0.032	0	0	0	0	0	0	0	0
Net annual saving $mill	**-0.04**	**0.335**	**0.71**	**1.46**	**2.21**	**2.668**	**3.443**	**4.2**	**4.6**	**5.25**	**5.1**	**4.7**	**4.475**	**4.2**	**3.75**
Cumulative saving $mill	-0.04	0.295	1.005	2.465	4.675	7.343	10.786	14.986	19.586	24.836	29.936	34.636	39.111	43.311	47.061
assumed payback period	1	1.5	2	2	2	2.5	2.5	2.5	3	3	3	3.5	3.5	3.5	4
	fast payback measures done first								measures over 10 years old no longer save money						
discount rate (real)	7														
	1	0.930	0.865	0.804	0.748	0.696	0.647	0.602	0.560	0.520	0.484	0.450	0.419	0.389	0.362
Discounted net ann saving	-0.04	0.312	0.614	1.174	1.653	1.856	2.228	2.527	2.574	2.732	2.468	2.115	1.873	1.635	1.358
Discounted cumulative saving	-0.04	0.272	0.886	2.060	3.713	5.569	7.797	10.324	12.898	15.630	18.099	20.214	22.087	23.722	25.080

Scenario 4 EEO repealed	cycle 1					cycle 2		repeal			cycle 3				
year (end of fin year)	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
annual extra saving $mill	0.75	0.75	0.75	0.75	0.75	0.4	0.4	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1
total annual saving $mill	0.75	1.5	2.25	3	3.75	4.15	4.55	4.75	4.95	5.15	4.5	3.85	3.2	2.55	1.9
implementation cost $mill	-0.75	-1.125	-1.5	-1.5	-1.5	-1	-1	-0.5	-0.6	-0.6	-0.3	-0.35	-0.35	-0.35	-0.4
compliance cost $mill	-0.04	-0.04	-0.04	-0.04	-0.04	-0.032	-0.032	0	0	0	0	0	0	0	0
Net annual saving $mill	**-0.04**	**0.335**	**0.71**	**1.46**	**2.21**	**3.118**	**3.518**	**4.25**	**4.35**	**4.55**	**4.2**	**3.5**	**2.85**	**2.2**	**1.5**
Cumulative saving $mill	-0.04	0.295	1.005	2.465	4.675	7.793	11.311	15.561	19.911	24.461	28.661	32.161	35.011	37.211	38.711
assumed payback period	1	1.5	2	2	2	2.5	2.5	2.5	3	3	3	3.5	3.5	3.5	4
	assume savings from new measures decline, especially when payback period reaches 4 years														
discount rate (real)	7														
	1	0.930	0.865	0.804	0.748	0.696	0.647	0.602	0.560	0.520	0.484	0.450	0.419	0.389	0.362
Discounted net ann saving	-0.04	0.312	0.614	1.174	1.653	2.169	2.276	2.557	2.434	2.368	2.033	1.575	1.193	0.856	0.543
Discounted cumulative saving	-0.04	0.272	0.886	2.060	3.713	5.882	8.158	10.716	13.150	15.518	17.550	19.126	20.319	21.175	21.718

TABLE A2. Average EEO participant that joins at start of second cycle.

SCENARIO 1 'as is'	cycle 1					cycle 2					cycle 3				
year (end of fin year)	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
annual extra saving $mill	0	0	0	0	0	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75	0.75
total annual saving $mill	0	0	0	0	0	0.75	1.5	2.25	3	3.75	4.5	5.25	6	6.75	7.5
implementation cost $mill	0	0	0	0	0	-0.75	-1.125	-1.5	-1.875	-1.875	-1.875	-1.875	-1.875	-2.25	-2.25
compliance cost $mill	0	0	0	0	0	-0.016	-0.016	-0.016	-0.016	-0.016	-0.016	-0.016	-0.016	-0.016	-0.016
Net annual saving $mill	**0**	**0**	**0**	**0**	**0**	**-0.016**	**0.359**	**0.734**	**1.109**	**1.859**	**2.609**	**3.359**	**4.109**	**4.484**	**5.234**
Cumulative saving $mill	0	0	0	0	0	-0.016	0.343	1.077	2.186	4.045	6.654	10.013	14.122	18.606	23.84
assumed payback period	0	0	0	0	0	1	1.5	2	2.5	2.5	2.5	2.5	2.5	3	3
	fast payback measures done first									measures over 10 years old no longer save money					
discount rate (real)	7														
	1	0.93	0.865	0.804	0.748	0.696	0.647	0.602	0.560	0.520	0.484	0.450	0.419	0.389	0.362
Discounted net ann saving	0	0	0.000	0.000	0.000	-0.011	0.232	0.442	0.621	0.967	1.263	1.512	1.720	1.746	1.895
Discounted cumulative saving	0	0	0.000	0.000	0.000	-0.011	0.221	0.663	1.283	2.251	3.514	5.025	6.745	8.491	10.386

SCENARIO 2 EEO lower savings	cycle 1					cycle 2					cycle 3				
year (end of fin year)	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
annual extra saving $mill	0	0	0	0	0	0.7	0.65	0.6	0.55	0.5	0.45	0.4	0.35	0.3	0.25
total annual saving $mill	0	0	0	0	0	0.7	1.35	1.95	2.5	3	3.45	3.85	4.2	4.5	4.75
implementation cost $mill	0	0	0	0	0	-0.7	-0.975	-1.2	-1.375	-1.5	-1.35	-1.4	-1.225	-1.05	-1
compliance cost $mill	0	0	0	0	0	-0.032	-0.032	-0.032	-0.032	-0.032	-0.032	-0.032	-0.032	-0.032	-0.032
Net annual saving $mill	**0**	**0**	**0**	**0**	**0**	**-0.032**	**0.343**	**0.718**	**1.093**	**1.468**	**2.068**	**2.418**	**2.943**	**3.418**	**3.718**
Cumulative saving $mill	0	0	0	0	0	-0.032	0.311	1.029	2.122	3.59	5.658	8.076	11.019	14.437	18.155
assumed payback period	0	0	0	0	0	1	1.5	2	2.5	3	3	3.5	3.5	3.5	4
	fast payback measures done first									measures over 10 years old no longer save money					
discount rate (real)	7														
	1	0.93	0.865	0.804	0.748	0.696	0.647	0.602	0.560	0.520	0.484	0.450	0.419	0.389	0.362
Discounted net ann saving	0	0	0	0	0	-0.022	0.222	0.432	0.612	0.764	1.001	1.088	1.232	1.331	1.346
Discounted cumulative saving	0	0	0	0	0	-0.022	0.200	0.632	1.243	2.007	3.008	4.096	5.328	6.659	8.005

SCENARIO 3 Repeal no change	cycle 1					cycle 2					cycle 3				
year (end of fin year)	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
annual extra saving $mill	0	0	0	0	0	0.7	0.65	0.6	0.55	0.5	0.45	0.4	0.35	0.3	0.25
total annual saving $mill	0	0	0	0	0	0.7	1.35	1.95	2.5	3	3.45	3.85	4.2	4.5	4.75
implementation cost $mill	0	0	0	0	0	-0.7	-0.975	-1.2	-1.375	-1.5	-1.35	-1.4	-1.225	-1.05	-1
compliance cost $mill	0	0	0	0	0	-0.032	-0.032	0	0	0	0	0	0	0	0
Net annual saving $mill	**0**	**0**	**0**	**0**	**0**	**-0.032**	**0.343**	**0.75**	**1.125**	**1.5**	**2.1**	**2.45**	**2.975**	**3.45**	**3.75**
Cumulative saving $mill	0	0	0	0	0	-0.032	0.311	1.061	2.186	3.686	5.786	8.236	11.211	14.661	18.411
assumed payback period	0	0	0	0	0	1	1.5	2	2.5	3	3	3.5	3.5	3.5	4
	fast payback measures done first									measures over 10 years old no longer save money					
discount rate (real)	7														
	1	0.93	0.865	0.804	0.748	0.696	0.647	0.602	0.560	0.520	0.484	0.450	0.419	0.389	0.362
Discounted net ann saving	0	0	0	0	0	-0.022	0.222	0.451	0.630	0.781	1.016	1.103	1.245	1.343	1.358
Discounted cumulative saving	0	0	0	0	0	-0.022	0.200	0.651	1.280	2.061	3.077	4.180	5.426	6.769	8.126

Scenario 4 EEO repealed	cycle 1					cycle 2		repeal			cycle 3				
year (end of fin year)	**2007**	**2008**	**2009**	**2010**	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**	**2019**	**2020**	**2021**
annual extra saving $mill	0	0	0	0	0	0.4	0.4	0.2	0.2	0.2	0.1	0.1	0.1	0.1	0.1
total annual saving $mill	0	0	0	0	0	0.4	0.8	1	1.2	1.4	1.5	1.6	1.7	1.8	1.9
implementation cost $mill	0	0	0	0	0	-0.4	-0.6	-0.4	-0.5	-0.6	-0.3	-0.35	-0.35	-0.35	-0.4
compliance cost $mill	0	0	0	0	0	-0.032	-0.032	0	0	0	0	0	0	0	0
Net annual saving $mill	**0**	**0**	**0**	**0**	**0**	**-0.032**	**0.168**	**0.6**	**0.7**	**0.8**	**1.2**	**1.25**	**1.35**	**1.45**	**1.5**
Cumulative saving $mill	0	0	0	0	0	-0.032	0.136	0.736	1.436	2.236	3.436	4.686	6.036	7.486	8.986
assumed payback period	0	0	0	0	0	1	1.5	2	2.5	3	3	3.5	3.5	3.5	4
						assume savings from new measures decline, especially when payback period reaches 4 years									
discount rate (real)	7														
	1	0.93	0.865	0.804	0.748	0.696	0.647	0.602	0.560	0.520	0.484	0.450	0.419	0.389	0.362
Discounted net ann saving	0	0	0	0	0	-0.022	0.109	0.361	0.392	0.416	0.581	0.563	0.565	0.564	0.543
Discounted cumulative saving	0	0	0	0	0	-0.022	0.086	0.447	0.839	1.255	1.836	2.399	2.964	3.528	4.072

Appendix 2. Copies of industry association press releases

appea the voice of australia's oil and gas industry

Media Release

15 May 2014

APPEA welcomes proposed repeal of EEO Programme

The oil and gas industry welcomes the Australian Government's plan to cut unnecessary regulation by repealing the Energy Efficiency Opportunities (EEO) Program.

APPEA Chief Executive David Byers said: "The Australian oil and gas industry has long maintained that the EEO imposes a range of unnecessary administrative and compliance costs on participants that do nothing to enhance energy efficiency. These costs can approach $500,000 a year for some companies.

"The repeal is consistent with the Government's commitment to reduce unnecessary regulatory burdens on Australia industry."

The EEO requires large energy-using businesses to assess their energy use and to identify and report on cost-effective energy savings opportunities. The Australian Government has introduced a Bill to repeal the EEO Program and the *Energy Efficiency Opportunities Act 2006*.

Mr Byers said: "Oil and gas companies – and indeed companies in many other industries – already have strong business reasons for minimising their energy use."

As the Department of Industry notes in its Regulation Impact Statement on the repeal of the EEO legislation: "Rising energy prices and the improvement of internal energy management processes have reduced the need for the EEO legislation. Repealing the legislation would reduce the compliance costs of the 464 participating businesses by over $17 million per year."

As a major energy producer, the oil and gas industry has a long history of reducing the energy intensity of its activities and increasing the efficiency of its energy production.

APPEA member companies already have broad-ranging energy management policies, systems and measurement indicators that are integral to their operational performance.

The EEO Program and other similar schemes reflect a misunderstanding and under-estimation of the powerful incentives for energy efficiency that oil and gas companies face.

For example, in domestic gas processing plants and liquefied natural gas export plants, fuel used to power various processes is often derived from the natural gas itself. Any gas used as an energy source at the facility cannot be sold to customers. Therefore, using natural gas to produce energy at the facility has a very direct opportunity cost – a unit of gas that can be saved through reducing energy use is a unit of gas that can then be sold.

Media contact: Chris Ward 0408 033 422 or cward@appea.com.au

MANUFACTURINGAUSTRALIA | Media Release

EEO repeal a win for common sense

Manufacturing Australia (MA) welcomes the Federal Government's decision to repeal the Energy Efficiency Opportunities (EEO) programme as part of its commitment to cutting unnecessary regulation.

MA Executive Director, Ben Eade, said today that the programme had passed its use by date and was doing nothing to improve energy efficiency, despite costing manufacturers millions of dollars to administer.

"With energy costs rising, Australia's large manufacturers are already doing everything they can to improve energy efficiency and keep their bills down for commercial reasons." Mr Eade said.

"EEO is not driving further energy efficiency. Instead, it is driving up red tape and compliance burden for manufacturers, with some companies paying up to half a million dollars in administrative costs."

Mr Eade said he was encouraged by the Federal Government's focus on relieving the red tape and regulatory burden on Australian industry, and urge the the government to do more.

"Rather than asking what should governments do to help manufacturers, often we should be asking what should our State and Federal governments ***stop*** doing in order to help Australian manufacturers," he said.

"Inefficient, costly and ineffective regulations stunt productivity and impede growth in our largest manufacturing companies. Removing red tape costs like those associated with EEO allows companies to instead invest in hiring more people, improving equipment or growing their business.

"It's time to roll back the regulations that impede Australian manufacturers, and strengthen the regulations that help Australian manufacturers compete internationally."

For more information or to arrange an interview contact:

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For more information about Manufacturing Australia visit: **www.manufacturingaustralia.com.au**

Manufacturing Australia (MA) is the peak representative body for Australia's largest manufacturers. MA works to secure the future of Australia's manufacturing industry and the almost one million people it employs. MA is driven by the CEOs of its member companies, including; **Allied Mills, BlueScope Steel, Brickworks, Capral, Cement Australia, CSR, Incitec Pivot, Orora, Rheem and Teys Australia.**

PROPERTY COUNCIL of Australia

The Voice of Leadership

Date: 15 May 2014

Issued by: Property Council of Australia

Media Release

Property industry backs repeal of EEO Scheme

The Property Council of Australia has voiced strong support for the *Energy Efficiency Opportunities (Repeal) Bill*, introduced to Parliament today.

The bill repeals the failed Energy Efficiency Opportunities Scheme, which imposes costly and needless reporting requirements on energy users.

The EEO Scheme duplicates existing business practice in the property industry – one of the economy's top performers in reducing energy use.

Property Council Chief Executive, Peter Verwer, has commended the move and called for parliamentary support.

"Layering duplicative reporting requirements on the property industry through EEO was a mistake from the start," Mr Verwer said.

"Repealing the scheme will provide a welcome reduction in red tape for the highly regulated property sector.

"This move illustrates how the red tape reduction agenda can provide positive social and economic benefits – with savings exceeding $17 million per annum.

"Abolishing unnecessary regulation of property companies promises to stimulate flow on benefits to the cost of housing and other property assets.

"We're urging all sides of politics to acknowledge that the well-intentioned EEO Scheme has failed the test of sensible regulation and support the repeal legislation.

"The repeal of EEO means the money currently chewed up in needless green tape compliance can be re-directed to effective energy efficiency and emissions reduction programs," Mr Verwer concluded.

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