
Submission responses

1. The likely sources of low cost, large scale abatement to come forward under the Emissions Reduction Fund;

Energy efficiency can deliver substantial, low-cost abatement

The Government is committed to reducing Australia's emissions by five per cent from 2000 levels by the year 2020. According to 2012 projections by the Department of Climate Change and Energy Efficiency¹, this sets a target for Australia's net emissions in 2020 of 537 MtCO₂-e, which places the abatement challenge for Australia at approximately 155 MtCO₂-e against current projections.

The consumption of stationary energy is by far the most significant component of our current and projected emissions inventory. In 2012, stationary energy use contributed 51% of Australia's emissions, with the electricity sector alone the largest contributor at 34%. The Government projects that our emissions in 2020 will still be dominated by stationary energy use.

With stationary energy comprising half of our national greenhouse account for the foreseeable future, it is not surprising that the largest abatement potentials come from reducing energy consumption and replacing greenhouse intensive energy sources. ClimateWorks² estimates that end-use energy efficiency alone could deliver 58 MtCO₂-e abatement in 2020, or 37 percent of the abatement required to meet the Government's commitment.

The ClimateWorks analysis (Figure 1) also clearly shows that investment in energy efficiency is extremely cost effective in comparison to other abatement opportunities. The marginal cost curve below is ranked in order of cost from least to highest. The dark shaded energy efficiency opportunities dominate the least cost options, with most noted as having a negative net economic cost.

¹ Department of Climate Change and Energy Efficiency (October 2012) "Australia's Emission Projections 2012"

² ClimateWorks Australia (June 2011) "Fact Sheet: Energy Efficiency"

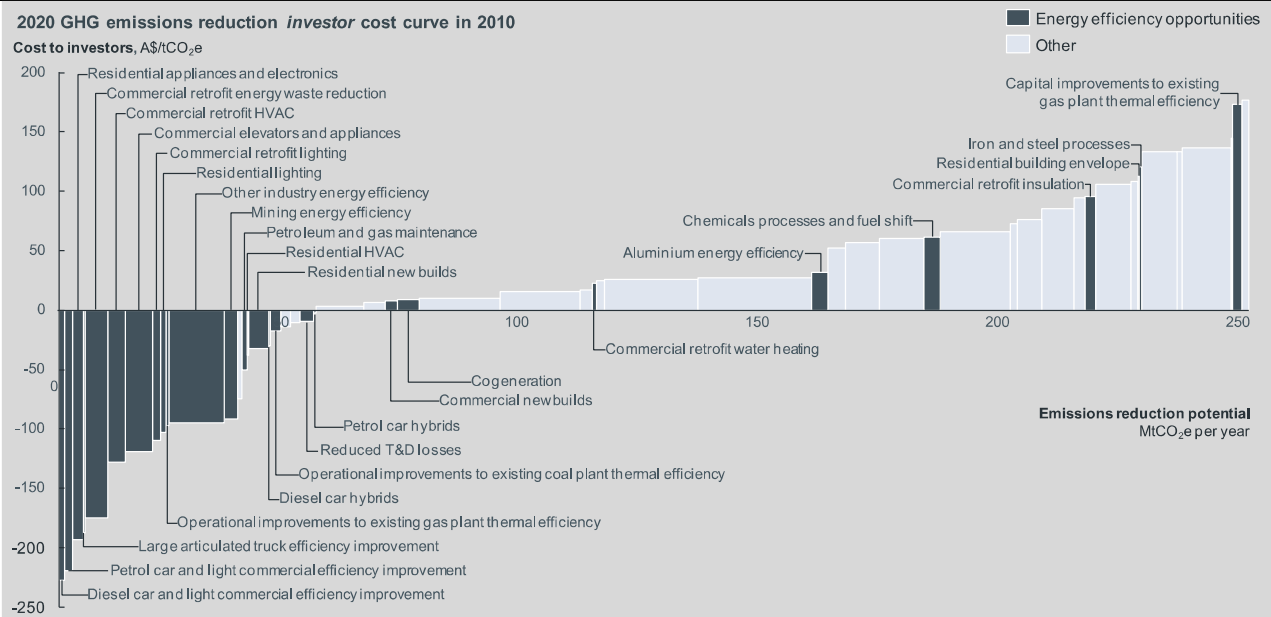


Figure 1. Energy efficiency opportunities identified in the Low Carbon Growth Plan for Australia²

While the aggregate scale of energy efficiency as a potential source of abatement is very large, the scale of individual energy efficiency projects is highly variable. The large commercial and residential opportunities identified in the ClimateWorks analysis represent thousands, and in some cases millions, of small energy efficiency measures.

Analysis of these opportunities in the below table shows that around 30 MtCO₂-e, or 52 per cent, of potential energy efficiency abatement is from small energy users. This means that the ERF must be designed to support both smaller and larger energy efficiency projects. While large sites (e.g. mines and power generation) may be able to bid directly into the ERF, to unlock smaller sites the ERF will need to allow proponents to bid projects that aggregate savings from many smaller sites.

Sector	Large users (MtCO ₂ -e)	Small users (MtCO ₂ -e)
Industry	21	8
Residential	0	9
Commercial	7	13
Totals	28	30

Table 1 Estimated abatement opportunity in MtCO₂-e, by sector and site size³. Note “large users” includes smaller sites owned by large corporations that consume large amounts in aggregate.

³ EEC analysis, ClimateWorks (2011) Low Carbon Growth Plan for Australia, Energy Efficiency Opportunities data



Energy efficiency delivers more than carbon abatement

Energy efficiency is not only Australia's most cost effective large-scale carbon abatement opportunity, it also delivers numerous economic and social benefits, including:

Keeping energy affordable

Energy prices almost doubled in the last five years, putting huge stresses on homes and businesses. A recent survey found that households' biggest cost-of-concern is electricity, with 84 per cent of households concerned about electricity costs. Energy efficiency was by far the most popular policy to address this issue, with 79 per cent of households wanting governments to help homes and businesses save energy.

Energy efficiency reduces energy bills by helping homes and businesses get more out of each unit of energy that they use. Boosting efficiency and reducing peak demand will reduce wholesale electricity prices and reduce the amount that we need to spend on poles and wires, keeping energy affordable.

Boosting competitiveness

Helping Australian businesses to get more out of each unit of energy would improve their global competitiveness. Research by Vivid Economics suggested that improving Australia's energy efficiency by an extra 1 per cent a year would generate an extra \$8 billion in GDP by 2020 and \$26 billion in GDP by 2030.

Managing the change in energy markets and technology

There are significant changes occurring in energy markets, both locally and globally. The domestic price of gas in Australia is rising and the future gas price is the subject of extensive debate. The costs of renewable energy and energy storage are falling but uncertain. This creates a difficult environment for investing in electricity generation, and an unwise environment for investing in long-lived monopoly network infrastructure that might not be suitable for future energy supply. Addressing the market failures that inhibit investment in energy efficiency will help energy users adapt and reduce the need to invest in supply-side assets that could become stranded during this period of uncertainty.

Creating jobs

Boosting energy efficiency will create a thriving domestic and export market with thousands of jobs including builders, engineers and manufacturers.



Barriers to accessing abatement from energy efficiency

Investment in energy efficiency reduces greenhouse gas emissions, which delivers a benefit to society. Unless there are payments for reducing emissions, or a price on carbon, the level of investment in energy efficiency will be sub-optimal.

However, there is also a well-documented range of market failures that prevent energy customers implementing energy savings measures. These include imperfect information, bounded rationality, externality costs, split incentives and market distortions. This is why so much of the potential low cost abatement from energy efficiency remains unrealised.

In an ideal market, energy users would maximise their wellbeing by balancing investment in energy (supply-side) and appliances (demand-side). For example, homeowners would warm their homes at the lowest cost by balancing investment in energy, efficient heaters and insulation. However, market failures that interact with distortions in the energy market result in over-investment in supply and under-investment in demand reduction.

Firstly, price signals for consumers do not reflect the true cost of delivering electricity at particular times and locations. For example, it could cost \$7,000 of cross-subsidised network investment to provide enough power for a household that pays just \$1,500 to install an air-conditioner. As the cost of this network infrastructure is smeared over consumers, there is little incentive to improve individual investment decisions.

Secondly, consumers do not have perfect information and face transaction costs and limits to capital to invest in energy efficiency. While consumers face these issues in most markets, the highly regulated energy market addresses these barriers for energy supply, but not for energy efficiency, inhibiting services that would otherwise emerge to address these issues.

Expanding on the previous example, homeowners that wish to increase the amount of cooling in their home do not choose between investing in a more efficient air conditioner or expanding their energy supply. Rather, network service companies anticipate that households might want to increase their cooling and augment the network just in case. In effect, the networks make decisions on behalf of households and provide an aggregated supply-side solution that smears the cost of capital over multiple years and across all energy users, putting upward pressure on energy bills.

Similarly, energy retailers manage purchases from the energy wholesale market on behalf of households. Retailers perform a valuable and mandated role to correct imperfect information on the supply side.

However, while there are mandatory structures to address market failures on the supply side, there are no comparable structures in energy markets to address these market failures on demand side. As a result, the NEM distorts investment to focus on supply-side



rather than demand-side solutions, resulting in sub-optimal outcomes for consumers. This comes at a substantial societal cost – network companies spent \$45 billion on grid expansion over the last five years, almost doubling national energy prices and putting huge stresses on homes and businesses. In contrast, sensible investments in energy efficiency have a negative cost over their life.

Unlocking energy efficiency abatement – existing policies

To unlock the abatement in energy efficiency, we need to address the multiple barriers to energy efficiency. There is no single policy tool that can address these multiple barriers, and a suite of cost-effective, complementary measures is required. Table 2 presents an overview of the key barriers and the policy options that can address these barriers. This table is not comprehensive, but highlights the roles of key policies, particularly the ERF (orange) and state energy efficiency certificate schemes (blue).

The ERF cannot address all the market barriers to energy efficiency, and the Council recommends that the ERF focus on internalising greenhouse gas externalities.

Thankfully there are already a number of key programs in place that address these other barriers. For example, energy efficiency ratings for appliances address information asymmetries, and do not attempt to internalise the benefits of greenhouse gas reduction for energy users. Similarly, energy saving obligation schemes address imperfect information, bounded rationality and distortions in energy markets and other markets.

As a result, when these existing policies were recently subjected to a review of “complementarity” against a price on carbon, they were deemed to be complementary. As a result, they are also complementary to the ERF, and do not require further review.

Without these complementary policies, the ERF will need significantly more funding to overcome these market failures and drive energy efficiency. Evidence from state-based energy efficiency certificate schemes is the best indicator of the current market cost of these hurdles. Trading in these certificates suggests that the market will invest to implement a significant volume of energy efficiency projects with an additional investment of \$15 to \$30 per tonne CO₂-e. This does not set an upper limit – of course, at higher market prices more abatement opportunities will become available.



Issue	Policy options
Externalities	The ERF, or a carbon price, incorporates the societal benefits of energy efficiency in the price signals faced by energy users, raising the level of investment in efficiency.
Energy Price Distortions	Energy market reforms are the best way to address the lack of time-of-use pricing and site-specific (nodal) pricing.
Information Asymmetries	Where buyers and sellers don't have information about the quality of a product, it can cause adverse selection ⁴ . The existing rating schemes for appliances and commercial buildings are highly effective at addressing this problem.
Misaligned incentives	Where energy users (e.g. tenants) and those responsible for energy efficiency (e.g. building owners) don't have the same incentives, it can cause underinvestment. Minimum standards and policies that re-align incentives (e.g. Environmental Upgrade Agreements) are effective in addressing this issue.
Imperfect Information	The state energy efficiency certificate schemes address imperfect information by linking energy users with specialists that have the knowledge to help them make decisions. Direct information provision can complement this approach.
Bounded rationality and organisational heuristics	Energy efficiency certificate schemes can address bounded rationality by linking SMEs and households to specialists that help them to make decisions, and provide a salient signal to overcome heuristics in both smaller and larger energy users. Standards and programs like the Energy Efficiency Opportunities program can assist with bounded rationality.
Energy market distortions	Some energy market distortions should be addressed directly (e.g. distorted energy prices). However, there are multiple factors that lead to supply-side bias in the NEM (including supply-side aggregation) that must be balanced by fostering demand-side aggregation through energy efficiency schemes.
Distortions in markets for demand-side products and services	Energy efficiency certificate schemes can overcome the multiple market failures that have restrained the growth of markets for demand-side services and products.

Table 2. Market failures and policy options

⁴ Akerlof, G.A. (1970). "The Market for 'Lemons': Quality Uncertainty and the Market Mechanism". *Quarterly Journal of Economics* (The MIT Press) **84** (3): 488–500.



Building on the existing policy framework

Between 1980 and 2007 the energy intensity of Australia's economy reduced by 0.8 per cent a year, reflecting a structural changes to the economy as well as investment in improved energy efficiency. A number of energy efficiency programs have been effective in reducing the barriers to energy efficiency and led to improvements in our energy productivity.

However, our major international competitors have made much greater strides to improve the energy efficiency of their economies. On average, wealthy OECD countries improved their energy intensity at 1.3 per cent a year⁵. This gap in efficiency gains means that Australia is losing ground to other developed economies each year. Australia's energy intensity in 2007 was 50 per cent higher than OECD European countries on average, and similar to that of the USA – an economy that was 40 per cent more energy intensive in 1980.

Therefore, to both reduce our emissions and improve the competitiveness of our economy, the Energy Efficiency Council recommends a suits of actions that includes:

- Development of the Emissions Reduction Fund
- Strengthening and streamlining existing energy efficiency programs such as the Energy Efficiency Opportunities, Commercial Building Disclosure, and building and appliance standards and labels.
- Further reforming the energy market to ensure that network prices are fair and efficient; to foster demand-side services; and to reduce the need to spend on new infrastructure by setting minimum demand-side targets for distribution network companies.
- Reducing waste by government agencies to save \$2 billion in costs over the next two decades.
- Investing in skills and facilitation.

Administrative issues

To be effective, the Emissions Reduction Fund must also avoid the problems of many previous government funding programs. In particular in designing the ERF the Government must take into account the lead times involved in developing and implementing projects. It must also provide certainty to potential investors to bridge the gap between project identification and fund allocations.

Previous funding programs have often been characterised by approval delays due to inefficient administrative and decision-making processes. Alternatively, poor quality

⁵ Shahiduzzaman, M, and Khorshed A 2013, "Changes in energy efficiency in Australia: A decomposition of aggregate energy intensity using logarithmic mean Divisia approach." *Energy Policy*, Vol 56, May 2013



control can result in funding allocations to poorly specified projects that are found during delivery to be unviable or significantly weaker than originally proposed.

Failing to address these problems for the Emissions Reduction Fund would have a direct impact on the viability of funded projects. Administrative processes must ensure an adequate quality control so that well specified projects with a high degree of certainty of abatement are prioritised. They must also be efficient so that funding is granted in a timely manner to ensure the project can be delivered as anticipated.

High level recommendations

1. Allow proponents to aggregate energy efficiency abatement from small projects.
2. Retain and build on the existing state and national energy efficiency policies and programs.
3. Commit to further direct action on energy efficiency beyond abatement.



Submission responses

2. How the Emissions Reduction Fund can facilitate the development of abatement projects, including through expanding the Carbon Farming Initiative and drawing on the National Greenhouse and Energy Reporting Scheme;

The need to build on existing state energy efficiency programs

As set out in the previous section, the Government will need to build on the existing policy framework if it going to have any chance of meeting its greenhouse gas reduction target.

In addition to the CFI and NGERs, existing state-based energy efficiency retailer obligation programs are particularly well placed to facilitate the development of abatement projects. These are:

- Energy Savings Scheme (ESS) - NSW
- Energy Saver Incentive (ESI) - Vic
- Residential Energy (REES) - SA
- Energy Efficiency Improvement Scheme (EEIS) - ACT

These programs already have methodologies in place for setting project baselines and measuring energy savings (i.e. abatement). We detail how these methodologies could be adapted to the ERF in our response on monitoring and verification of abatement.

These programs are focused on boosting energy affordability by addressing imperfect information, bounded rationality and distortions in energy markets and other markets, rather than the providing a price signal to reflect the benefits of greenhouse gas abatement. As such, they are totally complementary to the proposed ERF.

Moreover, the ERF will face much higher abatement costs than the net-economic costs previously identified by the Australian Government⁶, unless co-funding from energy efficiency programs is allowed.

If the objective of the ERF is purely abatement at lowest cost to Government, then it should allow proponents to source funding from both the ERF and state schemes. State schemes would continue fund the bulk of the costs of overcoming market failures and delivering economic and social co-benefits, while the ERF would render additional energy savings projects viable for just the incremental cost of abatement.

We note that careful consideration needs to be undertaken around how the ERF will interact with the State retailer obligation schemes, particularly because some states have schemes in place and some do not. EEC therefore recommends that the

⁶ Department of Climate Change and Energy Efficiency (October 2012) *ibid.*



Australian Government work closely with the States to ensure that the ERF is designed in a way that is transparently complementary and integrated with the State Schemes.

Options to build on existing state programs

There are four options to build existing state programs.

A. Explicitly allow joint project funding

As outlined, the ERF and State programs have different and complementary objectives. If the Australian Government obtains upfront agreement from the states, then co-funding will allow the ERF to achieve lowest cost abatement. The disadvantages of this approach are the perceptions of duplication and possible price distortions between states, as detailed above.

B. ERF focus exclusively on large sites

Unless the ERF allows aggregation of projects, and forward creation of credits subject to measurement and verification, the fund will only access very large facility-level energy efficiency projects. If this is the case, then there will be little or no overlap between the ERF and the state schemes, which exclude projects from exempt emissions intensive trade exposed industries. The downside of this approach is that it will exclude the majority of low cost energy efficiency abatement opportunities. This will reduce the supply and significantly raise the cost of abatement under the ERF.

C. Attempt to passively prohibit joint funding of projects

An option previously adopted by grant programs has been to prohibit project proponents from obtaining funding from multiple Government sources. In this instance that would involve the prohibiting proponents from accessing ERF funding for projects funded through state programs. This approach is administratively complex to retrospectively police, and opens up both the ERF and state programs to risk of double counting and fraud. It also does not allow energy users to internalise the carbon abatement potential of their energy use, which will have the effect of raising the overall cost of abatement and inhibiting supply from energy efficiency projects.

D. Formally integrate with state programs

The EEC's recommended option involves energy efficiency project proponents in covered states leveraging their existing accreditations and project registries to bid savings projects into auctions. For example in NSW a proponent could bid a tranche of 10,000 energy savings certificates in to the auction at \$17 per tonne. If they are successful, the ERF administrator would purchase and surrender these certificates – taking them out of circulation. This approach has a number of significant benefits:

- It can ensure there is zero double counting, by precisely tracking to the



tonne whether savings are funded through retailers or the ERF;

- It would provide the ERF with a supply of accredited, market-ready projects from day one – avoiding the 1-2 year ramp-up challenges that the ERF is otherwise likely to face.
- The administrative efficiency of leveraging existing accreditations, compliance and business processes would help keep abatement costs down.
- It builds on the existing energy efficiency service markets and regulatory frameworks, and provides a step forward in a transition to a national approach.
- Additional energy efficiency abatement will only be competitive in the ERF auction if there is unrealised energy saving potential above the existing state targets.
- This would increase competition in both the ERF and existing state programs and ensure efficient pricing across jurisdictions.

Option D – Example

If the ERF adopts the Project Impact Assessment Method (PIA), from the NSW ESS, as an abatement M&V protocol for energy efficiency projects.

- a) A project proponent who is already accredited for a project using the ESS PIA method can bid Energy Savings Certificates from this project directly into the ERF Auction. If the proponent is successful, the ERF Administrator would purchase and voluntarily surrender these certificates on the ESS registry. This would remove these abatement units from further circulation, and ensure additionality.
- b) If the same proponent were to implement the same project in QLD, where there is no existing scheme, the proponent could be accredited by the ERF administrator using NSW PIA method.

ESS and ERF administrators would need recognise reciprocal accreditation and compliance arrangements and share accreditation and compliance information (including accreditation and project addresses), similar to the collaborative compliance arrangements between GreenPower and the Renewable Energy Target programs.

Recommendations

4. That the ERF adopts energy savings methodologies from existing state energy efficiency retailer obligation schemes for abatement protocols.
5. That, in jurisdictions where the ERF uses a state-based abatement protocol, project proponents using these protocols may bid in state-based abatement credits for their ERF auction bids to prevent double counting.
6. ERF and state-based program administrators should establish reciprocal



accreditation, compliance and audit arrangements and data-sharing frameworks (as with GreenPower and RET).

7. That new, broad protocols be developed for project types that are ineligible under current state schemes, such as gas efficiency in NSW

Submission responses

3. The details of auction arrangements to deliver cost effective outcomes;

There are potential strengths and weaknesses of the proposed auction approach that must be managed through the detailed design.

Design challenges

The principal strength of the auction approach is the potential to obtain abatement at the lowest cost to Government. However the lowest cost to Government is not necessary lowest net cost to society. The ERF as proposed risks deterring or excluding many viable and cost effective abatement options.

Some of the key issues with the baseline and credit and auction framework include:

- **The uncertain period of time that the fund will operate over**

Many projects have long lead times (sometimes multi-year). The risk that such projects won't be able to obtain funding in the remaining later rounds is likely to deter many from participating. Moreover, many projects that are "shovel ready" at the beginning of the fund may have happened anyway, and could be of questionable additionality.

Projects require considerable investment in business development. Proponents will be prepared to take on the market risk of finding customers and the technical



risk of their abatement project working, if they have certainty that there will be a buyer for their abatement. But the window of the ERF provides no such certainty.

- **Risks of over or under-delivery**

There is unavoidable risk in requiring project proponents to commit in advance to the quantity and price of abatement that they will deliver. Some projects will be more successful than anticipated and some will be less, because until a project is launched and implemented it is not possible to know the exact levels of take up and savings. The Government needs to be able to have over-delivery balance out under-delivery. Project proponents need to know that the ERF funding they include in their cost models will not disappear if their project is less or more successful than anticipated. Otherwise many will be deterred from participating in the ERF or will inflate their bids to cover risk. This will result in lower abatement at higher costs.

- **Gaming and abandonment**

The auction framework of the proposed ERF opens the Fund up to the risks of gaming in the bid strategies of different proponents or abandonment of projects. Given the short timeframes of the ERF, delivery of abatement under the Fund is unlikely to be the core business of any project proponent. Therefore proponents' incentives and bid strategies are likely to be heavily influenced by the implications for the primary markets in which they operate.

It is not uncommon in grant programs for successful proponents to abandon projects because their business priorities have changed after contracts have been awarded. Even before entering into a contract, a proponent may bid a tranche of abatement at a lower cost or higher volume than they can deliver, if it prevents a competitor in their primary market from accessing ERF funding.

- **Monopoly buyer and discounted co-benefits**

Because the ERF Administrator will be a monopoly buyer, abatement projects will be valued against only one set of criteria. This will make it difficult for abatement projects with lower social costs, but higher private costs, to succeed. For example energy efficiency programs that target low-income households. With longer time frames or less rigid procurement cycles it would be possible to pull together multiple sources of funding and assess projects for their society wide value.

If not managed, these issues create a risk that the ERF will inadvertently deter or exclude abatement opportunities, and result in a combination of insufficient abatement, higher cost abatement and non-additional abatement.

Recommended design features

Some of the design features that have been announced for the ERF so far, particularly the number of committed years of funding, mean that these risks cannot be totally



eliminated. However, adopting the following design features for the ERF can reduce the risks within the design parameters that have been set out for the Fund.

Achieving lowest cost abatement

- Each successful bidder should receive the price they bid not the marginal or average cost.
- To allow price discovery there should be:
 - as many rounds as possible (at least quarterly)
 - public disclosure of bids and results (including project type activity, sector and methodology, price per tonne of abatement, number of tonnes per annum of abatement, term of project, type of contract).
 - a mechanism to allow registered bidders to adjust their bids within a bidding window.

Improving investor confidence

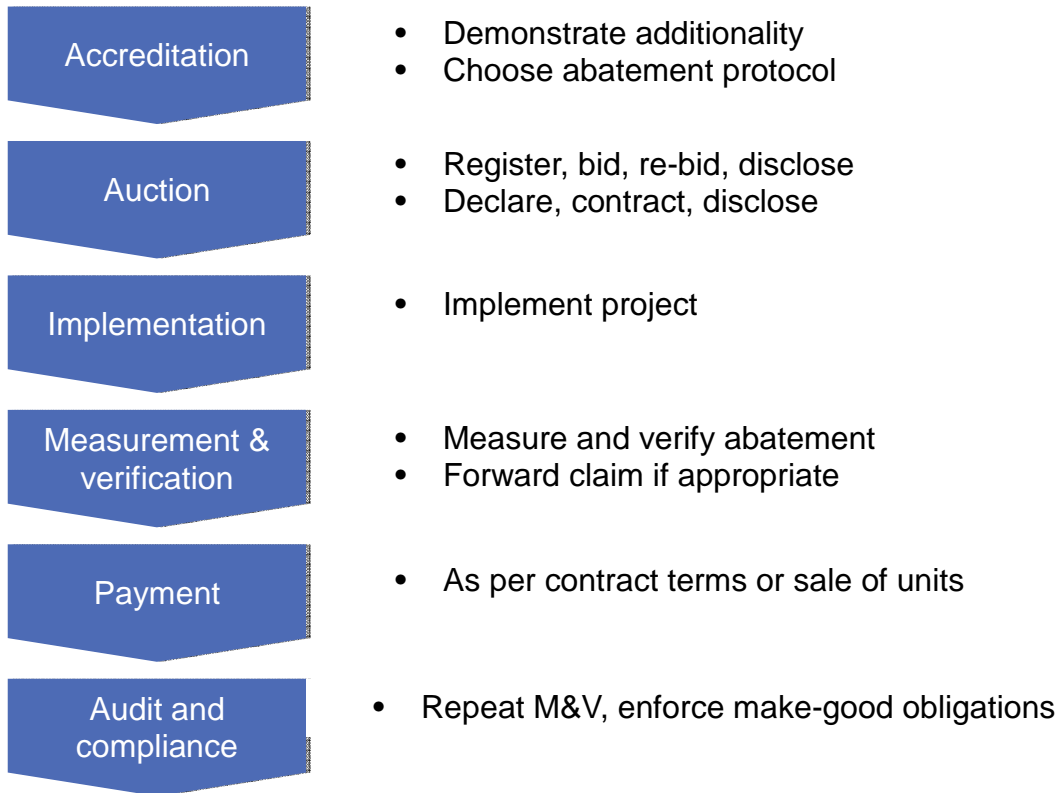
- To provide investor confidence and a sufficient number of participants to produce competition:
 - ERF funding and objectives should be set in legislation.
 - The Government should publish in advance the timetable for auction rounds, including the size of each round in dollars, and a maximum price per tonne.
 - There should be minimum set-asides for each technology type and a floor price.
 - Funds unallocated in early rounds should be rolled over to later auction rounds, not returned to consolidated revenue.

Managing under and over-delivery, and project abandonment

- These issues can be substantially managed if the ERF allows successful auction winners a choice of long-term commercial contracts or commitments to buy tradable abatement credits.
- All successful winners will be bound by make-good obligations should they fail to deliver.
- Make-good obligations would be met through the purchase and surrender of tradable credits.
- The resulting secondary market would provide an administratively efficient and transparent way to source supplementary abatement from proponents that over-deliver.
- It would also provide additional liquidity to the ERF, helping to smooth out distortions that would otherwise result from the limited number of auction rounds.
- Proponents would need to nominate their preference for contracts or tradable units when registering for auction rounds.
- Proponents may manage their risk of repayments for under-delivery by allowing for the risk in their bid price or quantity, based on project certainty, or choose to



simply absorb the risk.



Recommendations

8. Price bid is the price paid for successful bidders.
9. Real time public disclosure of bids and results (type, price, volume).
10. Quarterly auction rounds.
11. Unlimited bids and rebids allowed within each auction window.
12. Allow successful bidders choice of contracts or tradable abatement credits.
13. Secure funding, rounds, floor and ceiling prices, and budget roll-over provisions in legislation.



Submission responses

4. The governance arrangements that will support the Emissions Reduction Fund, including the role of key institutions such as the Clean Energy Regulator;

Effective governance arrangements are essential for the success of the Emissions Reduction Fund. The government must establish efficient, transparent arrangements that provide a level playing field for access to the fund based on real abatement potential.

Monitoring and verification is essential

As detailed below, robust monitoring and verification rules ensure that funds are granted to worthy projects that are viable and deliver abatement with certainty.

Transparent processes and reporting

The administration of the fund must be fully transparent, to provide certainty to the market and to ensure that the Fund is allocated in an effective and appropriate manner to projects that deliver real carbon abatement. In particular, the following processes must be clearly specified.

Participation in the Fund

Eligibility criteria for the Fund should be determined by the administrator and approved by the appropriate Minister. The criteria must be made public and include reasoning for the exclusion of any particular technologies or activities. The administrator should also clearly outline the process to dispute established eligibility criteria, and make previous disputes (including both the dispute and resolution) publicly available.

Rules for calculating abatement potential of projects must also be published and approved by the Minister. Where possible, the administrator should publish primary documentation to support calculation methodologies and particularly identify where further evidence is required to improve certainty, to facilitate ongoing research and enhancements as market knowledge improves. Rules should align with existing schemes where possible to establish a uniform national standard, and be based on the IPMVP as noted in the next section. Any differences from existing schemes should be identified so that those responsible for administering other schemes can make appropriate changes to align with the standard.

The administrator must also publish *rules for documenting, measuring and reporting actual abatement* from implemented projects, based on IPMVP. As above, differences from existing schemes should be identified to improve national consistency.



Review process

To ensure the rules are robust and accurately reflect the likely abatement potential for projects, they should be subject to a public review process at regular intervals over the life of the Fund. Alternatively, the administrator may establish a transparent process for the public to seek a review to rules where alternatives may provide a more accurate or streamlined accounting approach.

However, experience from grant programs and the state energy efficiency schemes shows that constant adjustment of scheme rules causes uncertainty and reduces abatement volumes.

Quality control, compliance and enforcement

The credibility of the Fund will depend on strict compliance measures, accompanied by enforcement and stringent penalties for those found to be acting outside the rules. Applicants found to be acting fraudulently, including illegal gaming of the auction process, should be subject to appropriate criminal penalties.

As the market price will be determined by bids at auction, strict financial penalties must apply where proponents have not followed the Fund rules for their bid, and have artificially affected the market price (for example, by underestimating the cost of their abatement, or by over estimating the abatement itself).

The Fund administrator must establish a comprehensive audit process to verify that project proponents are proving project abatement in line with the M&V rules outlined above. Strict installation quality and safety rules should also apply. Independent quality control and safety audits should apply to an appropriate sample of work based on project risk. Where a proponent fails to adhere to quality and safety standards, the administrator should impose penalties including exclusion from the Fund and financial penalties, and refer any criminal activity to the appropriate authorities.

To protect the market price, projects that deliver less abatement than promised should make some form of repayment reflecting the actual abatement purchased at the quoted price, and to allow for reinvestment of excess funds in actual abatement.

Administrator accountability

The administrator should report annually on all activities relating to the Fund. The annual report should, at a minimum, comply with parliamentary standards for reporting by government agencies. It should include financial information, along with clear identification of Fund results. To transparently report on Fund effectiveness, the report should explicitly compare (in aggregate) the anticipated abatement from funded projects as bid, by activity or technology type, with the verified abatement delivered by completed projects.



Administrator governance

Ideally, the government should establish an advisory board for the administrator of the Fund. The Board would report to the Minister and be responsible for reviewing administrator decisions and reports, and arbitrating appeals. Alternatively, the Minister may choose to adopt a governing board with autonomous decision-making authority.

The administrator should not report to a larger government agency, to avoid potential conflicts of interest between the administrator and public servants responsible for the delivery of other government programs; however the administrator should be able to access expertise in relevant agencies as required.

Appealing administrator decisions

To further ensure appropriate decision-making by the Administrator, the government should establish a transparent appeals process through the Board, or in the absence of a board, an appropriate independent body. Any decision of the administrator should be subject to appeal, although appeals that have been previously resolved should not be re-opened without good reason. Appeals should be documented, including decisions and timeframes that elapsed during the appeal process.

Transparency in the auction process

The reverse auction process preferred by the Emissions Reduction Fund can, if implemented correctly, draw out the true market price of abatement projects, reduce corruption, and level the playing field for the market. Appropriate governance of the auction process is vital to allow the market to actually determine prices and avoid potential bid-rigging or other corrupt practices. In particular, full price disclosure and disclosure of successful projects are vital both to ensure proper competitive bidding and to ensure that the administrator has accepted the true market price. Any bid must be binding, and successful bidders held accountable for delivering the promised abatement

Role of key institutions

The administrator should have the capacity to work with existing markets, and leverage existing infrastructure. The Clean Energy Regulator is well placed to administer the Emissions Reduction Fund, with a governance structure reflective of the proposals above, and a significant history in regulating abatement initiatives such as certificates for the Renewable Energy Target.

Recommendations

14. The Clean Energy Regulator is an appropriate body to administer and regulate the ERF.
15. The CER should report Fund activities and outcomes as outlined above.
16. Fund rules should be subject to public scrutiny and regular review.



Submission responses

5. The details of the monitoring, verification, compliance and payments arrangements for successful bidders at auction

The capacity of the ERF to meet its objectives will rest heavily on the details of the monitoring, verification, compliance and payment arrangements for successful bidders at auction. In order to deliver sufficient volumes or genuine abatement at lowest cost, the ERF needs rules across all sectors and technologies that provide:

- a broad range of abatement activities to ensure competition.
- robust and transparent mechanisms for measurement and verification of abatement.
- administrative efficiency and commercial viability.
- market confidence.

Without these factors the ERF risks:

- an undersupply of abatement because proponents are deterred from bringing forward viable projects;
- wasting money on non-additional abatement that doesn't flow through to the national greenhouse accounts; and/or
- paying more for abatement than necessary as project proponents price in administrative risk.

Measurement and verification

Accurately and consistently measuring abatement is a key challenge for under a baseline-and-credit framework like the proposed ERF. It involves measuring what occurs after a project is implemented, predicting what would have occurred if the project had not been implemented, and comparing the results. Because the project did occur, we can never have perfect knowledge of what would have happened in its absence. So we need to develop statistically robust techniques for calculating the probability of what would have occurred. This is very challenging to do across all sectors and abatement opportunities.

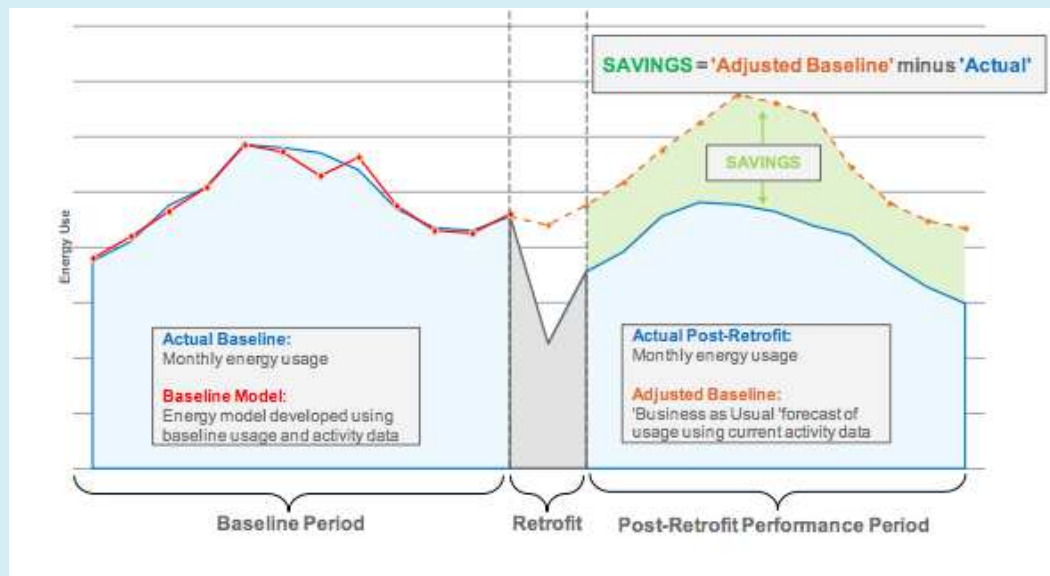
Fortunately, in the case of energy efficiency, a combination of regulators, energy users and energy service providers have spent decades developing and refining a framework to provide energy users with a sound estimate about the energy they have saved through energy efficiency projects. This is known as measurement and verification (M&V). Energy efficiency already has a robust, transparent and internationally accepted framework for M&V, called the International Performance Measurement and Verification Protocol (IPMVP). The IPMVP is the international standard for demonstrating investment-grade energy savings. IPMVP is supported by an internationally recognised framework of training, guides and professional qualifications. The IPMVP framework can be adapted to small, medium and large projects across fuel types and technologies.



Measurement and verification of abatement from energy savings

Under a baseline-and-credit framework like the ERF, abatement represents the difference between the emissions that would have occurred and the emissions that did actually occur.

For energy efficiency projects⁷ there are eight generic steps to calculating abatement. These are illustrated by the following chart and outlined below⁸.



The generic steps for calculating abatement through M&V are as follows:

Before the abatement project is implemented

1. A period of time prior to the project implementation is selected and measured – this is the 'baseline period'.
2. During the baseline period, data is also collected for 'independent variables', which change on a regular basis, and have a direct effect on baseline energy usage patterns (e.g. changes in weather).
3. An energy model is developed to describe the relationship between baseline energy use and the independent variables affecting energy use.

After the project is implemented

⁷ Note that under IPVMP, M&V is conducted for what is known as an Energy Conservation Measure (ECM). A project may involve one ECM or multiple. IPMVP provides guidelines as to the most appropriate way and level to conduct M&V given the specific circumstances of a project.

⁸ Adapted from NSW Office of Environment and Heritage (2012) *Measurement and Verification Operational Guide - Best practice M&V processes*



4. Once the project is implemented, data over a suitable period is once again selected and measured. This is called the 'post-retrofit' performance period.
5. Data is also collected for the same independent variables for the post-retrofit period.

Calculating energy savings

6. A 'business as usual' forecast of energy use or demand is determined by adjusting the developed baseline energy model with data for independent variables from the post-retrofit period. This is known as the 'adjusted baseline'.
7. Finally, savings are determined by subtracting the measured actual usage from the adjusted baseline.

Calculating abatement

8. Savings are then converted into abatement by applying a conversion factor from energy (e.g. gigajoules or megawatt hours) to carbon (tonnes of carbon dioxide equivalent). Conversion factors should be appropriate to the location where the savings occurred and consistent for all abatement projects of a given fuel type.

Adapting IPVMP to baseline and credit

The NSW Energy Savings Scheme (EES) and its predecessor the NSW Greenhouse Gas Reduction Scheme (GGAS) have demonstrated how IPVMP can be adapted to monitoring and verifying abatement in a baseline-and-credit framework like the proposed ERF. IPVMP has effectively underpinned the ESS and GGAS methodologies for measuring savings for larger commercial and industrial energy efficiency projects since 2003. The NSW Government is presently consulting on revised ESS rules that explicitly incorporate IPVMP.

EEC reserves its position on the details of these enhanced ESS rules until they are finalised. However at high level, they provide a sound framework for developing energy efficiency abatement protocols for the ERF. In addition, EEC would strongly prefer that a standard set of rules be adopted by all state and national schemes (including the ERF) to provide administrative efficiency. Some of the key features of the proposed NSW ESS approach that the ERF should adopt include:

- The detailed methods are transparent, repeatable and affordably accessible to everyone because the NSW Government has developed, and will continue to develop, M&V guidelines for common project types.
- Accreditation processes are streamlined and robust, by requiring an independent IPVMP accredited engineer to certify all projects in advance and during audit.



- Accuracy is ensured, while allowing flexibility and innovation to ensure measurement costs do not exclude small projects, by adjusting savings based on statistical confidence levels of each M&V approach.
- Allows IPVMP principles to be accurately and affordably adapted to residential and small business projects by allowing aggregation of the same project across large numbers of small sites.

Evidence-based forward claiming post M&V

Another key feature of this ESS approach is the way it combines measurement and verification of savings with limited deeming where there is independent evidence that savings will persist. Deeming means providing recognition of future abatement (in the form of certificates or payment for abatement) in advance. As already outlined, without some form of deeming the ERF will not be able to access residential or most commercial and industrial savings opportunities, other than very large sites. However, on its own, deeming transfers the risk that abatement will not eventuate from project proponents, who can control this risk, to Government, who cannot.

Under the ESS, certificates cannot be claimed until a project has been implemented and savings have been demonstrated to occur using the approved M&V method. However, if there is sufficient evidence that these savings are likely to persist, several years worth of future abatement can then be created up front. The NSW Government is proposing to adopt the Australian Government's Persistence Factor Model, developed by Low Carbon Australia as a method for independently predicting the likelihood that deemed savings would continue. EEC supports this proposal.

The proposed contracting arrangements under the ERF provide the Australian Government with additional options to allow evidence-based deeming while mitigating the risk of non-delivery. Contracts can make deeming be conditional on performance guarantees by project proponents, and include make-good obligations if anticipated savings do not eventuate.

Compliance

The ERF compliance framework should focus on abatement outcomes. Too often, grant programs focus heavily on planned outcomes when evaluating proposals, but then focus on administrative compliance and process based measures. For example, after initial scrutiny, administrators might accept that if an activity is implemented a given amount of abatement will occur. But then the compliance regime focuses on the paperwork that proves an activity was implemented, without independently verifying that the anticipated abatement (or desired outcome) did occur.

If the ERF aims to deliver genuine abatement that is reflected in our national carbon accounts for international reporting, then it is critical that compliance focuses on abatement outcomes rather than process. The ERF compliance regime should be grounded in the



same M&V protocols used to assess abatement opportunities pre-auction. This will also allow monitoring and enforcement of repayment obligations where deemed abatement does not eventuate.

Payments

The structure of payments will also be critical to ensure the capacity of the ERF to deliver its objectives. The key features should include:

- ***Standard commercial contracts***

Continual change in carbon policy settings has undermined market confidence in Government policy commitments. Uncertainty about Government carbon policy commitments makes it expensive or impossible to obtain financing in the existing renewable energy and energy efficiency certificate markets. The contractual arrangements for ERF payments must be a form that is robust enough to give financiers confidence. This is particularly important in instances where payment will be only made in arrears of abatement delivery.

Payments arrangements must be based on robust contractual instruments, grounded in commercial law, rather than specific carbon legislation.

- ***Provide incentives for over-delivery of abatement, and pro-rate payments for under-delivery***

As outlined in our response on the auction arrangements, a key challenge for the proposed reverse auction element of the ERF is the additional risk it provides for project proponents around variations in abatement volumes.

The payment framework needs to be able to manage over and under-delivery of abatement due to market conditions, as well as deal with failure to deliver due to project abandonment, unrealistic bids, technical failures and lack of abatement persistence.

It is theoretically possible to structure individual contracts with rules around allowed variations, definitions of non-delivery, and make-good obligations. But negotiating and enforcing these at a project-by-project level will be administratively burdensome and time consuming. Given the short time frames that the ERF is planned to operate over this is neither practical nor desirable.

Therefore EEC recommends allowing tradable abatement credits for excess delivery and requiring proponents to make good on all non-delivery by obtaining surplus credits.

- ***Claw-back unrealised forward claiming***

As outlined, the ERF needs to allow a degree of evidence-based deeming to access



aggregated savings from small to medium size abatement opportunities. The ERF payment contracts can be constructed to mitigate the risks of over-deeming and non-delivery of future savings. The auditing and compliance regime should leverage the M&V protocols used to calculate assumed savings up front, based on best available evidence for that particular activity. Where savings have not persisted for reasons that were within the control of the project proponent, contracts can require partial repayment of upfront savings.

Note that deeming will already take into account a degree of uncertainty in project outcomes by discounting savings based on a certainty factor, relating to the statistical likelihood that the predicted savings will eventuate and persist. The savings calculation methodologies should be updated if evidence arises through the ERF that these factors are inaccurate

- ***Contracts that are consistent, transparent and understood prior to entering into bidding***

The Government has set an exceptionally short timeframe for developing and running the ERF. Robust M&V rules and contractual arrangements are critical for ensuring the ERF delivers genuine abatement. But the longer administrative processes take, the less time proponents will have to develop and implement abatement projects.

Therefore it is desirable to avoid the uncertainty and delays of drawn-out contract negotiations with successful proponents. EEC recommends that the Government develop contracts that are consistent and transparent, with standard terms and conditions agreed to prior the auction process.

Recommendations

17. Adopt M&V methodologies from state energy efficiency schemes, in line with IPVMP.
18. Allow forward claiming of abatement post M&V, with claw-back if savings are found not to persist through ongoing M&V based audit and compliance.
19. Payment arrangements must be based on robust contractual instruments, grounded in commercial law, not specific carbon legislation.
20. Allow tradable abatement credits for excess delivery and require proponents to make good on all non-delivery by obtaining surplus credits.

Submission responses



6. Transitional issues relating to the existing Carbon Farming Initiative;

There are transitional issues arising from the new policy affecting a range of previous Clean Energy Future programs, beyond the CFI. A range of programs was implemented by the previous government that provided additional support alongside carbon pricing, such as the Clean Technology Investment Program (CTIP) and Community Energy Efficiency Program (CEEP). These programs will be discontinued along with the dismantling of the carbon price on 1 July 2014.

The Government should continue to fund these initiatives, or provide alternative transitional support for energy efficiency initiatives, until that date as a transitional measure to the new package, as:

- Closing funds now will adversely impact the energy efficiency services industry, resulting in a loss of employment and skills in this sector. These skills will be required from day one for the Emissions Reduction Fund.
- Efforts to overcome information barriers and educate energy users will cease for several months resulting in a loss of momentum for potential projects.

As a result, a significant abatement potential may be lost by a break in energy efficiency activity.

Recommendation

21. That the Government provide transitional support for projects until the commencement of the Emissions Reduction Fund.



Submission Response

7. The design and operation of a mechanism applying to emissions above the business as usual baseline.

Leveraging NGERS

Extensive work has been put into developing the existing National Greenhouse and Energy Reporting System Framework. This includes policy development as well as investment by business in reporting, compliance and assurance processes and systems. It is a robust and credible framework, which the ERF should build on.

The ERF should maintain the existing facility and corporate reporting thresholds and the 25 kt CO₂e compliance threshold.

Aligning baselines with international obligations

If the ERF is to succeed at delivering Australia's 5% emission reduction commitments, baselines for large emitters should be set at 5% below their absolute emission baselines, as based on the existing NGERS reporting data.

Emissions intensity baselines cannot provide certainty over total emissions reductions, as any improvement in emissions intensity can be negated by increased production. If intensity baselines are adopted they should be based on output at an activity level. For example tCO₂e/MWh for electricity generation baselines should be converted to tCO₂e/t steel for steel production.

Acquire offsets through ERF framework for exceeding baselines

For the ERF to deliver target abatement, facilities covered by the existing CPM compliance thresholds should have obligations to not exceed their baselines. Facilities should have the choice of reducing their emissions or offsetting them by purchasing surplus abatement from ERF projects. This will allow the market to find the lowest cost forms of abatement within the ERF framework.

This framework should persist beyond the three years of the proposed ERF Auction rounds, and be aligned with the timeframes and targets for international action on climate change mitigation. This will create a self-sustaining market for abatement leveraging the ERF protocols and compliance framework.

Avoiding double counting of supply and demand side abatement

To ensure additionality there needs to be restrictions on the participation of liable entities in ERF abatement auctions. Any abatement activities that are undertaken to remain within business as usual baselines must be excluded from auctions. However abatement undertaken to reduce emissions beyond baselines should be permitted, provided that



sufficiently robust protocols can be developed to prevent double counting.

A liable entity may reduce their emissions for reasons that are unrelated to additional abatement. For example, a coal generator's emissions may decrease because of displacement by another generator or reduced energy demand. Therefore, we strongly recommend that, if a liable entity seeks funds through the ERF, they must bid a proposed abatement project into the ERF auction in accordance with a category of approved project, such as investment in improved generator efficiency, and must use an appropriate M&V protocol to determine the volume of additional abatement.

Recommendations

22. Maintain and leverage the NGERS framework for reporting and compliance.
23. Design emission baselines to deliver our international obligations.
24. Require offsets for exceeding baselines in the form of surplus tradable abatement credits.
25. Allow large emitters to create and sell tradable credits for abatement which exceeds obligations, only if demonstrated using ERF auction abatement protocols.