

Submission to combined review of Emissions Reduction Fund energy efficiency methodologies

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Note: This is a modified version of a submission originally written in a template provided by the Department of the Environment and Energy, which included the prompts reproduced as headings in this document. We thank the Department and Emissions Reduction Assurance Committee for this opportunity to comment.

There is a huge need and opportunity to reduce Australian households' energy use and emissions through energy efficiency. Doing so could lower energy bills and reduce cost of living pressures, improve health outcomes, and contribute to efforts to limit Australia's greenhouse gas emissions. The Emissions Reduction Fund (ERF) – Australia's flagship climate change policy – includes a method intended to be used to retrofit energy efficiency measures to households and small businesses: the 'Aggregated Small Energy Users' method. However, this method is not fit for purpose and has seen very limited take-up.

The Brotherhood recommends that the Commonwealth develop a more appropriate means for aggregating small energy efficiency upgrades in consultation with stakeholders.

The new method should allow different values for upgrades (such as insulation, efficient hot water systems, and heating and cooling appliances) in different climate zones, and allow participants to deem emissions based on the size of the dwelling, with measures to ensure additionality. It should enable different type of property owners and aggregators to easily participate, for example owners or managers of community housing and private rentals, and aggregators of individual households (which could be business, not-for-profit or local councils).

Funds provided under the new method should cover at least the marginal cost of replacing appliances with a more efficient type (e.g. replacing an electric resistance hot water system with a heat pump system) and the cost of administering a retrofit program.¹ Hard-to-reach households should attract extra funding because their abatement is more likely to be additional.

The Brotherhood recommend the Commonwealth create a sub-fund for private residential upgrades, and fund public and social housing upgrades or replacements directly.

A sub-fund is justified because residential energy efficiency projects create value that is not accounted for in the ERF price, such as ongoing savings for the life of the upgrade and social co-benefits that cheaper abatement opportunities, such as avoided land clearing or landfill gas capture, do not. They can also be designed to be revenue-positive for governments when considering GST, avoided health costs and avoided unemployment costs.²

The remainder of this submission answers prompts posed by the Department about the existing methods.

¹ See the Brotherhood's 2008 report with KPMG and Ecos for details of how a large-scale retrofit program should work. http://library.bsl.org.au/jspui/bitstream/1/6014/1/KPMG_national_energy_efficiency_program_low-income_households.pdf

² Rosenow, J, Platt, R, & Demurtas, A 2014, 'Fiscal impacts of energy efficiency programmes - The example of solid wall insulation investment in the UK', *Energy Policy*, vol. 74, pp. 610–620.

Additionality of the methods

The consultation paper questions whether the ERF could effectively incentivise additional upgrades given that energy efficiency upgrades offer an inherent incentive in the form of energy bill savings. This assumes that households upgrade to more efficient appliances whenever they would lower their bills by doing so.

In reality, additional incentives are likely to encourage more households to take up energy efficient upgrades because many households face barriers, such as lacking the upfront funds required, facing a split incentive because they rent, or lacking information.

Energy efficiency incentives and retrofit programs can address these barriers and create additional abatement. However, they must be adequately funded and appropriately structured (see ‘barriers to uptake’ below). In a trial the Brotherhood ran with over 750 hot water upgrades, we found that an increase in the subsidy offered led to higher uptake rates of efficient systems.³

Barriers to uptake and how can they be addressed

The ERF’s Aggregated Small Energy Users energy efficiency methods present significant barriers to uptake, reflected in their very limited adoption. These barriers include:

Work required

To participate, an organisation needs to undertake considerable (unpaid) work, including: applying to become an ERF participant; seeking legal advice; conducting a forward abatement estimate (which may involve ‘a third party expert, such as an engineer, statistician or specialist consultant’⁴); developing a suitable program (also likely to involve a statistician or other consultant); setting up monitoring and record-keeping systems; engaging a greenhouse and energy auditor; registering the project; registering for the auction; and successfully participating in the auction.⁵

Many organisations could not afford to undertake this amount of work with no guaranteed return.

The requirements for ERF aggregated small-user energy efficiency activities (such as employing an accredited statistician) are also complex and expensive compared to other schemes, such as Victorian Energy Upgrades (VEU), which has had much greater take-up (210 participants and over 51 million tonnes of greenhouse gases abated).⁶

We recommend that the Commonwealth set in place a consultation process to develop a simpler and more appropriate method.

³ See

http://library.bsl.org.au/jspui/bitstream/1/10184/1/Sullivan_Home_Energy_Efficiency_Upgrade_Program_final_report_2016.pdf

⁴ <http://www.cleanenergyregulator.gov.au/ERF/Want-to-participate-in-the-Emissions-Reduction-Fund/Step-1-Apply/Forward-abatement-estimates>

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<http://www.cleanenergyregulator.gov.au/DocumentAssets/Documents/Guide%20to%20the%20aggregated%20small%20energy%20users%20method.pdf>

⁶ <https://www.esc.vic.gov.au/victorian-energy-upgrades-program/veu-updates-reports-reviews-and-data/veu-performance-reports>

Delayed payment

Unlike tenders, grants or other energy efficiency schemes that provide partial upfront payment allowing a participant to start program delivery, ERF participants are paid 'once emissions have been measured and verified'.⁷ Being denied funding at the start of a program would be insurmountable for many organisations, who would immediately begin incurring costs, for example employing staff, procuring hundreds or thousands of energy-efficient appliances, managing the project, and conducting monitoring and reporting.

Economics

As the Department acknowledges, 'the costs of running [an Aggregated Small Energy Users] project may exceed the benefits' for the participant, especially given the need for statisticians and auditing.

At \$14.17 per tonne of abatement⁸, the return from participating in the ERF is likely to be insufficient to fund many potential energy efficiency programs. If the price per tonne of abatement were to increase, this might change.

For example:

- Replacing a household electric resistance hot water system with a particular heat pump system in Melbourne is anticipated to abate 28 tonnes of greenhouse gases over the heat pump's 12-year expected lifetime⁹ (which is more than would be credited over 7 years under the ERF).
- The new hot water system costs over \$2,000, plus installation.
- Even if the full 28 tonnes were credited, the expected return under the ERF would be approximately \$396¹⁰, which would not cover even a fifth of the cost of purchasing the system, let alone delivering it as part of a randomised control trial. It would also fail to cover the marginal cost of buying a heat pump instead of an electric resistance system.¹¹
- If abatement were credited at \$25 per tonne, it would come closer to covering the marginal additional costs of shifting from a like-for-like replacement to a more efficient system.

The most recent ERF auction's price is also significantly less than the current value of a Victorian Energy Efficiency Certificate (VEEC) or NSW Energy Savings Certificate (ESC). This means, at least in Victoria where the VEU scheme is simple to use for residential upgrades, there is a greater incentive to participate in the Victorian scheme than in the ERF.¹² The VEEC and ESC prices provide a guide for where abatement costs might sit if similar methodologies were followed and similar measures allowed in the schemes.

⁷ <https://www.environment.gov.au/system/files/resources/1f98a924-5946-404c-9510-d440304280f1/files/erf-white-paper.pdf>

⁸ <http://www.cleanenergyregulator.gov.au/ERF/Auctions-results/july-2019>

⁹ <https://www.veu-registry.vic.gov.au/Public/Calculator/VEECCalculator.aspx> for Bosch HP270 in Melbourne 3001 ; https://www.energy.vic.gov.au/_data/assets/pdf_file/0028/421966/Victorian-Energy-Upgrades-Specifications-Version-2.0.pdf p.17 for lifetime.

¹⁰ \$14.17 x 28.

¹¹ The difference between the cheapest comparable electric resistance system and heat pump system stocked at Bunnings is \$984 at the time of writing. <https://www.bunnings.com.au/our-range/bathroom-plumbing/plumbing/hot-water-units/electric-hot-water>

¹² <https://www.nationalcarbonbank.com.au/certificate-price/> One ESC represents one megawatt of energy rather than the one tonne of GHGs that VEECs and Australian Carbon Credit Units issued by the ERF represent.

Useability of the methods

The Aggregated Small Energy Users method is complex, difficult and effectively excludes certain types of organisation.

Prohibition of participant being 'actively involved in decision-making' at sites

The Aggregated Small Energy Users Methodology Determination prohibits a project's proponent from being in a position to make decisions about:

- (a) how much energy is consumed at a site in a population in the project
- (b) the installation, replacement or removal of energy-consuming equipment at the site
- (c) changes to the shell of a building at the site.

While there are logical reasons to prevent proponents from upgrading their own buildings, clauses (b) and (c) appear to preclude the participation of organisations like social housing providers which own or operate the sites that would be retrofitted, and might otherwise be in a position to provide efficiency upgrades under the ERF.

Right to data

The participant must also have 'a legal right to access and use energy consumption data for each site'. This may exclude organisations other than electricity retailers or distributors, since such other organisations would not necessarily have a right to data for the sites they wish to retrofit.

For example, if a non-profit organisation were to retrofit homes as part of an ERF project, it would presumably have to attain consent from each household, including those in the control group (see below). Even if an ERF participant gained consent for seven years of energy data from each prospective household, householders might move properties or withdraw consent during that period, removing the participant's right to data.

Many sites for which ERF proponents do have a right to data (e.g. sites they operate) are likely to be ineligible due to the prohibition of proponents who are 'actively involved in decision-making'.

Requirements to monitor sites, engage a statistician and recruit a control group

Requiring ERF participants to engage a statistician and essentially run a randomised control trial while monitoring sites for years adds to the complexity and cost of participating in the ERF. Successful energy efficiency schemes, such as the Victorian Energy Upgrades program, do not require this level of administration.

In addition, the requirement that members of the control group 'not [...] be informed of their role'¹³ would be likely to fall afoul of research ethics requirements. Households would be unlikely to consent to disclosing their energy usage data without knowing what it would be used for or receiving a benefit.

We recommend that ERF participants be allowed to deem lifetime emissions instead of being obliged to monitor them.

¹³ Carbon Credits (Carbon Farming Initiative—Aggregated Small Energy Users) Methodology Determination 2015.

Whether the methods should simply be revoked

If the Aggregated Small Energy Users method is revoked, we recommend that the government set in place a consultation process to develop a more appropriate method.

Whether the standard seven-year crediting period is appropriate

The Brotherhood does not believe the seven-year crediting period is appropriate, primarily because many energy efficiency measures continue to abate emissions beyond seven years.

We recommend allowing participants to receive credit for the deemed lifetime abatement of the upgrade measure – as occurs in VEU and is documented in their specifications¹⁴. This simplifies administration and accounts for the full emissions abated. Extending the crediting period also increases the return to the participant, and thus the likelihood of the method being taken up.

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Yours sincerely,

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¹⁴ https://www.energy.vic.gov.au/data/assets/pdf_file/0028/421966/Victorian-Energy-Upgrades-Specifications-Version-2.0.pdf