

How much can the Emission Reduction Fund really achieve?

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Summary

The taxpayer-funded Emission Reduction Fund (ERF) is currently the government's primary carbon pollution reduction policy. Similar emission reduction purchasing policies are used internationally in support of carbon prices or regulations, not as core policy tools. The role of the ERF in Australia should be similar - a provider of narrowly targeted support to sectors not better reached via other policies. Taxpayer funds should not be used to assist major polluters to reduce their emissions unless it can be demonstrated that no other mechanism would be as effective.

All policy now needs to be considered in the context of the requirement for countries like Australia to reach net zero emissions or below. This is needed to achieve the globally agreed goal to limit climate change to less than 2°C above pre-industrial temperatures (<2°C limit). Reaching net zero emissions is an objective acknowledged by mainstream international and domestic organisations.¹ The ERF cannot meet reductions consistent with Australia's fair share of the 2°C limit. Nor can the ERF achieve the government's inadequate 2030 emission reduction target of a 26-28 per cent reduction below 2005 levels.

Recent government announcements suggest the ERF's total budget to 2030 is \$4.95 billion. If this is spent at the same price per tonne as in the ERF's first auction, the ERF will be able to purchase 355 million tonnes of emission reductions. This represents:

3 per cent of Australia's projected 2015-2030 emissions;

- + 7.5 per cent of the reductions required by 2030 for Australia's fair share of the <2°C limit
- + 14 per cent of the reductions required for the government to achieve its 2030 target

The ERF has strengths, but also major weaknesses. Strengths include its ability to drive reductions in sectors, such as carbon farming not easily reached by other policies. Weaknesses include: reliance on federal funding and exposure to annual budget risks; lack of broad incentives to reduce emissions; and transfer of responsibility for reducing emissions from polluters to taxpayers.

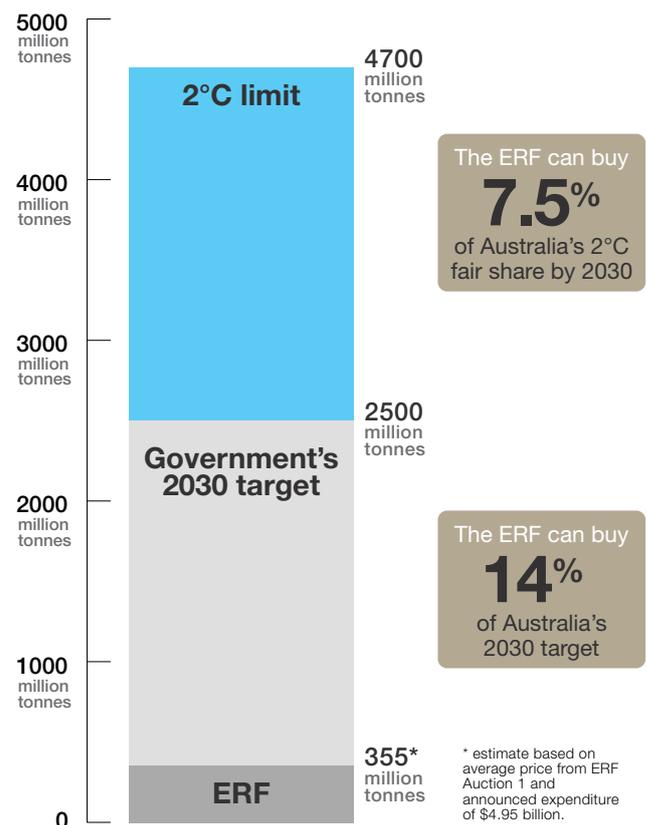
The government acknowledges that new policies are needed to achieve Australia's 2030 emission reduction goals. Moves on hydrofluorocarbons (HFCs) and vehicle emission standards are welcome and the development of a National Energy Productivity Plan is long overdue.

However, further policy development should begin earlier than the government's planned climate policy review in 2017. Priority should also be given to the regulated replacement of ageing coal stations - the largest single source of domestic emissions - with clean energy to modernise our pollution-intensive power sector.

This brief examines the following issues:

1. The ERF is the government's main emission reduction tool.
2. The ERF's safeguard mechanism allows emissions to rise.
3. The ERF cannot reduce emissions enough to meet Australia's fair share of the <2°C limit.
4. The ERF falls well short of the government's inadequate 2030 target.
5. The ERF has important strengths but major limitations.
6. Significant new policies are needed to put Australia on track to net zero emissions or below.

Figure 1: Contribution of the Emissions Reduction Fund to Australia's 2030 target and Australia's fair share of the 2°C limit by 2030.



1. The ERF is the government's main emission reduction tool.

The government describes the ERF and its safeguard mechanism as “the centrepiece of the Australian Government's policy suite to reduce emissions”.² Alongside the Renewable Energy Target, the ERF is the main policy designed to achieve Australia's minimum 2020 target, a 5 per cent reduction from 2000 levels.

The ERF uses a reverse auction process to contract companies to deliver emission reductions, on a pay for performance basis. While the budget forward estimates outline \$1.15 billion for the ERF, a total of \$2.55 billion has already been allocated for possible expenditure to 2018-19. The Environment Minister recently announced that a further \$2.4 billion would be provided from 2018 to 2030, with \$200 million provided per year.³ This means the ERF would spend \$4.95 billion from 2015 to 2030.

These amounts have not been set out in legislation. Given that the Coalition's original plan for the Emission Reduction Fund was for \$10 billion from 2010 to 2020 with annual funding rising to \$1.2 billion,⁴ future allocations may not be as high as previously promised, particularly in the context of ongoing pressures on the federal budget. Our analysis assumes the most recent total of \$4.95 billion is paid out in full.

2. The ERF's safeguard mechanism allows emissions to rise.

The stated purpose of the safeguard mechanism is to ensure that emission reductions achieved through the ERF are not undermined by “significant increases in emissions above business-as-usual levels elsewhere in the economy”.⁵

The safeguard mechanism, which will start operating on 1 July 2016, sets emission baselines for companies with facilities that emit more than 100,000 tonnes annually. It will cover about 140 organisations, responsible for 50 per cent of Australian emissions.

However, these baselines actually allow emissions to rise. Baselines are set in most instances at a company's highest level of emissions in the last five years, even though many have reduced their emissions significantly since then. Companies can exceed their baselines, or get them reset at higher levels, if they meet certain conditions for new investments, expansion of production, or extraction of more emission-intensive resources. Analysis of these measures by Reputex estimates that emissions covered by the safeguard mechanism could rise by 20 per cent by 2030.⁶ The safeguard mechanism is to be reviewed in 2017.

3. The ERF cannot reduce emissions enough to meet Australia's fair share of the internationally agreed <2°C limit.

Australia has joined over 190 countries in pledging to keep global temperature rise to less than two degrees Celsius above pre-industrial levels. To have around a 3-in-4 chance of keeping to this limit, global emissions must fall to zero (or below) between 2060-2080.⁷ For Australia to do its fair share in keeping to the <2°C limit,

our national emissions of over half a billion tonnes per year must fall to net zero around 2040-2050 (developed countries have agreed to move faster than developing countries). By 2030, net emissions need to be around 65 per cent below 2005 levels.⁸ Based on current government projections,⁹ meeting targets consistent with the <2°C limit requires over 4,700 million tonnes of reductions from now to 2030.¹⁰

In the first auction, the government contracted to spend \$660 million on 47 million tonnes of emission reductions at an average price of \$13.95 per tonne. These emission reductions are to be achieved over the next ten years. If the ERF spends \$4.95 billion on emission reductions at the same price per tonne, it will only be able to reduce emissions by a total of 355 million tonnes between 2015 and 2030. This would represent 3 per cent of Australia's total projected emissions between 2015 and 2030. The ERF would achieve 7.5 per cent of our fair share of reductions for the <2°C limit.

If the ERF buys emission reductions at a significantly lower price, it may achieve more. In its 2017 review of climate policies, the government may decide to allow the ERF to purchase international permits, currently trading at low prices. Even if the ERF buys emission reductions at a lower carbon price of \$10 per tonne, achieving 495 million tonnes of reductions, this would represent 4.5 per cent of Australian emissions from 2015 to 2030. The ERF would achieve 10.5 per cent of Australia's fair share of the <2°C limit. These numbers assume all the emissions reductions purchased are actually delivered in practice.

4. The ERF falls well short of the government's inadequate 2030 target of a 26-28 per cent reduction from 2005 levels.

In the lead-up to the Paris climate negotiations, the Government has published its initial 2030 emission reduction commitment of 26-28 per cent below 2005 levels. (Final commitments will be made in the aftermath of Paris and are likely to be [regularly reviewed and increased](#).) The Climate Institute [has described this](#) initial target as inadequate because it is below a proportional response to the <2°C goal and would still leave Australia, in 2030, as the highest per capita emitter and most emissions intensive economy in the developed world.¹¹ On the basis of current government projections, a reduction of over 2,500 million tonnes is required between now and 2030 to meet the government's 2030 target.

If the ERF purchases 355 million tonnes, it would achieve just over 14 per cent of the emission reductions required for the government's initial goal. Even if the next round of projections revises down its forecast of Australia's emissions growth, a major challenge remains.

The government has not revealed how much emission reduction it expects from the Fund on its own. Also unclear is how much the safeguard mechanism could achieve, or if it will be strengthened following the 2017 review. However, between 2020 and 2030 (not the 2015-2030 of our analysis) the government says the combination of the ERF and its safeguard mechanism will reduce emissions by roughly 360 million tonnes.¹² The government has acknowledged additional policies will be required.

Government estimates of the emission reduction task to achieve its 2030 target

The government has announced that the 2015-2020 emission reduction task is 236 million tonnes. The government puts the 2020-2030 task at an “indicative estimate” of 800-900 million tonnes (the range matches the government’s target range).¹³ This totals 1,136 million tonnes from 2015 to 2030, or less than half of the task implied by the government’s current emission projections.

How does the government reach this number?

There is no publicly available information explaining the government’s “indicative estimate”. However, this number could be based on the same approach taken by the government’s UNFCCC taskforce. In modelling undertaken for the taskforce, the emission reduction task from 2020 to 2030 is calculated from a starting point that assumes Australia achieves its 2020 target of 5 per cent below 2000 levels. From this point, in the absence of policies, emissions rise at a similar trajectory as they are currently projected to rise from 2015. However, because they are starting from a lower point, the emission reduction task is less. In other words, the modelling assumes that unspecified policies will achieve Australia’s 2020 target but have no impact on the emissions pathway after 2020.

Interestingly, Australia reaches its 2020 target by cutting carbon emissions from energy by 25 per cent below projections, equivalent to a 16 per cent cut from current levels. The modelling report notes, “Under this assumption, the energy sector delivers around 90 per cent of total emissions abatement in 2020. This represents a high share of total abatement based on historical estimates.”¹⁴ It is hard to see how energy sector emissions are to be cut by 16 per cent from current levels by 2020 under existing policies. The government’s own emission inventory shows emissions from the energy sector have been increasing.¹⁵

5. The ERF has important strengths but major limitations.

One of the ERF’s strengths is its ability to target emission reductions in sectors not easily reached by other means. The diversity and complexity of the land sector is such that progress is still being made in understanding its capacity to reduce emissions. Some activities in this sector are unlikely to be responsive to carbon regulations or levies at this stage (though some activities, like land clearing, have been regulated effectively). By building on the methodologies and projects undertaken through of the previous government’s Carbon Farming Initiative, the ERF is preserving a range of emission reduction activities in the land sector.

Another strength is that successful bidders can rely on the government to deliver payment. Australia’s history of unstable climate policy has made companies understandably wary of investing in activities that could be rendered uneconomic by another change in policy settings. Entering a contract with the federal government significantly reduces the risks of such investments.

However, there are several major limits to the effectiveness of the ERF:

+ *Budget vagaries*

One weakness is the ERF’s budget. There is inadequate funding for the ERF to drive the bulk of emission reductions Australia requires. The Australian Industry Group estimates that meeting the 2030 target using only the ERF would cost taxpayers between \$100 and \$250 billion, assuming no purchase of international emission reductions.¹⁶ Meeting a target consistent with the <2°C goal would cost taxpayers significantly more. Moreover, as a federally funded program, the ERF’s future spending capacity is highly exposed to annual changes in future government spending priorities.

+ *Uncertain additionality and perverse incentives*

Secondly, the ERF’s reliance on federal funding allocates responsibility for reducing emissions to the taxpayer, rather than the polluting entity itself. This sets up a perverse incentive for companies either to not reduce emissions until they are paid to do so, or to seek government funding for emission reductions they would have made anyway. Both outcomes reduce the policy’s “additionality”, or its capacity to drive emission reductions beyond business as usual.

The government seeks to minimise these risks through the ERF’s terms of eligibility and methodologies. However, preventing these outcomes becomes more difficult as the range of eligible activities expands, particularly if activities become eligible when they could be better targeted through other means. For example, companies already have a financial incentive to improve their energy efficiency, but may try to get their energy efficiency investments subsidised by the ERF. Alternatively, if the ERF rewards gas companies for flaring rather than venting emissions of methane,¹⁷ companies may not flare gas if they are not paid to do it. Encouraging widespread take-up of energy efficiency, or preventing gas venting, might therefore be better done through broad-based standards.

+ *Lack of broad coverage*

To achieve net zero emissions over the coming decades, all sectors of the economy will need to invest in emissions reductions, innovation and increased productivity. By its nature, the ERF targets projects, not sectors or the broader economy. While some aggregation of projects is possible, the ERF does not send a broad-based investment signal to investors and companies to decarbonise their activities. For example, the ERF would not be an effective policy for the power sector. Decarbonisation of electricity requires both the retirement of existing emissions-intensive generation and the construction of new clean energy sources (in addition to those delivered through the current Renewable Energy Target). Funding both power station retirement and new clean power supplies would require hundreds of billions of dollars of ongoing government investment.

The safeguard mechanism could, in principle, transfer some responsibility back to polluting entities, but this requires its emission caps to require companies to reduce emissions.

6. Significant new policies are needed to put Australia on track to net zero emissions or below

Internationally, emissions purchasing policies like the ERF are generally used to support rather than replace direct carbon pricing and regulatory standards. European nations use the Kyoto Protocol's Clean Development Mechanism to purchase emissions reduction for their Kyoto targets, but rely primarily on the European carbon market, renewable energy and energy efficiency policies to drive broad-based domestic emission reduction.

The World Bank's \$100 million Pilot Auction Facility (PAF) for Methane and Climate Mitigation is cited by the government as an analogue for the ERF. However, the PAF has a much narrower mandate. It offers to buy Certified Emission Reductions from landfill methane capture projects developed under the Clean Development Mechanism at a minimum price, to prevent projects collapsing from the lack of demand in international carbon markets. At the same time, the World Bank supports carbon pricing as a "necessary part of the solution to drive investments in a cleaner economy, and a foundation on which other climate actions can build."¹⁸

The ERF should similarly act primarily to target emission reduction and innovation in sectors not suited to broad-based carbon pricing or regulation. Taxpayer funds should not be used to assist major polluters to reduce their emissions unless it can be demonstrated that no other mechanism would be as effective.

To achieve emission reductions consistent with the <2°C limit, Australia urgently needs a broader policy framework capable of reducing national emissions to net zero or below. Recently, the government has begun working to establish regulations to phase down super greenhouse gases used primarily in refrigeration (HFCs). It has also established a ministerial process to develop "world's best" vehicle standards.¹⁹ These are welcome, but insufficient steps.

An essential element of achieving net zero emissions by mid-century is the decarbonisation of the electricity supply well before this point. This is necessary to enable zero-carbon electrification of transport and some industrial processes. Decarbonising electricity requires both a phase-out of high-carbon coal-fired generators, and a phase-in of renewable or near-zero-carbon power. The Climate Institute recommends that the government regulate and plan a sustained phase-out of coal generators consistent with a near-zero emission electricity system before 2050.

Australia's energy efficiency framework has some excellent policies, but is riddled with holes. Energy performance standards apply to some products, but not others. Energy use disclosure requirements apply to some buildings, but not others. And some sectors have no binding standards at all. In Australia, private and heavy vehicles are a rising source of emissions that could be significantly reduced through efficiency or emissions regulations. Standards, similar to those already operational in most G20 nations, would significantly improve the energy productivity of the Australian vehicle fleet while reducing carbon pollution. The government has announced processes to investigate vehicle standards and develop a broader national energy productivity plan.

Finally, the government could strengthen the safeguard mechanism to improve its effectiveness and ensure major emitters play their part in reducing national emissions. This could be done by setting emission baselines, at levels consistent with the reductions needed to achieve zero emissions by mid-century, and by removing exemptions that currently exist within the scheme. Emission trading among participating companies would lower the costs of meeting such baselines or a national cap. Access to international permits could ease the transition for companies but would weaken the zero-carbon investment signal. A strengthened safeguard mechanism or targeted emission trading scheme could complement the policies outlined above, but cannot replace them, given the need for a portfolio of measures to tackle the wide range of emission sources across the economy.

Notes

1 For example, the [OECD](#), the [World Bank](#), and, domestically, the [Australian Climate Roundtable](#).

2 Department of the Environment, 'Emissions Reduction Fund' [webpage]. <https://www.environment.gov.au/climate-change/emissions-reduction-fund>, last accessed 9 November 2015.

3 For example, in an interview with Fran Kelly, ABC RN Breakfast, Thursday, 13 August 2015. Transcript available here: <http://www.greghunt.com.au/Home/LatestNews/tabid/133/ID/3431/Transcript-ABC-RN-Breakfast-Interview-with-Fran-Kelly.aspx>.

4 Liberal Party of Australia, 'The Coalition's Direct Action Plan', 2010. <http://www.greghunt.com.au/Portals/0/PDF/TheCoalitionsDirectActionPlanPolicy2010.pdf>.

5 Department of the Environment, 'The Emissions Reduction Fund: The Safeguard Mechanism' [webpage]. <https://www.environment.gov.au/climate-change/emissions-reduction-fund/publications/factsheet-erf-safeguard-mechanism>, last accessed 9 November 2015.

6 Reputex, 'Safeguard Leniency to Dilute ACCU Demand.' Reputex, 3 September 2015.

7 Joeri Rogelj, Michiel Schaeffer and Bill Hare, 2015. 'Timetables for Zero emissions and 2050 emissions reductions: State of the Science for the ADP Agreement.', Climate Analytics, February. http://climateanalytics.org/files/ca_briefing_timetables_for_zero_emissions_and_2050_emissions_reductions.pdf.

8 The Climate Institute, 2015. 'Australia's upcoming pollution reduction target announcement: How to make sense of it.' The Climate Institute, June. http://www.climateinstitute.org.au/verve/resources/Guide_to_Australias_targets_FINAL.pdf.

9 Department of the Environment, 2015. Australia's Emission Projections 2014-15, March.

10 The Climate Institute calculations based on Australia's Emission Projections 2014-15.

11 The Climate Institute, 2015. 'Government climate targets fail key tests', media release, The Climate Institute, 11 August. <http://www.climateinstitute.org.au/articles/media-releases/government-climate-targets-fail-key-tests.html>.

12 Department of Prime Minister and Cabinet, 2015. 'Australia's 2030 Emission Reduction Target'. UNFCCC Taskforce, Department of Prime Minister and Cabinet, 11 August. <https://www.dpmc.gov.au/sites/default/files/publications/Summary%20Report%20Australia%202030%20Emission%20Reduction%20Target.pdf>.

13 Department of Prime Minister and Cabinet, 2015. 'Australia's 2030 Emission Reduction Target'.

14 Warwick J. McKibbin, 2015. Report 1: 2015 Economic Modelling of International Action under a New Global Climate Change Agreement. McKibbin Software Group, 20 August, p.11.

15 Department of the Environment, 2015. Quarterly update of Australia's National Greenhouse Gas Inventory: March 2015.

16 Tennant Reed, 2015. 'How does the new emissions reduction target impact manufacturers?' Ai Group blog, 12 August. <http://blog.aigroup.com.au/how-does-the-new-emissions-reduction-target-impact-manufacturers/>.

17 The ERF offers emission reduction credits to oil and gas facilities for "installing and using gas capture equipment that re-routes fugitive emissions to a new or existing flare device for combustion. This cuts emissions because when methane (CH₄) is flared it is converted into carbon dioxide (CO₂). One tonne of methane has a Global Warming Potential (GWP) equivalent to 25 tonnes of CO₂. Therefore each tonne of methane flared generates the equivalent of approximately 24 tonnes of CO₂ emissions reductions." Department of the Environment, 2015. 'Emissions Reduction Fund Method: Oil and Gas Fugitives'. <https://www.environment.gov.au/system/files/resources/f1997f9e-a2d1-4b5c-929b-861d6efeafd9/files/factsheet-oil-gas-fugitives-method.pdf>.

18 World Bank, 2014. '73 Countries and More Than 1,000 Companies and Investors Support a Price on Carbon', media release, World Bank, 22 September. <http://www.worldbank.org/en/news/press-release/2014/09/22/73-countries-1000-companies-investors-support-price-carbon>.

19 Minister for Major Projects, Minister for the Environment, Minister for Energy, 2015. 'Turnbull Government to review approach to vehicle emissions', media release, 31 October.