

New fossil fuel projects in Australia 2023

Potential emissions from new major coal and gas projects

There are 116 new fossil fuel projects on the Federal Government's annual Resource & Energy Major Project list, two more than at the end of 2021. If all proceed as estimated, they will add 4.8 billion tonnes of emissions to the atmosphere by 2030. The proposed Safeguard Mechanism would reduce emissions from these projects by just 86 million tonnes—less than 2% of the total emissions. Worse, the Safeguard Mechanism would provide legitimacy to new fossil fuel projects, weakening state-imposed conditions and making the projects' development more likely.

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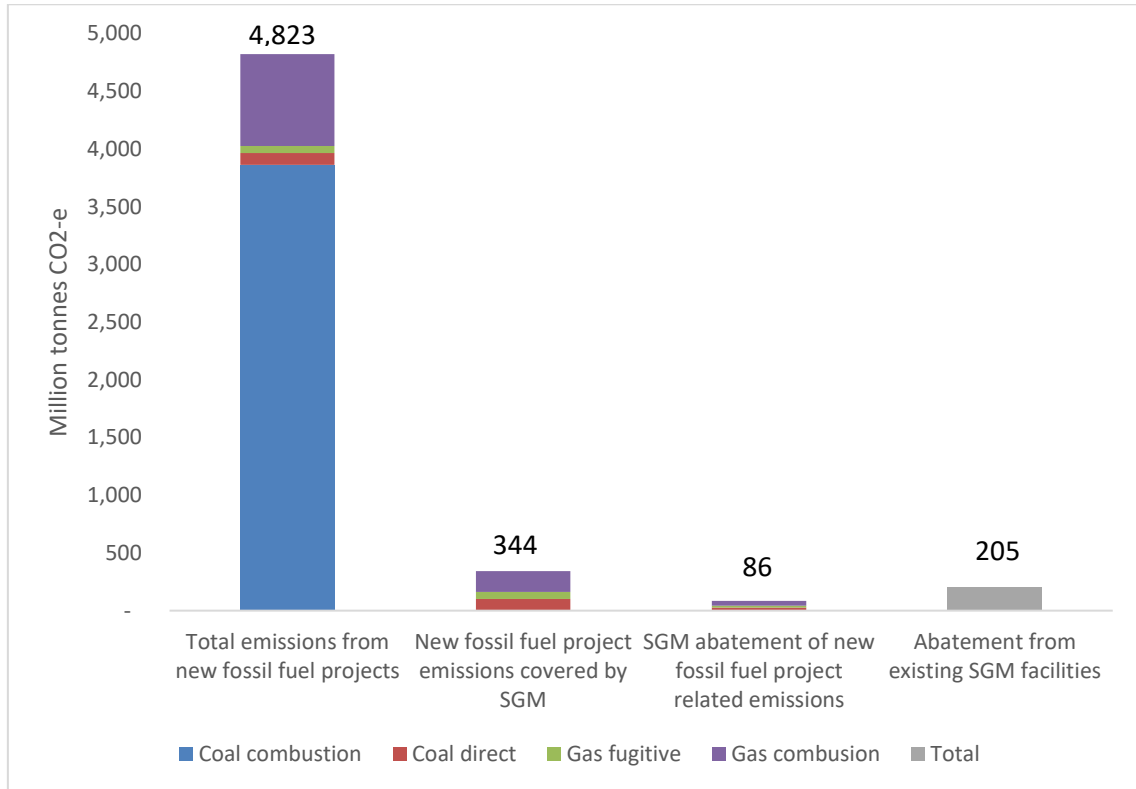
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Key messages

- The Australian Government currently supports unlimited growth in fossil fuel production and export, despite clear statements from the United Nations, International Energy Agency (IEA) and other leading bodies that new fossil fuel projects are incompatible with global temperature goals.
- According to the latest Australian Government Resources and Energy Major Projects (REMP) list, 116 new coal and gas projects are expected to begin production before 2030.
- If they all proceed, the 116 new projects would result in annual emissions of 1.4 billion tonnes of CO₂-equivalent (CO₂-e)—the equivalent of operating 215 coal power stations.
- If the projected start dates in the REMP list are met, the projects will cause 4.8 billion tonnes of greenhouse pollution by 2030. This amount is 24 times greater than the total 205 million tonne reduction that Australia’s main climate policy, the proposed Safeguard Mechanism, aims to achieve over the same period.
- Of the 4.8 billion tonnes of emissions that would result from the new coal and gas projects by 2030, only 344 million tonnes (or just over 7%) would be covered by the Safeguard Mechanism.
- As currently proposed, the Safeguard Mechanism would deliver a *theoretical* reduction of the projects’ emissions of just 86 million tonnes. This is less than 2% of the 4.8 billion tonnes of emissions the projects would create. The projects’ operators will be able to meet the Mechanism’s reduction obligations entirely through purchasing offsets.
- While projects identified by the Australian Government on the REMP list may not go ahead, the calculations of potential emissions from new projects presented here could be conservative because:
 - Several very large and advanced projects from the REMP list were excluded from the emissions calculations where production estimates are not provided, or which would start after 2030;
 - The REMP list does not include several vast new gas basins, including the Beetaloo, Canning and Eromanga basins being actively supported by Australian governments; and
 - Current windfall profits provide a strong additional incentive for new fossil fuel projects to proceed.
- Allowing new fossil projects to be registered under the Safeguard Mechanism will enable and legitimise these projects, helping to lock in the expansion of

fossil fuel production in Australia, and its resulting emissions for the foreseeable future.

Figure 1: Emissions from new gas and coal projects compared to potential emissions reduction under the Safeguard Mechanism to 2030.



Source: Author's calculations based on DISER 2022

Summary

In December 2022, the Department of Industry, Science and Resources (DISER) published the Resources and Energy Major Projects (REMP) list, its annual list of upcoming major resource and energy projects. The list includes 69 coal projects and 49 oil and gas projects, a total of 118 fossil fuel projects. Two coal projects have since been abandoned, but Australia still has more fossil fuel projects in the pipeline than the 114 proposed at the end of 2021.

The REMP list includes information on when projects are expected to start and estimates of their production volumes. Using these data points and applying average emissions estimates, this report estimates the emissions that could be expected to result from the projects on the REMP list. These estimates are summarised in Tables 1 and 2 below. We have estimated both potential annual emissions and cumulative emissions to 2030. The estimates include emissions from both the production and combustion of fossil fuels. They assume that all projects proceed to production, and that they commence operation on the REMP list start dates.

Table 1: Potential annual emissions from new coal and gas projects (Mt CO₂-e/year)

Direct emissions	
Coal direct emissions	31
Gas & oil fugitive emissions	15
Subtotal: annual direct emissions	45
Combustion emissions	
Coal	1,166
Gas & oil	189
Subtotal: annual combustion emissions	1,355
Total annual emissions	1,401

Source: Author's calculations based on DISER 2022

Table 2: Potential emissions to 2030 from new coal and gas projects (Mt CO₂-e/year)

Direct emissions	
Direct emissions – coal	102
Fugitive emissions – gas and oil	62
Subtotal: 2030 direct emissions	164
Combustion emissions	
Combustion emissions – coal	3,863
Combustion emissions – gas and oil	796
Subtotal: 2030 combustion emissions	4,659
Total emissions to 2030	4,823

Source: Author's calculations based on DISER 2022

New fossil fuel projects in Australia 2023

The key figures summarised here are that the fossil fuel projects on the REMP list could result in 1.4 billion tonnes of emissions annually, and a total of 4.8 billion tonnes to 2030. For context, Australia’s total domestic emissions in 2021–22 were 490 million tonnes of CO₂-e. The annual potential emissions of 1.4 billion tonnes would be equivalent to building 215 new coal power stations (based on the average emissions of Australia’s current existing coal power stations).

These estimates are likely to be conservative because they exclude several major projects on the REMP list for which production estimates are not provided, along with several vast gas basins that do not feature on the list for reasons that remain unclear. The latter include the Beetaloo, Canning and Lake Eyre Basins, the development of which are all being actively supported by Australian governments.

Australia’s main climate policy is the Safeguard Mechanism. It applies to facilities that are major emitters of greenhouse gases, such as mines, gas projects, liquified natural gas facilities and manufacturers. Covered facilities are required to keep net emissions under a baseline level. However, offsets can be used to meet this obligation if actual emissions are higher. The Safeguard Mechanism applies only to emissions that occur in Australia, with no limit on fossil fuel exports. The vast bulk of Australia’s fossil fuel production is exported, meaning any downstream emissions are not covered by the Safeguard Mechanism.

The current proposals for reform of the Safeguard Mechanism see facilities covered by the policy required to reduce emissions by 4.9% per year, each year, to 2030. The reform proposals place no limit on the number of new fossil fuel projects or other new polluters.

The direct emissions from the projects on the REMP list would be covered by the Safeguard Mechanism, as would the combustion of their products that occurs in Australia. Based on the REMP list and current usage patterns, we estimate covered emissions from REMP list projects in Table 3 below:

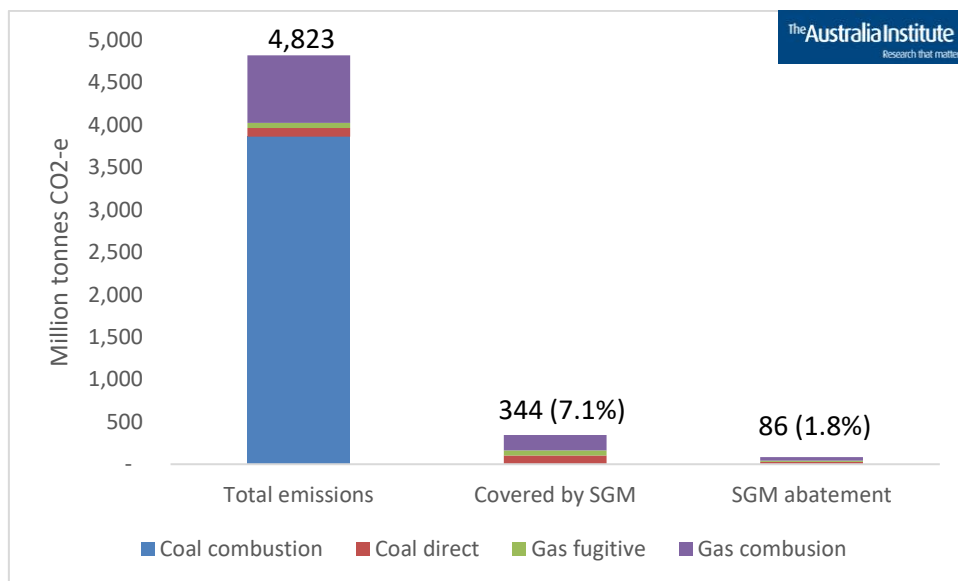
Table 3: Emissions from REMP list fossil fuel projects covered by Safeguard Mechanism to 2030 (Mt CO₂-e)

Emissions source	
Coal direct emissions	102
Gas fugitive emissions	62
Gas use in LNG operations	49
Gas use by domestic mining (excl LNG) and manufacturing	131
Total	344

Source: Author’s calculations based on DISER 2022

If the projects proceed in the years anticipated by the REMP list, and the 4.9% annual reduction rate is applied to all projects—including new entrants and related consumers—we estimate that the Safeguard Mechanism would reduce the emissions related to the REMP projects from 344 million tonnes by 2030 to 258 million tonnes by 2030. This is an abatement of 86 million tonnes. The coverage of the Safeguard Mechanism and its potential abatement needs to be seen in the context of the REMP new fossil fuel projects’ overall emissions, summarised in Figure 2 below:

Figure 2: Emissions from REMP list fossil fuel projects to 2030



Source: Author’s calculations based on DISER 2022

Even this level of abatement is optimistic given the likely extensive use of carbon offsets and the integrity problems that beset the Australian and international offset systems.

Crucially, the application of the Safeguard Mechanism is not a neutral decision in the context of whether these projects actually proceed. Allowing new coal and gas projects to register under the Safeguard Mechanism confers legitimacy and gives certainty to these projects as to their emissions requirements. This will assist them in gaining other regulatory approvals and finance, locking in the ongoing expansion of fossil fuel production and consumption.

There are already examples of how being able to claim a project is covered under flagship federal policy has helped operators obtain approval from state regulators. Several decisions of the NSW Independent Planning Commission and the National Offshore Petroleum Safety and Environmental Management Authority—discussed in detail below—demonstrate that federal policy has already decreased the potential for

other regulators to impose effective conditions on project emissions and how the Safeguard Mechanism could similarly tie the hands of other decision makers.

This analysis of Australia's proposed new fossil fuel projects and its current proposal to limit emissions makes it clear that Australia still needs to seriously wrestle with the question of how to decarbonise its domestic economy, and to reckon with the damage done by the coal and gas it exports. The current Safeguard Mechanism proposal does neither; instead, it is likely to further entrench the expansion of fossil fuel development. It should not be implemented without major revision.

Introduction

Australian coal and gas are having a devastating impact on the world's climate. Almost 90% of the coal and 80% of the gas produced in Australia is exported. Australia is the third largest exporter of fossil fuels globally. As such, the actions Australian governments take, or don't take, on coal and gas production matter a lot—not just to Australia, but to the world.

In December 2022 the Department of Industry, Science and Resources (DISER) published the Resources and Energy Major Projects (REMP) list,¹ its annual list of major resource and energy projects that are under development. The list includes 69 coal projects and 49 oil and gas projects, a total of 118 fossil fuel projects. This represents an increase on last year's tally of 114. Since the publication of the list, one coal project has been withdrawn and another refused approval (discussed below). This leaves 116 projects, meaning that Australia still has two more fossil fuel proposals on this official list than it did a year ago.

This report makes broad estimates of the potential greenhouse gas emissions of these projects based on the major projects list and other available data. These calculations demonstrate the scale of fossil fuel expansion being contemplated by project proponents and Australian governments. The calculations may be conservative due to several factors:

- They exclude several large and well-advanced projects included in the REMP list because the Department has not provided information on the production capacity of these projects. These include: Santos's Barossa, Spartan and Corvus offshore gas fields; Chevron's Cleo Acme field; Woodside's Greater Sunrise; Shell's (Arrow) Bowen Gas Project and others.
- The list also excludes projects to develop several vast gas basins, including the Beetaloo Basin in the Northern Territory, with estimated potential emissions of

¹ DISER (2022) *Resources and energy major projects: 2022*,
<https://www.industry.gov.au/publications/resources-and-energy-major-projects-2022>

1.3 billion tonnes,² along with the Canning³ and Cooper-Eromanga⁴ unconventional gas basins—both of which have significantly larger resources than the Beetaloo Basin, and the potential for even greater emissions. It is unclear why these proposals are not included, as their development is actively supported by Australian governments.

- The enormous windfall profits reaped by coal and gas producers due to the Ukraine conflict and sanctions on Russian energy exports add to the incentive for projects to proceed.

These projects make it harder for the world to limit global warming and also for Australia to meet its climate commitments. Their global lifecycle emissions are vast, and their emissions within Australia would represent a substantial increase in national emissions. This briefing note includes a comparison of these potential national emissions with emissions abatement under the Australian Government’s key climate policy, the Safeguard Mechanism.

² Reputex (2021) Analysis of Beetaloo Gas Basin Emissions & Carbon Costs, https://www.reputex.com/wp-content/uploads/2021/10/REPUTEX_Analysis-of-Beetaloo-Gas-Basin-Emissions-and-Carbon-Costs_Oct21F.pdf

³ Climate Analytics (2018) Western Australia’s Gas Gamble – Implications of natural gas extraction in WA, <https://climateanalytics.org/publications/2018/western-australias-gas-gamble/>

⁴ Lowe (2022) Emissions from potential gas development, Queensland Lake Eyre Basin, [https://d3n8a8pro7vhm.cloudfront.net/lockthegate/pages/2066/attachments/original/1641948889/LEB_report_\(1\).pdf?1641948889](https://d3n8a8pro7vhm.cloudfront.net/lockthegate/pages/2066/attachments/original/1641948889/LEB_report_(1).pdf?1641948889)

Coal projects

There are 69 new coal projects on the REMP list. Since the list was published, one project has been abandoned by the proponent (Valeria), and another was refused permission to proceed by state and federal authorities (Styx).⁵ Both are thus excluded from our calculations. The 67 remaining projects have annual new production capacity of 440 million tonnes per year, roughly equivalent to the 422 million tonnes of black coal Australia produced in 2021-22.⁶

On average, Australian coal projects produce 70 kilograms of CO₂-e pollution for each tonne of saleable coal produced.⁷ Applying this average to the DISER list gives an estimate of 30.8 million tonnes of direct emissions per year that these projects would produce.

When one tonne of coal is burned it releases approximately 2.65 tonnes of CO₂-e into the atmosphere.⁸ Burning all the 440 million tonnes of coal produced by the 67 new projects on the DISER list would, therefore, produce 1.2 billion tonnes of CO₂-e per year. For context, Australia emitted 490 million tonnes of CO₂-e in the year 2021–22.⁹

⁵ Hines and Culliver (2022) *Glencore pulls out of \$1.5 billion Valeria coal mine project in central Queensland*, <https://www.abc.net.au/news/2022-12-08/glencore-valeria-coal-mine-canceled/101747486>; Readfearn (2021) *Clive Palmer coalmine next to Great Barrier Reef rejected by Queensland Government*, <https://www.theguardian.com/australia-news/2021/apr/28/clive-palmer-coalmine-next-to-great-barrier-reef-rejected-by-queensland-government>; ABC (2023) *Environment Minister Tanya Plibersek blocks Clive Palmer's Central Queensland coal mine*, <https://www.abc.net.au/news/2023-02-08/tanya-plibersek-blocks-clive-palmer-central-qld-coal-mine/101945208>

⁶ DISER (2022) *Resources and energy quarterly: December 2022*,

<https://www.industry.gov.au/publications/resources-and-energy-quarterly-december-2022>

⁷ See Hemming et al (2022) *Trade with no cap: Submission to draft legislation for Safeguard Mechanism Credits*, <https://australiainstitute.org.au/report/trade-with-no-cap/>; and Campbell et al (2022) *Submissions on reconsideration of fossil fuel projects under the EPBC Act*, <https://australiainstitute.org.au/report/submissions-on-reconsideration-of-fossil-fuel-projects-under-the-epbc-act/>

⁸ See methodology in Ogge et al (2021) *Undermining Climate Action: The Australian Way*, <https://australiainstitute.org.au/report/undermining-climate-action/>

⁹ DCCEEW (2022) *National Greenhouse Gas Inventory Quarterly Update: June 2022*, <https://www.dcceew.gov.au/climate-change/publications/national-greenhouse-gas-inventory-quarterly-update-june-2022>

DISER also estimates the year in which each project will begin production. All projects examined in this analysis are expected to start operating before 2030—the year by which Australia is aiming to have reduced emissions by 43% below 2005 emissions. Based on DISER start dates, we calculated the years that each project would operate to 2030 and, assuming REMP list annual production levels, we estimated the resulting emissions to 2030.

The 67 projects would operate for an average of 3.5 years before 2030, with a total of 239 operation-years between them. If all coal projects proceed as DISER estimates, mining and processing the fuels alone will produce a total of 103 million tonnes of CO₂-e to 2030.

Table 4 below summarises the key details of the 67 new coal proposals.

Table 4: New coal proposals summary

Number of new projects	Number	67
Potential annual production	Mt	440
Potential annual direct emissions	Mt CO ₂ e/year	31
Potential annual scope 3 emissions	Mt CO ₂ e/year	1,166
Potential production to 2030	Mt	1,466
Potential direct emissions to 2030	Mt CO ₂ e	103
Potential scope 3 emissions to 2030	Mt CO ₂ e	3,882
Total potential emissions to 2030	Mt CO ₂ e	3,984

Source: Author's calculations based on DISER 2022

Gas and oil projects

There are 49 gas and oil projects on the REMP list. DISER has published production estimates for 35 of these 49 projects. These estimates are expressed as terajoules of energy per day (TJ/day). The new gas projects would have total capacity of 10,035 TJ/day, or 3,663 petajoules (PJ) per year.¹⁰ Australia produced approximately 6,056 PJ of natural gas in 2021–22.¹¹

The combustion of one TJ of natural gas results in carbon dioxide equivalent emissions of 51.5 tonnes of CO₂-e,¹² meaning if all 35 projects for which information is provided proceed to production, the combustion of their gas will result in 189 million tonnes CO₂-e per year.

These calculations exclude one new liquefied natural gas (LNG) processing facility—Pluto Expansion Train 2 at Woodside's Pluto LNG facility in Western Australia—to avoid double-counting, as this facility's capacity would likely be drawn from the capacity of other projects on the list. The calculations do, however, include five proposed LNG import terminals with a combined capacity of 1,500 TJ/day. This risks some double-counting depending on the origin of any eventual LNG imports. If the LNG comes from other countries or existing projects in Australia, there is no double-counting. In the unlikely event that the LNG originates from projects in the REMP list, its impact would be double-counted.

In addition to combustion emissions, fugitive emissions of methane are a large source of direct emissions from gas mining operations. Gas projects result in roughly 4 tonnes of CO₂-e emissions per TJ of gas production,¹³ meaning these projects would produce around 14.7 million tonnes of CO₂-e per year. Combining this figure with the projects' combustion emissions results in annual emissions of 203 million tonnes CO₂-e.

As with coal projects, DISER estimates the year in which each project is expected to begin production. All projects considered in this study are expected to start operation before 2030. On average, the projects would operate for 5.3 years to 2030, with a total

¹⁰ One petajoule is 1,000 terajoules.

¹¹ DISER (2022) *Resources and energy quarterly: December 2022*

¹² Australian Government, Department of Climate Change Energy, the Environment and Water (DCCEEW) (2023) Australian National Greenhouse Accounts Factors, Table 4 p.13, <https://www.dcceew.gov.au/sites/default/files/documents/national-greenhouse-accounts-factors-2022.pdf>

¹³ Based on calculations in Ogge et al (2022) *Undermining Climate Action: The Australian Way*, <https://australiainstitute.org.au/report/undermining-climate-action/>

production of 15,411 PJ over a total of 175 operation-years. If the projects proceed as DISER estimates, by 2030 they will result in 796 million tonnes CO₂-e of combustion emissions and 62 million tonnes CO₂-e of fugitive emissions, making a total of 857 million tonnes CO₂-e, as set out in Table 5 below.

Table 5: New gas and oil proposals summary

Number of new projects on REMP list	Number	49
Number of projects in this analysis	Number	34
Potential annual production	PJ/year	3,663
Potential annual combustion emissions	Mt CO ₂ e/year	189
Potential annual fugitive emissions	Mt CO ₂ e/year	14.7
Potential total annual emissions	Mt CO ₂ e/year	203
Potential production to 2030	PJ	15,411
Potential combustion emissions to 2030	Mt CO ₂ e	796
Potential fugitive emissions to 2030	Mt CO ₂ e	62
Total potential emissions to 2030	Mt CO ₂ e	857

Source: Author's calculations based on DISER 2022

Total emissions

The tables below summarise the potential annual emissions and potential emissions to 2030 of the coal and gas projects on the REMP list, discussed above.

Table 6: Potential annual emissions from new coal and gas projects (Mt CO₂-e/year)

Direct emissions	
Coal direct emissions	31
Gas & oil fugitive emissions	15
Subtotal: annual direct emissions	45
Combustion emissions	
Coal	1,166
Gas & oil	189
Subtotal: annual combustion emissions	1,355
Total annual emissions	1,401

Source: Author's calculations based on DISER 2022

Table 6 shows that the new fossil fuel projects on the REMP list have the potential to cause 1.4 billion tonnes per year of greenhouse gas pollution from 2030 when all the projects would be operating. Table 6 uses the REMP list estimated start dates to estimate emissions to 2030.

The average emissions of Australia's 20 operating coal power stations in 2021–22 were 6.5 Mt CO₂-e.¹⁴ The potential annual emissions of 1.4 billion tonnes per of Australia's these new coal and gas projects would be equivalent to the emissions of 215 new coal power stations of this size.

Table 7: Potential emissions to 2030 from new coal and gas projects (Mt CO₂-e)

Direct emissions	
Coal direct emissions	102
Gas & oil fugitive emissions	62
Subtotal: direct emissions to 2030	164
Combustion emissions	
Coal	3,863
Gas & oil	796
Subtotal: combustion emissions to 2030	4,659
Total emissions to 2030	4,823

Source: Author's calculations based on DISER 2022

¹⁴ Clean Energy Regulator (2023) Electricity sector emissions and generation data 2021–22, <https://www.cleanenergyregulator.gov.au/NGER/National%20greenhouse%20and%20energy%20reporting%20data/electricity-sector-emissions-and-generation-data/electricity-sector-emissions-and-generation-data-2021%E2%80%9322>, author's calculation.

Table 7 shows that the new fossil fuel projects on the REMP list would result in 4.8 billion tonnes of greenhouse gas pollution to 2030.

The Safeguard Mechanism and new fossil fuel projects

The Albanese Government aims to reduce Australia’s greenhouse gas emissions by 43% below 2005 levels by 2030. One of the measures it is proposing to achieve this goal is a set of proposed amendments to the existing Safeguard Mechanism policy. The Safeguard Mechanism aims to reduce net emissions from the country’s main industrial polluters, including coal and gas projects. The Government estimates that its amended policy will reduce net emissions by 205 million tonnes to 2030 from all sources.¹⁵ Unfortunately, as discussed above, the potential emissions from new fossil fuel projects on the REMP list are far in excess of this potential abatement.

The Safeguard Mechanism aims to reduce emissions by requiring facilities covered by the policy to keep their direct emissions under baseline levels. The current proposals to reform the Safeguard Mechanism would see these baselines decline at 4.9% per year, with emissions for 2023–24 set at 95.1% of the baseline, 2024–25 set at 90.2%, etc.¹⁶

Controversially, the Safeguard Mechanism reforms would still allow new gas and coal projects to begin operations. This means that while individual projects’ emissions might be reduced, the overall amount of pollution that industrial polluters are allowed to emit will still be able to increase.

The Safeguard Mechanism covers the direct emissions created by the production of fossil fuels by the facilities to which it applies, and also the indirect emissions created burning those fuels—but only if they are burned in Australia. To understand how the Safeguard Mechanism would affect the new fossil fuel projects, it is therefore necessary to consider what portion of their emissions to 2030 would occur in Australia.

For coal projects this is relatively simple—their direct emissions are included, but their combustion emissions are effectively entirely exported. (We assume for these purposes that any new coal projects will be entirely export-based, given that Australia’s existing coal mines produce more than enough coal to cover domestic

¹⁵ Bowen (2023) *Next steps to safeguard Australian industry and regions in net zero global economy*, <https://minister.dcceew.gov.au/bowen/media-releases/next-steps-safeguard-australian-industry-and-regions-net-zero-global-economy>

¹⁶ DCCEEW (2023) *Safeguard Mechanism reform consultation - factsheet 2 January 2023*, <https://consult.dcceew.gov.au/safeguard-mechanism-reform-consult-on-design>

consumption.) For gas projects, however, the impact of the Safeguard Mechanism is more complex. Fugitive emissions are covered by the Safeguard Mechanism, along with combustion emissions in Australia. These combustion emissions include both the domestic consumption of gas and the consumption of gas by LNG export projects.

In the below estimates, we assume that current rates of exports and Australian domestic use are maintained:

- 85% of gas produced in Western Australia goes to LNG exports and 15% is used domestically (in line with the WA Domestic Gas Reservation Policy); and
- Two thirds of gas produced in the eastern states goes to LNG exports, with the remaining third retained for domestic use.

Applying this to the potential new projects on the REMP list, by state, to 2030 results in 9,519 PJ of gas being used for LNG exports and 6,021 PJ used domestically.

LNG projects consume enormous quantities of energy in the process of turning gas into a liquid for shipping—roughly 10% of the energy content of the gas extracted.¹⁷ Based on the above estimates, 952 PJ of gas would be used in LNG processing to 2030, resulting in 49.5 million tonnes of CO₂-e, which would be covered by the Safeguard Mechanism. The emissions from overseas combustion of LNG would not be covered by the Safeguard Mechanism.

Domestic use of 6,021 PJ of gas to 2030 would result in 237 million tonnes CO₂-e. However, not all of the Australian emissions would be covered under the Safeguard Mechanism. According to the Australian Energy Statistics, industries with major facilities likely to be covered by the Safeguard Mechanism (manufacturing and mining) used around 477 PJ of gas in 2020-21.¹⁸ This represents 42% of domestic gas supply. Assuming this share stays constant to 2030, and that the entirety of the manufacturing and mining sectors are covered by the Safeguard Mechanism (which is likely to be an overestimate), the emissions by facilities covered by the policy to 2030 would be 99 million tonnes CO₂-e.

The emissions resulting from the REMP list of new fossil fuel projects that would be covered by the Safeguard Mechanism are summarised in Table 8 below:

¹⁷ Based on figures in DCCEW (2022) *Australian Energy Update 2022*, <https://www.energy.gov.au/publications/australian-energy-update-2022>

¹⁸ DCCEW (2022) *Australian Energy Statistics – Australian Energy Update 2022*, <https://www.energy.gov.au/government-priorities/energy-data/australian-energy-statistics>

Table 8: Emissions from new fossil fuel projects covered by Safeguard Mechanism to 2030 (Mt CO₂-e)

Emissions source	
Coal direct emissions	102
Gas fugitive emissions	62
Gas use in LNG operations	49
Gas use by domestic mining (excl LNG) and manufacturing	131
Total	344

Source: Author's calculations based on DISER 2022

Table 8 shows that only 344 million tonnes of emissions related to the REMP list fossil fuel projects would be covered by the Safeguard Mechanism, compared to the 4.8 billion tonnes CO₂-e that those projects are estimated to create.

To estimate how much of this 344 million tonnes would be abated under the current Safeguard Mechanism reform proposal it is necessary to consider the year in which each project starts and what baseline might apply to the new entrant in that year. This is a matter that is still under debate, with options for baselines being set based on industry best practice or industry average.¹⁹ Here, we assume that each project will begin operation in the year estimated by the REMP list, and that all its covered emissions will be reduced in line with the reduction factor for that year.

Two examples of the calculations follow.

NEW LENTON COAL PROJECT

The REMP list estimates that the New Lenton coal project in Queensland will start production in 2028. It will operate for two years under the Safeguard Mechanism to 2030.

Based on reported capacity, we estimate that the project would produce around 100,000 tonnes of direct emissions each year without the Safeguard Mechanism.²⁰

By the year 2028, the Safeguard Mechanism will have imposed emissions reductions to limit facilities to 70.6% of their baseline. Assuming New Lenton's starting year baseline is set in line with what has applied to the rest of the coal industry, its net emissions will

¹⁹ DCCEEW (2022) *Safeguard Mechanism Reforms: Consultation paper*, <https://consult.dcceew.gov.au/safeguard-mechanism-reform-consultation-paper>

²⁰ Our estimate is actually 105,000 tonnes, rounded down in text here for simplicity. 105,000 is the number used in our spreadsheets and final calculations.

be 70,600 tonnes in that year, representing abatement of 29,400 tonnes by the Safeguard Mechanism.

In 2029, New Lenton and all other facilities must reduce emissions to 65.7% of their original baseline, 4.9% lower than the year before. New Lenton's emissions will be 65,700 tonnes, representing abatement of 34,300 tonnes by the Safeguard Mechanism.

CLIO-ACME

The REMP list estimates that the Clio-Acme gas project off Western Australia will start production in 2028. It will operate for two years under the Safeguard Mechanism to 2030.

Based on reported capacity, we estimate the project would produce around 100,000,000 tonnes of direct emissions each year without the Safeguard Mechanism.²¹

As above, we assume the project will be required to limit its emissions to 70.6% of this estimate in 2028 and 65.7% in 2029, in line with other covered facilities. This results in 706,000 tonnes emitted in 2028 and 657,000 in 2029, a total of 1,363,000 tonnes. This represents abatement of 637,000 tonnes compared to the 2,000,000 tonnes that might have been expected without the Safeguard Mechanism.

As mentioned above, we assume that 85% of gas from a WA project will be used for LNG exports, and that 10% of this amount will be combusted in Australia as part of the gas liquefaction process. Of the remaining 15% of production, we assume that 42% will go to domestic industrial use covered by the Safeguard Mechanism. These calculations work out at just under 2 million tonnes of covered combustion emissions per year coming from the Clio-Acme project.²²

We assume that all covered facilities also reduce their emissions in line with the Safeguard Mechanism decline rate. In 2028, the Clio-Acme related combustion emissions are reduced to 70.6% of the 2 million baseline, or 1.4 million tonnes. In 2029, they are reduced to 65.7% of baseline, or 1.3 million tonnes. This total of 2.7 million tonnes represents abatement of 1.3 million tonnes compared to the 4 million tonnes that could have been expected without the Safeguard Mechanism.

²¹ Our estimate is actually 1,046,820 tonnes, rounded down in text here for simplicity. 1,046,820 tonnes is the number used in our spreadsheets and final calculations.

²² Our estimate is 1,994,716 tonnes per year.

Applying these methods to all relevant projects in the REMP list, Table 6 below estimates the abatement that would be achieved by the Safeguard Mechanism:

Table 9: Abatement of emissions relevant to new fossil fuel projects by Safeguard Mechanism to 2030

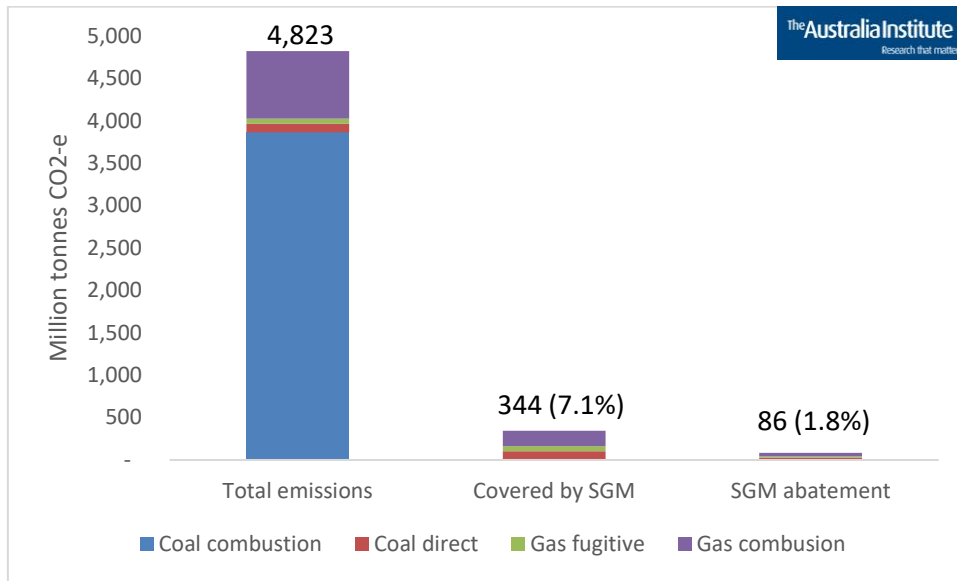
Emissions source	Emissions type	Emissions without Safeguard Mechanism (Mt CO ₂ -e)	Emissions under Safeguard Mechanism (Mt CO ₂ -e)	Abatement achieved by Safeguard Mechanism (Mt CO ₂ -e)
Coal	Direct	102	75	28
Gas & oil	Fugitive	62	47	15
Gas & oil	Covered combustion	180	137	43
Total		344	258	86

Source: Author's calculations based on DISER 2022

Table 9 estimates that new fossil fuel projects and related combustion emissions in LNG production, domestic mining and manufacturing would result a total of 344 million tonnes of emissions to 2030 (see also Table 8). These emissions would be covered by the Safeguard Mechanism. If all fossil fuel projects and related users reduced their emissions in line with the proposed 4.9% per year rate, these emissions would be reduced to 258 million tonnes to 2030, a reduction of 86 million tonnes.

These estimates should be seen in the context of the total emissions that could result from the fossil fuel projects on the REMP list. Figure 1 below shows total emissions, including overseas combustion, emissions that would be covered by the Safeguard Mechanism and the abatement that could be achieved by the Safeguard Mechanism:

Figure 3: Emissions from REMP list fossil fuel projects to 2030

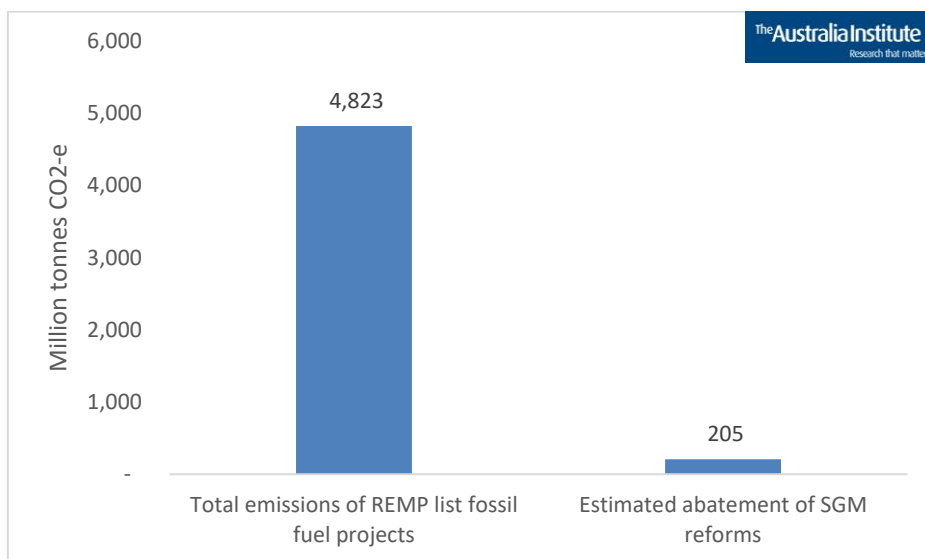


Source: Author’s calculations based on DISER 2022

Figure 3 shows that the new fossil fuel projects on the REMP list could result in emissions of 4.8 billion tonnes to 2030. Just 344 million tonnes would be covered by the Safeguard Mechanism. If the Safeguard Mechanism achieves abatement in line with the current proposal, this would result in abatement from these projects and related users of 86 million tonnes to 2030.

Similarly, Figure 4 below compares the REMP list fossil fuel project emissions to 2030 with the estimated abatement from the Government’s Safeguard Mechanism reforms.

Figure 4: Emissions from new gas and coal projects compared to promised emissions reduction from all facilities from Safeguard Mechanism to 2030



Source: Author’s calculations based on DISER 2022

New fossil fuel projects in Australia 2023

Figure 4 shows the 4.8 billion tonnes of emissions from new coal and gas projects on the REMP list would be 23 times greater than the promised 205 million tonnes of emissions reductions (including unlimited offsets) from all facilities covered by the Safeguard Mechanism to 2030.²³

This also raises the question of whether Safeguard Mechanism abatement is genuine. The current proposals would allow for unlimited use of carbon offsets—and given the difficulty of decarbonising mining operations, fugitive emissions, LNG production and other gas-using heavy industry, it is likely that these industries will rely heavily on those offsets.

This is problematic as both Australian and global offsets systems have been plagued with integrity problems. If significant volumes of offsets are used to offset these emissions, and these offsets do not represent genuine abatement, then even the abatement figures above would be optimistic.

²³ Bowen (2023) *Next steps to safeguard Australian industry and regions in net zero global economy*, <https://minister.dcceew.gov.au/bowen/media-releases/next-steps-safeguard-australian-industry-and-regions-net-zero-global-economy>

How the proposed Safeguard Mechanism reforms lock in future fossil fuel expansion and emissions

There is currently an enormous amount of uncertainty about the future of new fossil fuel developments. The world's peak energy body, the International Energy Agency (IEA),²⁴ is calling for an end to new fossil fuel development, as are the United Nations²⁵ and a multitude of scientists in Australia²⁶ and around the world.²⁷ Governments and regulators²⁸ are coming under increasing pressure to not to approve new fossil fuel projects due to their impact on the climate, and to recognise the impact of emissions from exports.²⁹ Courts are increasingly backing this position, and have rejected projects at least in part based on their climate impact.³⁰ Investors are increasingly reticent to provide finance to new fossil projects.³¹

The Safeguard Mechanism does not in itself approve new coal and gas projects. These projects are generally approved by state and territory governments; some also require approval by the Australian Government or its agencies. The proposed reforms to the Safeguard Mechanism will cover all these projects once they go into production,

²⁴ IEA (May 2021), *Net Zero by 2050: A Roadmap for the Global Energy Sector*, <https://www.iea.org/reports/net-zero-by-2050>

²⁵ UNEP (October 2022), *Governments' fossil fuel production plans dangerously out of sync with Paris limits*, <https://www.unep.org/news-and-stories/press-release/governments-fossil-fuel-production-plans-dangerously-out-sync-paris>

²⁶ The Australia Institute (February 2023) *An Open Letter from Australian Scientists and Experts – No New Fossil Fuel Projects*, https://nb.australiainstitute.org.au/scientists_open_letter

²⁷ Welsby et al (2021), *Unextractable fossil fuels in a 1.5 °C world* <https://www.nature.com/articles/s41586-021-03821-8>

²⁸ Milne (December 2022), *Rough seas ahead for offshore energy despite demand boom*, <https://www.smh.com.au/business/companies/rough-seas-ahead-for-offshore-energy-despite-demand-boom-20221211-p5c5dy.html>

²⁹ Cox (February 2023), *Eight coal projects to be considered by NSW forecast to add 1.5bn tonnes to global emissions*, <https://www.theguardian.com/australia-news/2023/feb/28/eight-coal-projects-to-be-considered-by-nsw-forecast-to-add-15bn-tonnes-to-global-emissions>

³⁰ Land and Environment Court New South Wales (2019), *Gloucester Resources Limited v Minister for Planning*, <https://www.caselaw.nsw.gov.au/decision/5c59012ce4b02a5a800be47f>

³¹ Harvey (2021) *Twenty countries pledge end to finance for overseas fossil fuel projects*, <https://www.theguardian.com/environment/2021/nov/03/twenty-countries-pledge-end-to-finance-for-overseas-fossil-fuel-projects>

allocating them an emissions baseline and requiring them to reduce or offset their emissions over time.

However, by allowing new coal and gas projects to register under the Safeguard Mechanism, the government confers legitimacy on these projects. It also gives their operators certainty about their obligations going forward with regard to emission reductions. Indeed, according to Chris Bowen, the Minister for Climate Change and Energy, providing certainty is a central aim of the policy:

These proposed reforms have been carefully calibrated to deliver the policy certainty and support [that] Australian industry needs through decarbonisation.³²

This is likely to assist operators in gaining regulatory approval by allowing them to assure authorities that their projects are covered by Australia's main climate policy, even though the effect of the policy on their overall emissions is, at best, negligible.

The NSW Independent Planning Commission's 2019 approval of the United Wambo Joint Venture coal project provides an example of how federal climate policy is used to justify state approval of fossil fuel projects. The Commission is required to consider coal projects' Scope 3 emissions. In approving the United Wambo project, the Commission acknowledged that "all of the direct and indirect [emissions] of the project ... will impact the environment", but went on to justify approval because of Australian and client-country participation in the Paris Agreement:

[The] Commission finds that requiring the sale of product coal to countries that are parties to the *Paris Agreement*, or those countries that otherwise have equivalent domestic policies for reducing greenhouse gas emissions, which the Applicant asserts will likely occur in any event, is an appropriate approach to managing the Applicant's Scope 3 GHGs.³³

The Commission made no attempt to assess whether these countries are likely to meet their Paris targets and whether the overall policy is likely to be achieved. In its eyes, the simple existence of the national policy and international agreement was enough to legitimise the Wambo mine. In other words, the approval of the mine in NSW was

³² Bowen (2023) *Next steps to safeguard Australian industry and regions in net zero global economy*, <https://minister.dcceew.gov.au/bowen/media-releases/next-steps-safeguard-australian-industry-and-regions-net-zero-global-economy>

³³ NSW IPC (2019) Statement of Reasons: United Wambo Open Cut Coal Mine Project, <https://www.ipcn.nsw.gov.au/cases/2018/11/united-wambo-open-cut-coal-mine-project-ssd-7142>

justified because other levels of government have a policy in place that relates to an otherwise unacceptable impact.

By providing a level of direct emissions that is effectively sanctioned by the federal government for new fossil fuel projects, it is likely the Safeguard Mechanism will affect state processes in a similar way. For example, the NSW Independent Planning Commission recently imposed specific conditions on the particularly emissions-intensive Narrabri Underground Stage 3 Extension project:

The Commission agrees that the Project is a gassy mine ... With that in mind, the Commission has imposed conditions that are specifically targeted at Scope 1 emissions including, in particular, fugitive methane emissions of the Project. These conditions require the Applicant to not only continuously investigate available technologies over the life of the Project, but also to implement and deploy technologies, to the satisfaction of appropriately qualified and independent experts, in order to continuously improve its performance in managing emissions of fugitive methane and other greenhouse gasses.³⁴

These conditions are weak and inadequate, but under the proposed Safeguard Mechanism, even conditions such as these are unlikely to be applied by state assessment bodies—and applicants are more likely to contest them. Under the proposed Safeguard Mechanism reforms there would be no such requirement for use of direct decarbonisation technology; the mine could simply purchase offsets, which would most likely be of low integrity.

Another example—this time at a federal level—is provided by Woodside’s Scarborough offshore gas project. This project was assessed by the National Offshore Petroleum Safety and Environmental Management Authority (NOPSEMA) as it is located in Commonwealth waters.

In their initial acceptance of Woodside’s Offshore Petroleum Plan (OPP) for the project, NOPSEMA accepted Woodside’s rationale that the federal government had already considered the emissions of the Scarborough project when it submitted its plan to meet its contribution to the Paris Agreement.

55. The OPP explains that the federal government’s plan to meet Australia’s national determined contribution (NDC) set in accordance with the Paris Agreement already considers the emissions from processing Scarborough gas

³⁴ IPCN (2022) *Statement of reasons: Narrabri Underground Mine Stage 3 extension project*, <https://www.ipcn.nsw.gov.au/cases/2021/12/narrabri-underground-mine-stage-3-extension-project-ssd-10269>

through an onshore LNG plant. Therefore, the OPP concludes that, the project will not compromise Australia's ability to meet its NDC to reduce emissions by 26-28% below 2005 levels by 2030.³⁵

Further, NOPSEMA accepted Woodside's argument that their Scope 1 emissions would be managed by offsetting emissions above their Safeguard Mechanism Baseline:

58. To manage Scope 1 emissions, the OPP commits to designing and operating facilities to optimise energy efficiency and refers to Australia's GHG management framework under the Safeguard Mechanism, requiring Scope 1 emissions above a facility-specific baseline to be offset.³⁶

In other words, the regulator saw compliance with the original Safeguard Mechanism as adequate action to reduce Scope 1 emissions, despite official data showing that the original Safeguard Mechanism had allowed emissions from the facilities it covered to increase by 7% in its first five years, including a 20% increase in oil and gas industry emissions.³⁷

We see that the ongoing "policy certainty" that the Safeguard Mechanism will provide is that these projects will not bear additional costs for, or constraints on, their emissions. This approach might make sense for existing steel, cement or alumina manufacturers locked into fossil fuel based industrial processes. These industries are necessary for a decarbonising economy and have pathways to decarbonise.

However, fossil fuel projects are fundamentally different. Their purpose is to expand fossil fuel production and as a result emissions in Australia and overseas. There are no options to genuinely reduce the vast bulk of these emissions. Giving policy certainty to new fossil fuel projects simply locks in an ongoing expansion of the industry predominantly driving climate change. As a result, the Safeguard Mechanism is taking up the policy space that could be filled by effective regulation.

³⁵ NOPSEMA (April 2020) *Acceptance of Scarborough Offshore Project Proposal*, <https://docs.nopsema.gov.au/A721603>

³⁶ NOPSEMA Ibid.

³⁷ Morton (September 2022), *Emissions from Australia's oil and gas industry rose 20% in first five years of safeguard mechanism*, <https://www.theguardian.com/australia-news/2022/sep/20/emissions-from-australias-oil-and-gas-industry-rose-20-in-first-five-years-of-safeguard-mechanism#:~:text=It%20found%20the%202015%20major,the%20expansion%20of%20LNG%20exports>

THE SAFEGUARD MECHANISM: SAFEGUARDING FOSSIL FUELS

This report has focused largely on the inadequacy of the proposed reforms to the Safeguard Mechanism. However, it is also important to understand that the Coalition government—which designed the initial Safeguard Mechanism policy—included several features that effectively work to support the fossil fuel industry and shield fossil fuel producers from the policy’s effects.

These features, which will remain unchanged by the proposed reforms, include:

- Implicit support for unlimited new fossil fuel projects, with no assessment or screening criteria for new projects entering the Safeguard Mechanism;
- No absolute cap or limit on emissions from covered facilities, either in aggregate or at the facility level;
- The ability for facilities to meet all their abatement requirements through purchasing offsets, often of questionable integrity,³⁸ thus allowing actual emissions to continue to increase;
- The allocation of emissions baselines to new and expanded projects that cover most of those projects’ emissions, effectively allocating of free emissions permits to these facilities.

The proposed reforms to the Safeguard Mechanism introduce a net theoretical³⁹ emissions budget for covered facilities, while retaining the free allocation of baselines to unlimited new facilities. This introduces an additional problem: every tonne of additional emissions from new projects will have to be abated or offset by other facilities covered under the Safeguard Mechanism, in order for operators to remain within the overall net emissions budget.

This effectively transfers the carbon costs of new fossil fuel projects onto existing facilities, and thus creates an effective subsidy for new fossil fuel projects at the expense of other Australian businesses and consumers. This comes on top of the billions of dollars in subsidies that this sector already receives.

³⁸ Australian National University (2022) Australia’s carbon market a ‘fraud on the environment’, <https://law.anu.edu.au/news-and-events/news/australia%E2%80%99s-carbon-market-fraud-environment>

³⁹ Theoretical because it allows the unlimited use of offsets that are not equivalent to reducing fossil fuel emissions. See Climate Analytics (2023), Why offsets are not a viable alternative to cutting emissions, <https://climateanalytics.org/publications/2023/why-offsets-are-not-a-viable-alternative-to-cutting-emissions/>

Conclusion

Emissions do not respect international borders. No serious climate policy in Australia can ignore our coal and gas exports—particularly a policy that purports to cover the coal and gas producers themselves, given that these producers are by far Australia’s largest contribution to global emissions.

Yet Australia’s climate policy does ignore the impacts of fossil fuel exports. There are currently no restrictions on exports from existing mines, nor is there government interest in restricting new export proposals.

The proposed reforms to the Safeguard Mechanism would only cover a fraction of the emissions caused by Australia’s fossil fuel projects, and does nothing to address the damage wrought by fossil fuel exports. Even in Australia, the policy’s impact would be limited and undermined even further by its reliance on low-integrity carbon offsets.

It is long past time for Australian climate policy to take the damage done by exports seriously, and to give proper consideration to the question of how to decarbonise the domestic economy. The current Safeguard Mechanism proposal does neither and should not be implemented without major revision.