

Summary/Introduction

I support a carbon price as a first step in Australia's necessary transition away from its current fossil fuel economy toward the renewable energy one of the future. The Clean Energy Bill and associated bills include significant improvements on the Carbon Pollution Reduction Scheme – in particular, the built-in cycle of independent reviews which give it some upward flexibility.

I strongly support the creation of the independent Climate Change Authority, Clean Energy Finance Corporation (CEFC), and Australian Renewable Energy Agency (ARENA), which should provide some certainty for the renewable energy industry. The bills to establish ARENA and CEFC are an integral part of the policy designed by the Multi-Party Committee on Climate Change, and should be added to the package of legislation to be considered by the Committee and voted on in October. For that reason this submission comments on these matters also.

However, I remain concerned that this set of policies will waste several years of the 2010s, the “Critical Decade” identified by the Climate Commission. It locks in compensation to polluting industries until nearly the end of the decade, defers renewable energy funding until the second half of the decade, and potentially even allows Australia's domestic emissions to rise over the decade. I am also concerned that it risks driving investments in gas-fired electricity generation, which are not in Australia's or the world's long-term interests. Overall, the policy package barely scrapes into the “better than nothing” category.

In my list of concerns below, the main guiding principle is that a carbon price should help Australia transition from a fossil fuel economy to a renewable energy one as quickly as possible. I have highlighted various aspects that could potentially hinder or delay this transition.

Concern #1: Gas Investment

The Clean Energy Bill risks driving a wave of investment in gas-fired electricity generation. The fashionable view of gas is as a transitional fuel on the world's journey to a low-carbon or zero-carbon economy – but this is folly. The only realistic way to achieve the required rapid transition to a zero-carbon economy is to phase out fossil fuels as quickly as possible. As a fossil fuel, gas is part of the problem, not the solution. A two-staged transition, from coal to gas then to renewables, would waste precious time. Gas may reduce emissions in the short term (though even that is questionable – see below), but after that Australia will be left with a fleet of polluting gas power plants we don't want.

From the perspective of businesses, gas investments carry the political risk of eventually being shut down to mitigate climate change. For humanity, the far worse risk is that we build a fleet of gas power plants and run them for their full lifetime of 25-40 years. [A recent study by the International Energy Agency says](#) relying on gas would lead to 4°C global warming, a nightmarish scenario for Australia. This would be a massive unintended consequence. In UNFCCC negotiations, Australia has agreed on the goal of

preventing 2°C global warming. To have any hope of achieving this goal, Australia and the world must invest in zero-carbon energy sources.

It is questionable whether gas is even a low-carbon fuel. According to [a recent study by Cornell University](#), when fugitive emissions are taken into account, gas turns out to be more or less comparable to coal on a 100-year timescale, and far worse on a 20-year timescale. More research is needed on how gas compares in an Australian context. If it does indeed turn out that fugitive emissions have not been properly measured, then gas-fired electricity generation will have been priced at the wrong value. Either accounting policies would need to be corrected, creating an adjustment analogous to the bursting of an economic bubble adjusted, or the intended emissions reduction target would be missed.

It is not in Australia's interests to invest in gas.

Concern #2: Lock-In of Jobs and Competitiveness Program

Australia's onshore emissions are ~1.5% of global emissions, but our fossil fuel exports account for ~3% of global emissions, and they are planned to double in the next decade. Australia has a responsibility not to lock in these emissions with bad policy. Locking in Australia's fossil fuel exports is an economic risk for Australia if the world decides to move more quickly towards renewable energy. For humanity, the far worse risk is there will be continued demand for those exports, with all the climate impacts they entail.

Though the carbon price does not cover the emissions from actually burning these fossil fuels, only the emissions released to the atmosphere before these fossil fuels leave Australia's ports, the Clean Energy Bill compensates emissions-intensive trade-exposed (EITE) industries for the majority of their onshore emissions:

- Highly EITE industries receive 94.5% of their permits for free, moderately EITE industries get 66% free, and the liquid natural gas (LNG) industry scores 50% free permits. These volumes of free permits add to existing fossil fuel subsidies (see #7); and dilute the \$23 starting price to \$11.50 for LNG, \$7.82 for moderately EITE industries, and just \$1.27 for highly EITE industries.
- The global recession buffer has been carried over from the Carbon Pollution Reduction Scheme, despite the global recession itself having passed. Garnaut recommended that it be removed, as its original justification no longer applies.
- The steel industry is probably the worst example. Like other industries defined as highly EITE, steel companies get 94.5% free permits, but they also get an additional \$300 million over five years. In fact, this amounts to [overcompensating the industry](#), and [will actually improve its profits](#). This is presumably an unintended consequence, as there is no possible economic justification.
- The carbon productivity contribution is merely 1.3% per year. This is such a slight rate of reduction in industry assistance that the absolute number of free permits allocated to EITE industries will rise over time. Instead the number of free permits should be capped at the initial level of allocation, and the percentage of free permits should decline rapidly, so the amount of unpriced emissions cannot rise over time and instead falls toward zero.

Here is my main point: If (as I strongly suspect is the case) such high levels of compensation turn out to be misguided, the errors should be corrected as soon as possible. Yet any changes to the Jobs and Competitiveness Program which have a negative effect on businesses cannot be made until July 2017 or later. Furthermore, there is a three-year notice period. So even if fatal flaws are discovered in the Program, it will not be possible to fix them until July 2017 at the very earliest. Because the Productivity Commission review will not occur until 2014-15 (see #6), it will not be possible to implement their recommendations until July 2018, nearly the end of the Critical Decade.

This legislative lock-in is an extremely bad idea. Any number of circumstances could change in the next seven years, and the Government should have the power to respond to those circumstances in a timely manner. Even if the compensation is justified to start with, before 2017 there may be an ambitious global climate agreement, and the international carbon price may be high enough that compensation is no longer required to protect competitiveness. Even if we discover carbon leakage is not a significant threat, some EITE industries will still face no significant carbon price until 2017. Even if we discover gas is worse than coal (see #1), the Government will still be forced to give LNG 50% free permits until 2017.

The stated aim of the Jobs and Competitiveness Program is to reduce the risk of carbon leakage. If carbon leakage is a real threat (the argument is dubious; [a report by the Grattan Institute](#) concluded an uncompensated carbon price would be dwarfed by other impacts on EITEs), then there may be a case for protecting industries from lost international competitiveness in the absence of a global agreement. However, Garnaut warned compensation should be for trade-exposure only and should not be confused with compensating companies for lost profits or asset value. I strongly suspect the levels of compensation required for trade-exposure are far lower than those in the Jobs and Competitiveness Program. Assistance should move toward Garnaut's principled approach as soon as the Productivity Commission is able to provide an objective analysis. Under the principled approach, compensation would be discontinued when no longer justified.

As currently designed, the Jobs and Competitiveness Program is worse than nothing. It locks in extremely high levels of free permits which almost certainly are unjustifiable and Australia will come to regret. Instead, as soon as an overallocation of free permits is identified, it should be corrected in the very next year of the scheme, and the funding should be immediately redirected to ARENA or CEFC.

Concern #3: International Linking

The argument for international linking is that it allows Australia's domestic emissions to exceed our emissions cap while, in theory, having no effect on net emissions to the atmosphere. It is however highly dubious whether importing international permits will achieve the same net emissions outcome in reality as on paper. Offsetting domestic emissions overseas is not a serious way to tackle Australia's contribution to climate change; Australia can and should reduce its domestic emissions.

International permits allegedly reduce the cost of cutting emissions. But even if a permit costs \$0, the important point is what it means for greenhouse gas levels in the real world. The qualitative restrictions on international permits are well-intentioned, but it is difficult to tell how they will work in practice. The credibility issues with carbon offsets are well-known. I am particularly concerned about offsets in forests, for the same reasons I am concerned about Australian Carbon Credit Units (see #10). However, I am encouraged by the fact the Government will have the power to disallow certain types of permits by regulation, and that the Climate Change Authority will play an advisory role.

The quantitative limit is not nearly strict enough. Australia's emissions target for 2050 is an 80% reduction, and in a business-as-usual scenario its emissions would be expected to rise by about 80%. Therefore if the market takes full advantage of the 50% upper limit on international permits, there will be virtually no change in Australia's domestic emissions by 2050, which would be a disaster. Preserving a safe climate requires the entire world to be carbon-neutral or near-carbon-neutral before 2050. It is unreasonable to let pollution continue unabated in this particular corner of the world.

It is also not entirely clear how the quantitative limit will operate. The Clean Energy Bill says that any international permits surrendered in excess of the 50% limit will be counted as permits surrendered in the following compliance year. To avoid the unintended consequence of importing too many international permits, it should be made explicit that excess permits from a previous compliance year are not additional to the 50% allowed in the current compliance year.

Concern #4: Renewable Energy Funding

The amount of money the Government plans to spend on renewable energy is many times smaller than the amount of money it spends on subsidizing fossil fuel energy (see #7). This is in contradiction to the Government's stated vision of a clean energy future for Australia. Opinion polls suggest that renewable energy is popular with the public, so spending more on renewables makes political sense as well as being good policy.

The Clean Energy Finance Corporation is a good idea, but could be improved. Firstly, I suggest it be renamed the Renewable Energy Finance Corporation and all of its funding be directed to renewable energy technologies. Targeting funding in this way is not, as is often argued, "picking winners". All fossil fuel technologies emit carbon dioxide, because burning carbon means reacting it with oxygen. In the long term humanity needs to stop emitting altogether, so it makes sense to invest only in zero-emissions energy capacity. By definition, a Renewable Energy Finance Corporation would not fund any fossil fuel or fossil-renewable hybrid projects, but it would not need to "pick winners" from among the many available renewable options.

Secondly, CEFC is supposed to receive \$10 billion of funding over the five years from 2013-14, but only \$944 million materializes in the forward estimates. It is not at all obvious how, in the remaining three years, the Government is suddenly going to find an average of \$3 billion per year for the body. The fact that support for the industries of the future takes so long to ramp up, even while the forward estimates include \$10.3 billion of

support for polluting industries, seems counterproductive to the policy's goal of leading Australia to a clean energy future. It would make more sense for CEFC to receive \$2 billion per year from the beginning.

Concern #5: Timing of Reviews

The many independent reviews are one of the best elements of the Clean Energy Legislative Package, providing regular opportunities to correct any errors of judgment by politicians. My only criticism here is that the first reviews should occur earlier. Given the Climate Commission has identified the 2010s as the Critical Decade for climate change mitigation, it is unwise to waste too many years trialing the carbon price. The Government should strive to get it right as early as possible. For this reason I recommend:

- The Productivity Commission review of fuel excise arrangements should occur in 2011-12 and examine the merits of cutting all the fossil fuel subsidies [listed by the Australian Conservation Foundation](#).
- The Climate Change Authority should review the National Greenhouse and Energy Reporting System in 2012-13. This review should include an updated analysis of the CO₂e emissions of gas-fired electricity generation, to avoid the unintended consequence of Australia switching from coal to another high-carbon energy source.
- The Productivity Commission review of industry assistance should occur in 2013-14, when one full year of data on its impacts will be available.
- The Australian Energy Market Operator study on a 100% renewable electricity grid should be completed in time to be considered by the Climate Change Authority review in February 2014. The AEMO will be able to build on the work done by Beyond Zero Emissions in its *Zero Carbon Australia 2020 Stationary Energy Plan*.
- The Climate Change Authority should review in 2014-15 the credibility of international permits, so evidence-based restrictions can be implemented from the very beginning of emissions trading. The Authority should consult the Climate Commission on the differences in how different types of offset affect climate and energy outcomes.

Concern #6: Price Level

Research on the European Union Emissions Trading Scheme suggests that under highly complex and uncertain policies, businesses [tend to prefer](#) business-as-usual, particularly for long-term decisions. This makes it important that businesses have certainty of a carbon price high enough to make renewable energy economically attractive. Though estimates vary on the precise impacts of a particular price, it is generally agreed the Clean Energy Bill's starting price of \$23 per tonne is far too low to send this signal.

The price ceiling, set \$20 above the international price, could have the unintended consequence of limiting investment in renewable energy. Renewable energy technologies require a carbon price of perhaps \$100, and the international price expected in 2015 is not nearly that high. If the price of international permits crashes, it could have the unintended

consequence of causing the price of Australian permits to also crash. Therefore there should be no price ceiling.

The starting price, price floor, and price ceiling should all rise at a more significant rate than a few percent per year. To make the needed investments in renewable energy, businesses need certainty that they will be facing a high carbon price in the future, if not in the first year.

Concern #7: Fossil Fuel Subsidies

The carbon price is supposed to make polluters pay, but existing policies will be working against it. Currently [Australia spends \\$11.1 billion per year on perverse fossil fuel subsidies](#), including fuel tax rebates, non-indexing of fuel excise, aviation concessions, and depreciation concessions for fossil fuel assets. Although the Clean Energy Legislative Package introduces fuel tax credit reductions and equivalent carbon prices on some fuels, these measures only amount to \$2.8 billion over the fixed price period (\$3.3 billion including additional Government measures). The changes are small compared to the existing effective *negative* equivalent carbon price on those fuels.

The carbon price will raise \$24.5 billion of permit revenue over the fixed price period, with \$10.3 billion returned to fossil fuel industries as compensation (\$11.2 billion including additional Government measures). Carbon price compensation is also a fossil fuel subsidy. So the combined value of industry compensation and existing fossil fuel subsidies over the three years will be:

$$3*11.1 - 2.8 + 10.3 = \$40.8 \text{ billion (excluding Government measures)}$$

$$3*11.1 - 3.3 + 11.2 = \$41.2 \text{ billion (including Government measures)}$$

The total amount is \$16.3-16.7 billion greater than the revenue raised by the carbon price. In other words, whereas currently fossil fuel subsidies total \$11.1 billion per year, the carbon price will merely reduce their total net value to \$5.4-5.6 billion per year averaged over the fixed price period. (And this is a conservative estimate, since it doesn't include the free permits for coal-fired electricity generators.)

To avoid this unintended consequence, I propose the \$11.1 billion of existing subsidies be cut entirely from future budgets, freeing up considerable spending which could be transferred to ARENA and/or CEFC.

Concern #8: Energy Security Measures

The Clean Energy Investment Plans to be made by coal-fired electricity generators should not include any investments in new fossil fuel generation capacity. Generators planning to invest in fossil fuels should not receive free permits.

Similarly, the coal power plants that the Government pays to close should be replaced with renewable energy. Arguably, concentrating solar power is the most promising technology for a large-scale renewable power plant. Also, considering the payment for closure of the first coal plant could be seen as setting a precedent for later closures, and companies have known for decades of their exposure to climate change mitigation risk, the Government may choose to pay a not very large amount.

Concern #9: New Coal Power Stations

The policy documents released on 10 July claimed there would be no new coal power stations built under the carbon price. But (as far as I know) the Clean Energy Legislative Package does not contain any ban on coal-fired plants. Instead of merely assuming Treasury is correct in saying the price will rule out new coal, the legislation should explicitly state that new coal-fired power stations must not be built in Australia. An explicit ban will ensure the policy has the intended consequence, without any change in the intention.

Concern #10: Link to Carbon Farming Initiative

After the shift to emissions trading in 2015, companies are allowed to use an unlimited number of Australian Carbon Credit Units (ACCUs) from the Carbon Farming Initiative (CFI). While storing carbon in forests and soils is important, high abatement in the land sector could undermine the even more vital transition in the energy sector.

Not all tonnes of CO₂ emissions abated are equal. As the Climate Commission has pointed out, fossil fuel and land sector emissions play a fundamentally different role in the carbon cycle. The land vegetation is a surface reservoir of carbon, which naturally exchanges carbon with the atmosphere, another surface reservoir, on human timescales. The land is a climate feedback: when the planet warms, forests and soils release greenhouse gases to the atmosphere. There is a very important distinction between moving carbon from one surface reservoir to another, and digging up fossil carbon that has been buried for millions of years. The fossil carbon will stay in surface reservoirs for millennia, so it is the fossil carbon that we urgently need to stop emitting. Land sector offsets cannot be counted on as permanent emissions reductions.

Numerically, the land sector can only store a limited amount of carbon. The contribution of deforestation to CO₂ emissions is only a small fraction ([10% in 2009](#)) of the contribution from fossil fuel burning. Even if forest cover was returned to preindustrial levels, the carbon cycle would still be completely overwhelmed by fossil fuel emissions. Land sector emissions also cannot be precisely quantified, so it is easy to make accounting errors. And purely from the point of view of social inertia, there is a big difference between beginning to phase out fossil fuels; and continuing to burn fossil fuels as usual while offsetting the emissions in forests. It makes more economic sense to start solving the fundamental problem than continue to avoid it and delay the inevitable transition.

Therefore there should be quantity restrictions on the surrender of ACCUs, as with international offsets. The 5% ACCU limit in the fixed price period could be extended into the flexible price period. Alternatively, the Land Sector Carbon and Biodiversity Board could advise a limit taking into consideration the limitations on land sector abatement I have outlined above.

Miscellaneous Concerns

- There is very little about structural adjustment assistance in this legislative package, with only \$200 million set aside over seven years for affected regions. There should be a greater focus on structural adjustment assistance, including a plan for regions with many fossil fuel jobs to transition to renewable energy hubs. Funding could be redirected from the Jobs and Competitiveness Program.
- Voluntary emissions reductions should be subtracted from the cap in the following year, not five years after they occur.
- The Clean Energy Regulator should not resell recalled permits. It should allow the number of permits in the market to be reduced, as with cancelled permits, encouraging deeper emissions reductions.
- I am concerned that banking and borrowing of permits will create uncertainty in Australia's emissions trajectory.