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Submission from
Climate Change Balmain-Rozelle
on the

ENERGY SECURITY BOARD'S NATIONAL ENERGY GUARANTEE DRAFT DESIGN CONSULTATION PAPER ¹

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Who we are

Climate Change Balmain-Rozelle Inc. is a collective of residents in the Inner West of Sydney who have come together out of mutual distress over Australia's excessive greenhouse gas emissions and the world our children will inherit. We count over 1000 supporters.

We thank the ESB for their hard work in preparing this paper and opening it up for public comment.

Omissions

Several important elements are conspicuous by their absence from the draft:

- the long term objective;
- a detailed proposal for demand management;
- market mechanism evaluation

Long Term Objective

The ultimate objective has to be power that is, at the least, 95% carbon-free. Moreover, it is likely that we will need to reach that state within 30 years.

In 2013, the *Climate Change Authority* calculated

*"A national carbon budget for the period 2013–2050 of 10.1 Gt CO₂-e."*²

According to Australia's Greenhouse Gas Inventory, we have since mid 2013 emitted 2.4Gt³. That's nearly 25% of the budget in 54 months, about double the average rate of burn we need to target.

The Government proposes to issue emissions targets at times varying from 5 to 10 years ahead of their applicable dates. Both climate science and energy technology are fast-moving fields. Compounding that, the path from research to report to policy can take years. While the targets may be set using the best information available at the time, it may prove necessary to refine the targets more dynamically.

The market can take even longer to respond. It may take several years to build the new infrastructure implied by the operating parameters set, and its economics may depend on a 30 year lifetime. Thus it is apparent that the market mechanisms proposed in the draft are not capable of solving the

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http://www.coagenergycouncil.gov.au/sites/prod.energycouncil/files/publications/documents/Energy%20Security%20Board%20National%20Energy%20Guarantee%20Consultation%20Paper_0.pdf

2 <http://climatechangeauthority.gov.au/reviews/targets-and-progress-review/part-c>

3 <http://www.environment.gov.au/climate-change/climate-science-data/greenhouse-gas-measurement/progress-inventory>

long term emissions problem. New baseload gas power, for example, could be a stranded asset in ten years. To drive infrastructure that will be needed in 30 years may well require 30 year targets set now.

The analysis needs to work backwards from the long term goal:

1. With proven technology, how could the grid operate at 5% of today's emissions?
2. What is a feasible path to such a grid by 2050?
3. What incentives need to be in place now?
4. How do we manage cost and reliability along the way?

We note that the existence of options for a zero emissions grid has been demonstrated by several expert teams^{4,5,6}. A 5% emissions grid is considerably easier.

Demand Management

Demand Management holds enormous potential for cutting network and generation costs while improving reliability for essential uses.

As noted in one presentation, it has the spot price value of peaking generation – and that is not counting the network savings in cutting peak transmission.

This should be the central plank of the [NEG](#), but it has yet again been put into the futures basket.

Evaluating Market Structures

The draft does not discuss ongoing evaluation of the NEG. Indeed, the structures proposed are so novel and far-reaching that it would seem foolhardy to introduce them without substantial modelling that has been reviewed and critiqued by the affected parties. It is not evident that this has been done.

Comments on the draft text

Paris Commitments [section 4.2.1]

The draft states:

"Australia's commitment under the Paris Agreement is to reduce its emissions by 26 to 28 per cent below 2005 levels by 2030."

Though not of direct relevance to the tasks of the ESB, it should be recognised that the commitment is not limited to that.

"Article 5

1. *Parties should take action to conserve and enhance, as appropriate, sinks and reservoirs of greenhouse gases as referred to in Article 4, paragraph 1(d), of the Convention"*

A coal deposit is as much a reservoir of carbon as is a forest or peatland. This article requires Australia to cease mining coal.

We note in the draft:

"The modelling commissioned by the ESB demonstrated that in delivering a 26 per cent reduction in emissions on 2005 levels".

Similarly, 4.2.2 states:

"The trajectory would be consistent with the 2030 emissions reduction target for the electricity sector of minus 26 per cent on 2005 levels."

It is widely, perhaps universally, acknowledged that the electricity sector is one of the cheapest for emissions reductions. Agency modelling has shown that the most cost-effective ways to meet the Paris commitment imply a 40-55% cut in the electricity sector.⁷

4 <http://bze.org.au/stationary-energy-plan/>

5 <http://re100.eng.anu.edu.au/resources/assets/1708BlakersREAust.pdf>

6 http://www.energynetworks.com.au/sites/default/files/entr_final_report_april_2017.pdf

7 <http://www.tai.org.au/sites/default/files/P439%20Meeting%20our%20Paris%20Commitment%20->

A mere pro-rata burden on the electricity sector needs serious justification.

Absolute Emissions versus Intensity [section 4.2.2]

The proposal argues that setting targets as percentage of generation
"would self-adjust to the level of demand"

That depends on what is considered the required relationship between emissions and generation. The environment only cares about the total emissions. This is what determines the carbon budget. If demand goes up then intensity must be reduced.

On the other hand, keeping the absolute emissions target fixed when demand falls undermines the value of lowered demand. This is particularly unfortunate if domestic generation is treated as reduced demand. It erodes certainty within the low emissions technology sector.

The reality is that even the Paris 2°C target runs an unacceptable risk to the climate (hence the 1.5°C ambition), and that creative accounting (see *Offsets* below) is allowing Australia to exceed its real budget. An appropriate target algorithm is, therefore, emissions that are the lower of:

- A number of mtCO_{2e}.
- A level of emissions intensity

Thus, if demand rises then we must, as is appropriate, react by reducing intensity, whereas if demand falls then we can reduce emissions faster without unacceptable economic loss.

A workable analogy is superannuation contributions. The government mandates a percentage of income but encourages additional investment when circumstances permit.

The situation is rather more complex for EITE. See below.

EITE [section 4.2.3 and 4.3]

Existing rules only apply the best-practice baseline for EITE activities to "New or significantly expanded facilities from 2020"⁸. But what if the activity is competing with a lower emissions equivalent overseas? Unnecessarily emissions-intensive production should not be grandfathered in. For the Guarantee, EITE exemption should only apply in respect of international best-practice baseline.

Adjusting targets according to changes in EITE emissions is fraught.

It is to be hoped that mostly these would be reductions in EITE emissions as technologies improve. In that event, the same principle as outlined above can be applied: ambition should rise to take up the slack that results.

If EITE emissions increase, and the rules are working correctly, then this must be the result of increased production. Moreover, that increase in production will be required to achieve international best practice. To the extent that this displaces overseas production there may be no great harm done, but it is not in the interests of the environment to increase total production of emissions intensive goods. Aluminium is a prime example.

The position of CCBR is that while it is defensible to protect existing production that meets best practice, we should avoid encouraging growth of inherently harmful activities.

Trajectory [section 4.2.4]

While the Paris agreement requires national targets to be announced every five years, ten years ahead, there is nothing to prevent the Government from reviewing and publishing more frequently and at longer range.

As noted under , some investments may be necessary that will only be driven in a timely manner by targets set 30 years ahead.

8 [%20TAI%20Climate%20and%20Energy%20Program%20-%20September%202017.pdf](#)
<http://www.cleanenergyregulator.gov.au/NGER/The-safe-guard-mechanism/Baselines>

As against that, investment certainty cannot be guaranteed to exceed climate certainty. If at some date the science shows we must act much faster than the Government must have the flexibility to do so. This may be required as part of a future international pact. Industry can keep an eye on international developments and anticipate Government action⁹. A promise to conform to international scientific consensus is about the best certainty a government should in good faith provide.

Offsets [section 4.4]

The option of buying [ACCU](#) offsets must be ruled out. The [ERF](#) has been proven not fit for purpose.

- Emissions baselines have been raised, apparently because businesses had difficulty achieving them.
- Currently, only about 16% of the announced 192 million tonnes of emissions reduction have actually been delivered¹⁰.
- It is unknown to what extent the reductions contracted for are additional. The best the [CCA's](#) review could say was that there is
*"no evidence that a lack of additionality is a widespread problem across the scheme"*¹¹.
- Over half the signed projects involve vegetation¹². Plantings and avoided clearance are considered permanent after 100 years, and, in terms of credits, 75% of permanent after 25 years¹³. Moreover, forests mature. A society that maintains its net emissions low by such credits must therefore find more and more land for afforestation. This does not scale.

Balancing Reliability, Emissions and Price [section 5]

The proposal as it stands has parameters for reliability and emissions determined centrally and separately by the board, but pushes the responsibility for achieving them onto the retailers, who in turn translate them to demands on the generators.

Multiple entities making parallel, independent trade-offs between the same criteria is not going to work. It is unstable. The presentations made by retailers at the forum show they are keenly aware of this difficulty. They need to be able to converge on a single trade-off ratio.

In everyday life we solve this by reducing competing criteria to dollar values. For the reliability, the board could set bonuses and penalties according to reliability metrics. For the emissions, yes, a carbon price! It is then up to the board to adjust these prices over time according to the observed results and changing government targets. The generators/retailers will then all be working towards the same balance.

The existing and, one hopes, ongoing investment by the [ESB](#) in modelling put the ESB in a better position than are the retailers to judge the trade-off.

Translating reliability into dollars also fits well with Demand Management.

Conclusion

The ESB should:

1. Address Demand Management as a priority.
2. Dynamically set a carbon price¹⁴. While the board should set itself a target of only adjusting the price gradually, it must not be straitjacketed by that.

⁹ It has been argued that a political promise to ignore the science led to the underinvestment in generation we now face.

¹⁰ <http://www.cleanenergyregulator.gov.au/ERF/Auctions-results/December-2017>

¹¹

<http://climatechangeauthority.gov.au/sites/prod.climatechangeauthority.gov.au/files/files/CFI%202017%20December/ERF%20Review%20Report.pdf>

¹² <http://www.cleanenergyregulator.gov.au/Infohub/Media-Centre/Pages/Resources/ERF%20media%20resources/Emissions-Position-as-at-January-2018.aspx>

¹³ <https://www.legislation.gov.au/Details/F2017C00670>

¹⁴ The mechanism presently proposed in the draft of pushing the trade-off onto retailers could be viewed as an attempt to pretend that no carbon price is needed. In reality, the retailers would effectively operate one internally.

3. Dynamically set financial incentives for reliability and the various ancillary services. Computer modelling should be developed to assist the board in determining the incentives.
4. Only allow EITE exemptions using international best-practice baselines.
5. Rule out ACCU/ERF offsets.

The Commonwealth Government should:

1. Admit the necessity of a carbon price.
2. Set emissions targets at least 30 years ahead, but tweak them every few years, only setting firm a year or two in advance.
3. Refrain from committing to future upper bounds on ambition that could subject the Commonwealth to compensation to industry.
4. Develop a vision for a near-zero emissions grid.
5. Either increase the share of the 2030 emissions reduction assigned to the electricity sector to a 40-55% reduction, in line with the models, or release modelling to show a pro-rata reduction would be as cost-effective.

Glossary

ACCU	Australian Carbon Credit Units	http://www.cleanenergyregulator.gov.au/ERF/About-the-Emissions-Reduction-Fund
CCA	Climate Change Authority	http://climatechangeauthority.gov.au/
DRM	Demand Response Mechanism	https://www.aemo.com.au/Electricity/National-Electricity-Market-NEM/Security-and-reliability/Demand-response-mechanism
EITE	Emissions-Intensive Trade-Exposed Industries	http://www.environment.gov.au/climate-change/publications/eite-activity-boundaries
ERF	Emissions Reduction Fund	http://www.cleanenergyregulator.gov.au/ERF/About-the-Emissions-Reduction-Fund
ESB	Energy Security Board	http://www.coagenergycouncil.gov.au/energy-security-board
NEG	National Energy Guarantee	http://www.coagenergycouncil.gov.au/publications/energy-security-board-update