

SUBMISSION TO THE EPBC ACT REVIEW

ANON-K57V-XQ3Y-2

Name

Anna Nadolny

Organisation

100% Renewable Energy ANU Research Group

State or Territory

Australian Capital Territory

Areas of Interest

The objects of the Act; International obligations; Matters of National Environmental Significance; Cumulative impacts; Climate change; Compliance and enforcement;

Attachment provided

Yes

Do you give permission for your submission to be published?

Yes - with my name and/or organisation (if included)

SUBMISSION RESPONSES

QUESTION 1: Some have argued that past changes to the EPBC Act to add new matters of national environmental significance did not go far enough. Others have argued it has extended the regulatory reach of the Commonwealth too far. What do you think?

That they did not go far enough. Suitable new matters of national environmental significance triggers would be significant land-clearing activities and activities resulting in significant greenhouse gas emissions (with prohibitions for activities that would cause Australia to overshoot the carbon budget).

QUESTION 4: Should the matters of national environmental significance within the EPBC Act be changed? How?

Suitable new matters of national environmental significance triggers would be significant land-clearing activities and activities resulting in significant greenhouse gas emissions (with prohibitions for activities that would cause Australia to overshoot the carbon budget).

QUESTION 6: What high level concerns should the review focus on? For example, should there be greater focus on better guidance on the EPBC Act, including clear environmental standards? How effective has the EPBC Act been in achieving its statutory objectives to protect the environment and promote ecologically sustainable development and biodiversity conservation? What have been the economic costs associated with the operation and administration of the EPBC Act?

Climate change should be added as a high level concern.

ATTACHMENT

Additional information was provided as an attachment to this submission. The attachment is provided on the following pages of this document.

Research School of Electrical,
Energy and Materials Engineering
Engineering Building, 32 North Road
ACTON, ACT, 2601


<http://re100.eng.anu.edu.au>

17th April 2020

Independent review of the EPBC Act

Recommendations

Climate change is a major threat to the environment that needs to be addressed by the legislation. The carbon content and holding capacity of our native vegetation has not been valued. If Australia is to follow the terms of the Paris Agreement, and reduce emissions in line with keeping global temperature rise to less than 2°C, and if possible to 1.5°C [1], this attitude must change.

The focus of our research group is emissions from electricity, energy, and industry. As we are not environmental lawyers, we refer to the Environmental Defenders Office recommendations that are concerned with greenhouse gas emissions and the environment, which are listed at the end of this document [2].

For more information on anything discussed within this submission, please do not hesitate to contact us.

Background

Current global nationally determined contributions (NDCs) are likely to result in 3 degrees of warming by 2100. Of the countries that ratified and submitted NDCs, a majority included land-sector mitigation, providing 10-30% of all planned emissions reductions globally in 2030 [3].

Numerous studies have shown that it is still possible for Australia to strengthen our targets and lower our emissions in line with the Paris Agreement, and that the land use, land-use change and forestry sector will play an integral role in this task. For example, ClimateWorks recently released a pertinent pathway for Australia, in which net-zero emissions are achieved in 2035 largely through carbon forestry and reducing consumption of fossil fuels, as shown in the Figure below [4].

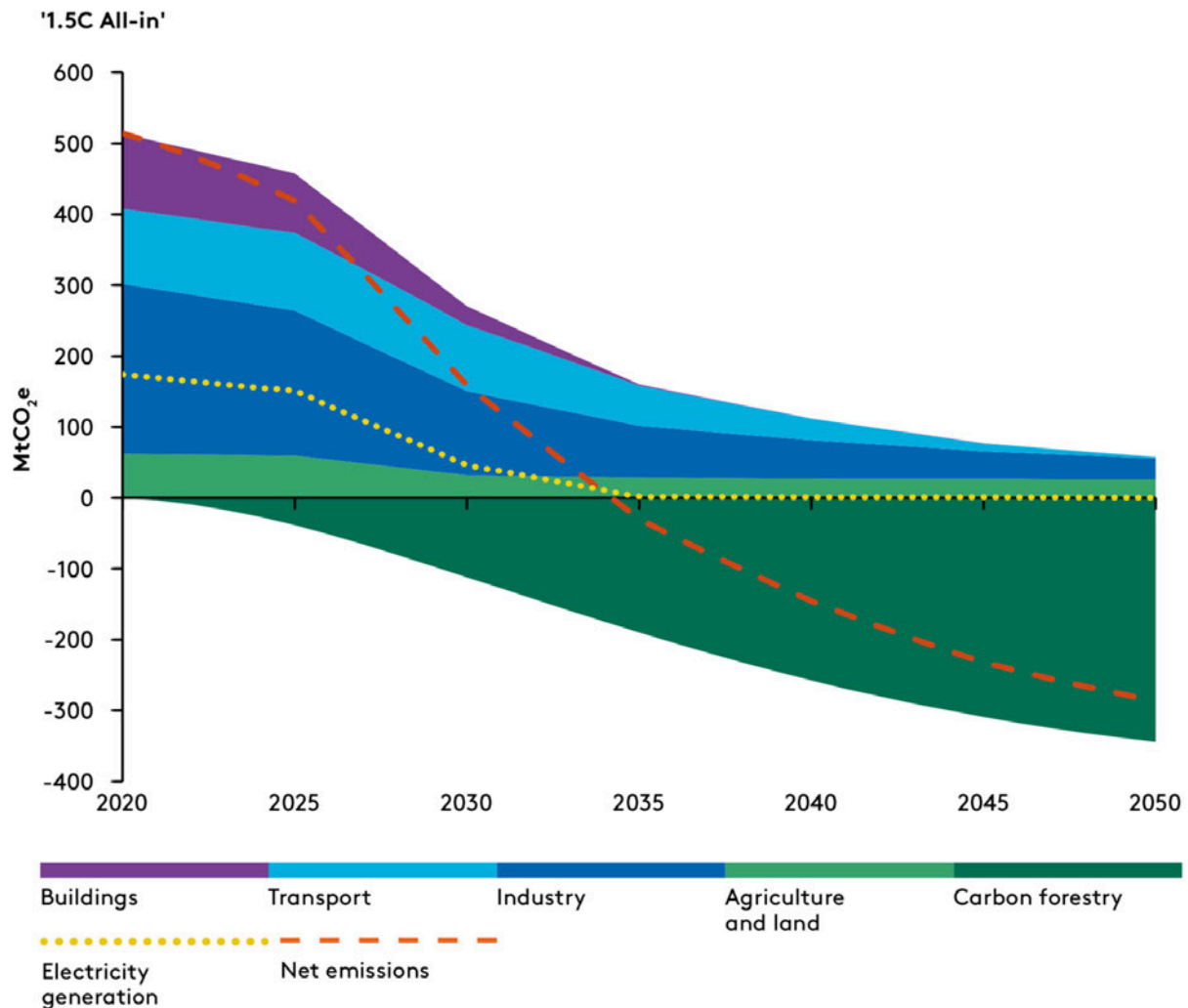


Figure 1: An emission pathway for Australia that is consistent with limiting global warming to 1.5°C (emissions are shown by sector) [4]

Achieving this goal is technically possible, but is not realistic under current laws and levels of land clearing. For example, 27,000 ha of woody vegetation was cleared in NSW in 2017-18 alone for agricultural purposes (note that this total does not include native grassland) [5]. The emissions from this are substantial. Dry wood is roughly 50% carbon and soil carbon levels are generally higher in intact forest and woodland than on land that has been cleared.

Mature forests with large trees generally hold more carbon than working forests, which typically are composed of smaller trees [6]. It is not sufficient to merely halt land clearing [7] – in order to limit warming reforestation and restoration is required. Improving the drawdown capacity of other land sinks will also be necessary [8].

For the reasons stated above, we recommend that the climate impact of the land sector be recognised and managed in the Act.

Energy and the Environment

Climate change is one of the main threats to the environment. This should preclude any new fossil fuel mine or power station that does not have full carbon capture and storage. Emissions from new fossil fuel mines should also be

Global energy generation sources are changing from coal, oil and gas to renewable sources, particularly wind and solar photovoltaics. In 2019, wind and PV represented two thirds of new electricity generation capacity, as shown in the Figure below (and Australia is installing new renewables at 10 times the global average rate) [9]. Shell has announced it is aiming to have net zero operational emissions in 2050, a goal that will be achieved in part through investment in renewables [10]. Emissions due to coal use in

2019 fell by 1.3% from 2018 levels [11]. New renewables are already cheaper than existing fossil-fuel plants in some markets – a recent report predicts that “it could be cheaper to build renewables than run coal *in all major markets* [emphasis added] by 2030” [12]. Even setting aside the negative impacts to land, water, public health and emissions, there are many indications that coal mining will not play a large role in our economy going forward.

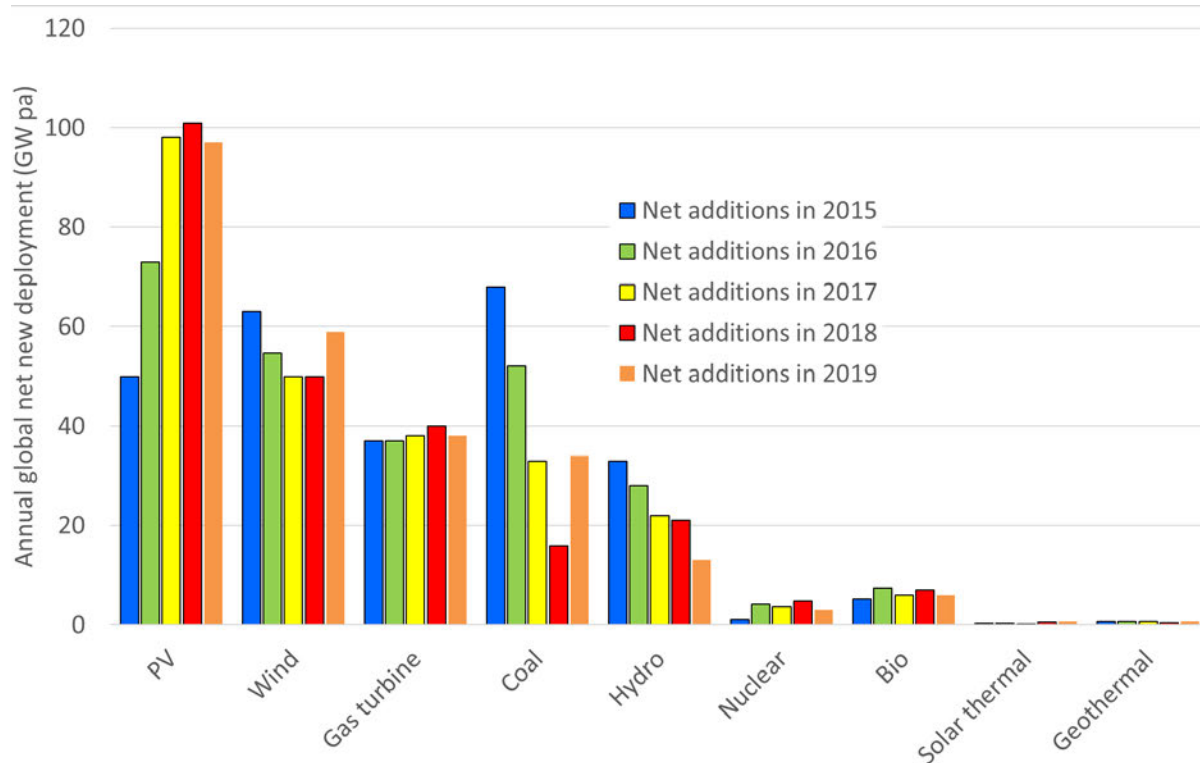


Figure 2: Net global annual generation capacity additions [13]–[16]

Finally, any expansion of the biomass industry must also be carefully regulated to ensure that changes are sustainable and scientifically sound, and result in real, measured reductions of greenhouse gas emissions [17], [18]. In the absence of further technological advances, it is probable that some biomass will be required for chemical feedstocks for industry. (These feedstocks would replace gas and petroleum products that are used in the chemical manufacturing industry etc.) There are many forms of sustainable biomass that can be used before dedicated biomass crops are considered. These include municipal solids and sewerage, and animal waste [19].

References

- [1] United Nations, “The Paris Agreement | UNFCCC.” [Online]. Available: unfccc.int/process-and-meetings/the-paris-agreement/the-paris-agreement.
- [2] Environmental Defenders Office, “Submission to the 10 year review of the EPBC Act,” 2020. [Online]. Available: <https://www.edo.org.au/wp-content/uploads/2020/04/EPBC-Act-10-year-review-Environmental-Defenders-Office-submission-.pdf>.
- [3] S. Roe *et al.*, “Contribution of the land sector to a 1.5 °C world,” *Nat. Clim. Chang.*, 2019.
- [4] C. Butler, A. Denis-Ryan, R. Kelly, I. Stewart, and T. Yankos, “Decarbonisation Futures: Solutions, actions and benchmarks for a net zero emissions Australia,” 2020.
- [5] A. Davies, M. Bowers, A. Ball, and N. Evershed, “Stripped bare: Australia’s hidden climate crisis,” *The Guardian*, 16-Oct-2019.
- [6] Queensland Government, “Carbon Farming,” 2020. [Online]. Available: <https://www.qld.gov.au/environment/plants-animals/habitats/regrowth/regrowth->

- guides/euc-open/euc-open-carbon.
- [7] K.-H. Erb *et al.*, “Unexpectedly large impact of forest management and grazing on global vegetation biomass,” *Nature*, vol. 553, no. 7686, pp. 73–76, 2018.
- [8] Project Drawdown, “Solutions,” 2020. [Online]. Available: <https://www.drawdown.org/solutions>.
- [9] A. Blakers and M. Stocks, “Australia deploying new renewables at ten times global average,” *Renew Economy*, 16-Apr-2020.
- [10] Shell, “SHELL’S AMBITION TO BE A NET-ZERO EMISSIONS ENERGY BUSINESS,” 2020. [Online]. Available: <https://www.shell.com/energy-and-innovation/the-energy-future/shells-ambition-to-be-a-net-zero-emissions-energy-business.html>.
- [11] IEA, “Global CO2 emissions in 2019,” 11-Feb-2020.
- [12] Carbon Tracker, “How to Waste Over Half a Trillion Dollars,” no. March, 2020.
- [13] International Renewable Energy Agency (IRENA), “Statistics,” 2020. [Online]. Available: <https://www.irena.org/Statistics>.
- [14] C. Shearer *et al.*, “Boom and Bust 2020: Tracking the Global Coal Plant Pipeline,” 2020.
- [15] World Nuclear Association, “World Nuclear Power Reactors & Uranium Requirements,” Apr-2020. [Online]. Available: <http://www.world-nuclear.org/information-library/facts-and-figures/world-nuclear-power-reactors-and-uranium-requireme.aspx>.
- [16] Turbomachinery Magazine Information, “WORLDWIDE GAS TURBINE FORECAST,” *Turbomachinery Magazine International*, 2018. [Online]. Available: <https://www.turbomachinerymag.com/worldwide-gas-turbine-forecast-2/>.
- [17] E.-D. Schulze, C. Körner, B. E. Law, H. Haberl, and S. Luyssaert, “Large-scale bioenergy from additional harvest of forest biomass is neither sustainable nor greenhouse gas neutral,” *GCB Bioenergy*, vol. 4, no. 6, pp. 611–616, 2012.
- [18] C. Söderberg and K. Eckerberg, “Rising policy conflicts in Europe over bioenergy and forestry,” *For. Policy Econ.*, vol. 33, pp. 112–119, Aug. 2013.
- [19] D. R. Farine *et al.*, “An assessment of biomass for bioelectricity and biofuel, and for greenhouse gas emission reduction in Australia,” *GCB Bioenergy*, vol. 4, no. 2, pp. 148–175, 2012.

Part One: Evidence supporting the need for reform

Recommendations on evidence and trends:

- Incorporate analysis of extreme weather, climatic and health trends
- Undertake a broader examination of costs, including consideration of the value of ecosystem services

Part Two: Recommendations for reform

1. Recommendations regarding objects and principles:

- An overarching object to protect Australia’s environment and biodiversity
- Secondary objects to support national environmental leadership, biodiversity stewardship and fair decision-making
- Clear statutory duties and mechanisms to implement and fulfil the objects.
- A modernised framework to achieve Ecologically Sustainable Development (ESD), including new principles to support high environmental standards, non-regression and continuous improvement, and resilience to threats

2. Recommendations regarding scope of the Act:

- Retain existing matters of national environmental significance triggers

- Add new triggers for:
 - Significant land-clearing activities;
 - Significant greenhouse gas emissions, (including prohibiting specified greenhouse gas emitting activities that are in exceedance of Australia’s carbon budget)
- 3. Purpose of the Act – Recommendations for delivering environmental outcomes include:**
- The Act and relevant plans should establish clear outcomes, standards and reporting indicators, that can be amended over time in light of scientific evidence
 - Sustainability Commission reporting to be tabled in Parliament on the State of the Environment and National Sustainability Outcomes.
 - Require Commonwealth, State and Territory governments to respond to State of the Environment and National Sustainability Outcomes reports.
 - Mandatory monitoring and reporting requirements on matters of national environmental significance.
 - A set of National Environmental Accounts that track natural assets and their extent, condition and threat status over time.
 - An online monitoring and reporting hub for comparative analysis; easy access to public registers; and transparent, up-to-date information about environmental outcomes across Australia.

4. Role of the Commonwealth

Recommendations for improved governance and institutions include:

- Enforceable duties on decision-makers to use their powers to achieve the Act’s objects.
- Clear criteria and public accountability for key stages of decision-making, including requirements for objective, science-based outcomes assessment.
- A new national Environmental Protection Authority (EPA) – to assess, approve or refuse projects, monitor project-level compliance and take enforcement action.
- A new National Sustainability Commission – to coordinate national plans and actions, set national environmental standards, provide high-level oversight and give strategic advice and oversight to Ministers, agencies and the wider community.
- Establish expert advisory Councils and task forces where needed.

Recommendations relating to standards

- The new Sustainability Commission should set national goals to achieve positive environmental outcomes under rolling National Environment and Sustainability Plans (National Plans).

Recommendations regarding accreditation, streamlining and de-regulation:

- Simplify and clarify the referral and assessment process.
- Improve environmental impact assessment (EIA).
- Improve certainty and efficiency by setting clear thresholds, rules and guidance upfront on unacceptable impacts.
- Establish clear referral duties and powers for relevant Ministers and agencies, the National EPA, and the public to formally request an action be referred.
- Retain accreditation where there is evidence of environmental outcomes being achieved – for example, accreditation of fisheries.

- Revoke accreditation where there is no evidence of environmental outcomes being achieved – for example, Regional Forestry Agreements.

Recommendations regarding compliance and enforcement include:

- Adaptive management and ability to strengthen approval conditions over time in response to the best available science.

7. Specific Tools

Recommendations relating to markets and offsetting

- Any biodiversity offsetting must be based on clear scientific principles and limits.
- Carbon farming should meet clear criteria for additionality and abatement.

Recommendations relating to restoration, incentives and private land conservation

- Critical habitat declarations should trigger private conservation funding under agreement with affected landholders.
- Establish a Capital Funds Conservation Program to receive capital contributions, and reinvigorate a national 'stewardship payments' fund for private landholders to achieve priority outcomes for national and bioregional biodiversity conservation.

Additional Issues

- The review consider additional issues not raised in the Discussion Paper relating to:
 - Climate change
 - Integrated oceans management