Response to Clean Energy Regulator and Department of Climate Change Energy Environment and Water (DCCEEW) Statement on the Analysis of the Integrity Risk and Performance of Human-induced Regeneration (HIR) Projects using CEA data

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On 28 June 2023, the Clean Energy Regulator (CER) and Department of Climate Change Energy Environment and Water (DCCEEW) published the following statement in response to two papers by the ANU/UNSW ERF research team:

- Macintosh, A., Butler, D., Evans, M.C., Waschka, M., Ansell, D. (2023) Summary Results of Analysis of the Integrity Risk and Performance of Human-induced Regeneration (HIR) Projects using CEA data. The Australian National University, Canberra (**paper 1**);[1] and

- Macintosh, A., Butler, D., Larraondo, P., Waschka, M., Evans, M.C., Ansell, D. (2023) The under-performance of human-induced regeneration (HIR) projects: Analysis of misinformation disseminated by the Clean Energy Regulator. The Australian National University, Canberra (**paper 2**).[2]

"*Joint CER/DCCEEW response to ANU papers on Human Induced Regeneration*

28 June 2023

The Clean Energy Regulator (CER) has released Carbon Estimation Area (CEA) data following recommendations from the Independent Review of Australian Carbon Credit Units (ACCU Review) and a change to the law by Parliament.

The Department of Climate Change Energy Environment and Water and the Clean Energy Regulator provide the following statement in response to the two papers released by Andrew Macintosh et al on Human Induced Regeneration (HIR) the week of 19 June 2023:

The analysis relies on a misinterpretation of requirements in the method:

- *There is no requirement in the HIR method, nor other legislation, for projects to be preceded by land clearing.*

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[1] Available at:
https://law.anu.edu.au/sites/all/files/summary_results_of_analysis_of_hir_cea_data_210623.pdf (14 July 2023).

[2] Available at: https://law.anu.edu.au/sites/all/files/response_to_cer_hir_graphs_190623.pdf (14 July 2023).

- *The HIR method was designed to avoid creating an incentive for broad scale land clearing, which can cause significant environmental harm including land degradation, loss of biodiversity and poor water quality.*

- *Scientific literature supports the view that grazing animals can stop trees reaching a forest, such as a study by Eldridge et al. (2016), which found that that overall "ecosystem structure, function, and composition in rangelands are negatively affected by livestock grazing".*

- *Carbon Estimation Area (CEA) satellite images are not sufficient, in and of themselves, to make a judgement about the performance of HIR projects.*

- *The CEA data alone does not provide insight into the changed land management practices, nor readily show how much abatement has been achieved, particularly at the early stages of a project.*

- *The CER confirms abatement outcomes of HIR project activity with audits, site visits, drone footage and geolocated photographs.*

- *On the first paper, the CER and the department reject the claim that CER released false and misleading material. The analysis in the paper is based on flawed assumptions about when projects started and the extent to which forests increased on areas of land in the CEAs.*"[3]

The CER/DCCEEW statement is false and misleading in numerous respects, and misrepresents the analysis presented in papers 1 and 2.

Error 1: The CER/DCCEEW response wrongly suggests that we are claiming the HIR method requires projects to be preceded by land clearing.

The ANU/UNSW research team has never suggested, and paper 1 does not argue, that the HIR method requires areas to the cleared to the eligible. The analysis in paper 1, and the Carbon Integrity Explorer (www.carbonintegrity.au), use the absence of prior comprehensive clearing as an indicator of risk. Generally, it is unlikely that it will be possible to regenerate even-aged native forests in areas that have never been comprehensively cleared. As the Chubb review noted, in practice, for areas to be eligible under the HIR method, there must be:

> *… evidence that an area has in the past sustained native forest, as defined, but that this forest cover has been lost, and that regeneration has been prevented for a period.*[4]

[3] Clean Energy Regulator (2023) Joint CER/DCCEEW response to ANU papers on Human Induced Regeneration'. Available at:
https://www.cleanenergyregulator.gov.au/About/Pages/News%20and%20updates/NewsItem.aspx?ListId=19b4efbb-6f5d-4637-94c4-121c1f96fcfe&ItemId=1238 (14 July 2023).
[4] Chubb, I et al. (2023) Independent Review of Australian Carbon Credit Units. Department of Climate Change, Energy, the Environment and Water, Canberra, December, p 21.

Comprehensive clearing is the most obvious and widespread situation in which this requirement is satisfied.

The suggestion that the paper argues the HIR method requires areas to have been cleared to be eligible is false.

Error 2: The CER/DCCEEW response suggests the HIR method was designed to avoid creating an incentive for broad scale land clearing, which can cause significant environmental harm including land degradation, loss of biodiversity and poor water quality.

This statement is irrelevant and is misleading because it follows from the suggestion that paper 1 argues the HIR method requires areas to have been cleared to be eligible.

Further, as the CER and DCCEEW are aware, the risk that methods could create an incentive to clear vegetation to make it eligible under an ACCU method is supposed to be addressed via the excluded offsets project provisions of the *Carbon Credits (Carbon Farming Initiative) Rule 2015* (CFI Rules).[5] These provisions prohibit the registration of projects involving the establishment of vegetation on land:

- that has been subject to illegal clearing of a native forest; or

- that has been subject to clearing of a native forest within 7 years of the lodgement of a project registration application (or 5 years if there was a change in ownership).[6]

Error 3: The CER/DCCEEW response claims that the scientific literature supports the view that grazing animals can stop trees reaching a forest, such as a study by Eldridge et al. (2016), which found that that overall 'ecosystem structure, function, and composition in rangelands are negatively affected by livestock grazing'.

This statement is misleading because it misrepresents the arguments of the ANU/UNSW research team. The ANU/UNSW research team's position is as follows.

> *In certain circumstances, grazing pressure can materially reduce tree and shrub cover, including in regenerating vegetation following from clearing. However, cases where grazing transforms woody vegetation without prior clearing are exceptions, not the rule. Generally, any negative impacts of grazing on tree and shrub cover are at the margins in native vegetation. Even in previously cleared areas, grazing is rarely sufficient to stop regrowth without mechanical or chemical interventions to kill trees.*[7]

Both the CER and DCCEEW know that the ANU/UNSW research team has never suggested grazing cannot affect tree and shrub cover, or that grazing has no impacts on the structure, function and

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[5] *Carbon Credits (Carbon Farming Initiative) Rule 2015*, ss 20AA.
[6] *Carbon Credits (Carbon Farming Initiative) Rule 2015*, ss 20AA(1)(d) and (e).
[7] Macintosh, A. et al. (2022) Integrity and the ERF's Human-Induced Regeneration Method: The Additionality Problem Explained. The Australian National University, Canberra, p 1.

composition of rangeland ecosystems. Their statement is designed to discredit our position by misrepresenting it.

The CER and DCCEEW has also misrepresented the findings from Eldridge et al. (2016). The Eldridge et al. (2016) study was not concerned with the impacts of grazing on tree and shrub cover. The historical record shows that tree cover increased from the mid-twentieth century in many Australian rangelands, demonstrating that grazing alone is inadequate to supress woody cover in many situations.

Error 4: The CER/DCCEEW response claims that Carbon Estimation Area (CEA) satellite images are not sufficient, in and of themselves, to make a judgement about the performance of HIR projects.

Paper 1 does not rely on 'CEA satellite images'. Carbon estimation area (CEA) data are simply maps of the areas where forests are supposed to be regenerating as a consequence of the project activities. Nothing more.

The relevant research questions are:

- are there native forests regenerating in the CEAs; and

- if there is, to what extent does it go beyond what is likely to have happened anyway (that is, what has caused the regeneration, the project activities or rainfall)?

To answer these questions, paper 1 relied on the National Forest & Sparse Woody (NFSW) dataset. The NFSW dataset is the sole source of information relied on to track woody cover in Australia's greenhouse accounts (known as the National Inventory Report, NIR). It is generated using an internationally accepted method for estimating tree and shrub cover, which in simplified terms essentially measures 'greenness' of land areas at the driest part of the year.

At a high level, the results of the analysis, based on the NFWS dataset, are that:

- very little regeneration has occurred since the projects were registered; and

- where regeneration has occurred, in the vast majority of cases, the primary driver was rainfall.

The project activities appear to have had an effect but it is very small, particularly compared with the impacts of rainfall, which drives changes outside projects as well as inside them.

The claim that 'Carbon Estimation Area (CEA) satellite images are not sufficient, in and of themselves, to make a judgement about the performance of HIR projects' is misleading because the paper does not rely on CEA satellite images. It relies on the NFSW dataset and the CEA data.

If the CER and DCCEEW are arguing that it is not possible to rely on the NFSW dataset to assess the performance of HIR projects, **why has the CER previously relied on the same dataset to assess and defend the performance of HIR projects?** From November 2021 until paper 1 was published, the

CER repeatedly defended the performance of HIR projects using CEA data and the NFSW dataset. Examples include:

a. the so-called 'Beare and Chambers report' (https://www.cleanenergyregulator.gov.au/ERAC/Pages/Publications/Analytic-report-on-Human-Induced-Regeneration-method.aspx);

b. the 2022 report of the Emissions Reduction Assurance Committee that was prepared by the CER on the integrity issues associated with HIR projects (https://www.cleanenergyregulator.gov.au/DocumentAssets/Pages/ERAC-findings-on-the-Human-Induced-Regeneration-method.aspx);

c. the presentation of the Chair of the CER, David Parker, at the Carbon Market Institute (CMI) Forum in May 2023 (see the graphs presented in this paper: https://law.anu.edu.au/sites/all/files/response_to_cer_hir_graphs_190623.pdf).

In addition, the CER/DCCEEW's position appears to be that the NFSW dataset is too inaccurate to detect even-age regeneration of native forests across the 3.4 million hectares of land included in HIR CEAs. If this is the case, it suggests Australia's accounting for emissions and removals from the land sector are deeply flawed.

The truth is that there is a degree of error in the NFSW dataset, as there is in any dataset. However, the degree of underperformance of the projects is so large it makes the errors irrelevant. In simple terms, if the results in paper 1 are wrong because of the errors in the NFSW, it would mean:

- Australia's land sector greenhouse gas accounts are unreliable; and

- the internationally accepted science of tracking woody vegetation remotely using satellite imagery is flawed.

Error 5: The CER/DCCEEW response claims CEA data alone does not provide insight into the changed land management practices, nor readily show how much abatement has been achieved, particularly at the early stages of a project.

The paper does not argue that CEA data alone provides insights on changes in land management practices or 'readily show how much abatement has been achieved, particularly at the early stages of a project'. As discussed, CEA data are simply maps of credited areas where even-aged native forests are supposed to be regenerating.

Again, **this statement is misleading because it misrepresents the methods used in paper 1.**

Error 6: The CER/DCCEEW response claims the CER confirms abatement outcomes of HIR project activity with audits, site visits, drone footage and geolocated photographs.

This statement is false. The CER does not 'confirm abatement outcomes'. Abatement (sequestration of carbon dioxide in regenerating even-aged native forests) is estimated using the Australian Government's Full Carbon Accounting Model (FullCAM). Neither the CER, nor project

proponents, use 'audits, site visits, drone footage and geolocated photographs' to estimate sequestration in regeneration. Direct measurement of sequestration in regeneration is not permitted under the method. Proponents are only allowed to use FullCAM to estimate sequestration.

Audits, site visits, drone footage and geolocated photographs are used to assess compliance with the CER's interpretation of the requirements of the HIR method, the CER's guidelines on the HIR method,[8] and relevant CFI Rules.[9] They are not used to estimate sequestration in regeneration.

Error 7: The CER and DCCEEW reject the suggestion in paper 2 that the CER released false and misleading material about the performance of HIR projects. They claim the analysis in paper 2 is based on flawed assumptions about when projects started and the extent to which forests increased on areas of land in the CEAs.

This statement is false. The paper is not based on 'flawed assumptions about when projects started and the extent to which forests increased on areas of land in the CEAs'.

Paper 2 provides an analysis of misleading information disseminated by the CER on the performance of HIR projects. The CER's analysis is based on CEA data and the NFSW dataset. There are two key dates discussed in the paper:

- when projects were registered; and

- the legal 'project commencement date' (which differs from the registration date because proponents were allowed to backdate their project commencement dates under the first versions of the method).

The relevance of both dates are discussed in paper 2 – indeed, they are central to the analysis that is presented in the paper.

Conclusion

The statement from the CER and DCCEEW is false and misleading, and neither agency has engaged with the data and analysis presented in the papers.

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[8] Clean Energy Regulator (2019) Guidelines on stratification, evidence and records: For projects under the Human-Induced Regeneration of a Permanent Even-Aged Native Forest and Native Forest from Managed Regrowth methods. Commonwealth of Australia, Canberra. Available at: https://www.cleanenergyregulator.gov.au/DocumentAssets/Documents/Guidelines%20on%20stratification%20evidence%20and%20records%20for%20HIR%20and%20NFMR.pdf (14 July 2023).
[9] *Carbon Credits (Carbon Farming Initiative) Rule 2015*, s 9AA.