STATEMENT: ERAC CONSIDERATION OF HUMAN INDUCED REGENERATION METHOD

The Emissions Reduction Assurance Committee (ERAC) commissioned analytical work to examine several concerns raised about the Emissions Reduction Fund's Human Induced Regeneration (HIR) method (*Human-induced regeneration of a permanent even-aged native forest methodology determination*).

The Committee found that the evidence from robust analysis does not support these concerns:

1. **Additionality of HIR project activity** (that abatement resulting from projects under the method would occur in the ordinary course of events). ERAC commissioned work by agricultural statisticians (Dr Stephen Beare and Prof Ray Chambers). Their report found strong statistical evidence that HIR projects resulted in increases in regeneration of vegetation in NSW and Queensland, independent of the impact of rainfall. In other words, the report found the portfolio of HIR projects to be additional.

   The Beare/Chambers report was peer reviewed by Prof Christopher Triggs, who found the choice of modelling methods to be appropriate throughout and said: "We can have confidence in the robustness of the conclusions of the analysis in this report".
   Available downloads:

   - [Human induced regeneration: A spatiotemporal study](#), Dr Stephen Beare and Professor Raymond Chambers

   - [Review: Human induced regeneration: A spatiotemporal study](#), Professor Christopher Triggs

2. **Treatment of pre-existing vegetation** (that changes to the method and related guidance over time has weakened requirements to remove existing vegetation from the project crediting area to avoid over-crediting). The Clean Energy Regulator is of the view that this concern reflects a misunderstanding of how the method works and no version of the method has ever required the removal of sub-forest mature vegetation in this way. In addition, as geospatial imagery (GIS) tools have improved, the requirements to stratify project crediting areas to remove pre-existing forest cover have in fact tightened over time.

3. **Abatement over-credited** (that the HIR method is over-crediting abatement because of the way the carbon estimation model, FullCAM, is used). The model calibration is based on a range of forest densities short of forest cover. The ERAC notes that FullCAM is a well-established and highly credible model, and the method has been operating using FullCAM or related models since 2013. ERAC has not seen evidence to support this concern of over-crediting. However, ERAC is applying a risk-based approach to test this concern further and the outcomes of this investigation will also be made public when complete.

Background

The HIR method provides for carbon crediting only if there is a change in the way land is managed to encourage the regrowth of native trees and ground cover, where human activity has suppressed regrowth for at least 10 years. The environmental benefits include carbon and water retention in soil, and enhanced biodiversity. The land must have the potential to regenerate forest cover. The HIR is a modelled method that gives ACCUs for land management changes that allow vegetation to regenerate often across very large areas of land (carbon estimation areas or CEAs). The HIR method requires additional evidence to justify that the

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modelled estimates of forest potential are valid. Specifically, evidence is required that regeneration is occurring in accordance with modelled projections and, if such regeneration is not occurring crediting is paused until the required regeneration is achieved.

Further detail on the Beare/Chambers report

The Beare/Chambers' report has the following key features:

- A statistical modelling framework, which takes account of the change in correlation over space and time between the change in vegetation cover classes in the areas managed under HIR projects and a set of statistically adjacent control (counter factual) areas.

  - The modelling approach is therefore a statistical equivalent of conducting a field trial with control plots.

- Detailed assessment on a project-by-project scale of regeneration in CEAs of HIR projects under the method and the relative impact of the project activity (suppressor removal).

- Assessing HIR control areas that are subject to the same climatic events and trends as the HIR CEAs, where the project crediting activity takes place, to determine the impact of the project activity as opposed to other factors like rainfall.

A powerful feature of the Beare/Chambers modelling is that it is able to compare the performance of individual HIR projects with the overall portfolio performance and with other projects. This is statistically more powerful than simply comparing aggregate performance. A useful "by-product" of the Beare/Chambers analysis is that it can identify specific outlier projects that could be under or over-performing compared with their peers. The Clean Energy Regulator has now incorporated this statistical analysis tool into its compliance program to identify and follow-up on potentially under-performing projects. This will add to the Clean Energy Regulator existing use of GIS imagery and other assurance checks including audits and site visits.

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