



THE INSTITUTE OF FORESTERS OF AUSTRALIA  
& AUSTRALIAN FOREST GROWERS

## **SUBMISSION TO CLIMATE CHANGE AUTHORITY**

### **Review of the Emissions Reduction Fund**

**1 June 2020**

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The Institute of Foresters of Australia & Australian Forest Growers (IFA/AFG) is pleased to make this submission to the Climate Change Authority.

#### **ABOUT THE IFA/AFG**

The IFA/AFG is the professional body representing over 1000 members who are forest scientists, professionals and managers operating in all aspects of forest and natural resource management, including forest conservation, throughout Australia.

Forestry professionals, informed by the science of natural resource management, play a crucial role in shaping the future of forests, including plantation forests and farm forestry projects. We advocate balanced land use that meets society's needs for sustainable forest management, timber supply, and conservation outcomes.

The Institute of Foresters of Australia (IFA) and Australian Forest Growers (AFG) merged in early 2019. This new merged identity represents all segments of the forestry profession, including public and private practitioners and growers. Members are engaged in many aspects of forestry, nature conservation, resource and land management, research, administration and education.

#### **OVERALL PERFORMANCE OF THE ERF**

- *The Reverse Auction Mechanism is no longer working*

In 2019 the International Energy Agency estimated global CO<sub>2</sub> emissions to be 33 Gt annually. The global net sequestration of carbon dioxide is estimated to be 2.6 Gt annually (Britannica). This implies that globally, the anthropogenic carbon emissions are about 12 times that of the net sequestration. Increasing carbon sequestration in the biosphere through reforestation and a halt to deforestation that has been supported by the Emissions Reduction Fund, is an essential component of the immediate response to greenhouse gas emissions and climate change. Additionally, there has been other benefits in the form of rejuvenation of degraded lands and increased biodiversity in the Australian Landscape. However, culturally there must be an acknowledgement that control of greenhouse gas emissions and global warming can only come from reduced energy production from mineral or fossil fuels.

Currently, there is a lack of supply of Australian Carbon Credit Units (ACCUs) into the Australian carbon market and this is fundamentally due to the low ACCU price. Given the very low volumes from the past 6 auctions (Figure 1), the reverse auction process has failed to facilitate a price sufficient to attract new supply, particularly so in tree planting or forestry-type projects.



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The IFA/AFG recommend evolving the reverse auction process into “banded auctions”. That is, allow like projects to compete with like, based on ERF methods. So, all farm forestry projects would be in one auction and similarly all savanna burning projects in another. This would have the dual purpose of i) better clarifying price points under Marginal Abatement Costs (MAC) curves, and ii) encouraging new projects under new methods in new regions, thus decreasing the risks associated with the current geographic and methodological concentration of projects.

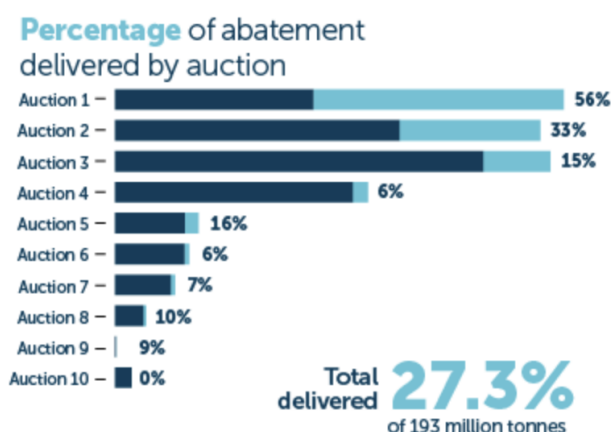


Figure 1: Clean Energy Regulator ACCU volume by auction

**MAINTAINING INTEGRITY & OPTIMISING GOVERNANCE**

- *Planting Trees is the Answer to Crediting Genuine Additional Abatement*

The IFA/AFG accepts that Australia has some of the most rigorous methodologies in the world and this has led to genuine abatement from the current methods. The IFA/AFG fully support the Offsets Integrity Standards as pivotal to the integrity of the scheme. However, there is very low uptake of projects under the 4 primary sequestration-based methods of interest to the IFA/AFG – farm forestry, plantations development, environmental plantings and the updated (2018) savanna burning method.

For example, there are currently only 10 registered projects under the 2012 Environmental Plantings Method. Doing slightly better, under the 2014 FullCAM method there are 50 projects; but they have only generated 369,201 ACCUs, which is not even measurable when weighed against the approximately 52 million ACCUs issued under the ERF to date. There are just 2 farm forestry projects, both in Western Australia, having generated just 95,000 ACCUs to an electricity company.

Encouragingly, there are 24 registered projects under the 2017 forestry plantations method, however these have only generated just under 30,000 ACCUs to date but this may be a reflection of their reporting periods. The IFA/AFG posit that the forestry & farm forestry sector can contribute further to meeting Australia's emissions challenge if there was differential (higher) pricing for those actual “direct action”-type tree planting projects that can also demonstrate economic activity above and beyond what would otherwise occur.

A \$20-\$25 ACCU price for tree planting projects would drive substantial additional investment into new carbon abatement projects, provided the lessons of the Managed Investment Scheme (MIS)



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sector collapse are observed. The IFA/AFG could work with the Carbon Market Institute, the Federal Government and the Clean Energy Regulator to independently verify the associated economic benefits from tree planting projects undertaken under the Climate Solutions Fund.

The IFA would like to see more uptake under these 4 methods as this will draw down greenhouse gases from the atmosphere, rather than just avoid emissions, and in so doing will generate project activity in rural and regional Australia. However, in order to attract new activity under these methods, a significantly higher price for ACCUs is required than the current weighted average of \$12.06 per tonne of CO<sub>2</sub>-e.

- *Put Industry back in charge of the Method Development Process*

In terms of the structural aspects of the ERF, the IFA/AFG considers that some revision of the role of the Department is required. Although there are 34 ERF methods, it is clear that only a handful are responsible for the majority of projects. If method development involved industry more, then policy refinement to better tailor additional abatement would occur. For example, the IFA/AFG does not support the current practice of the Minister for Agriculture having veto over plantation development projects, which occur in the context of regional and local government planning schemes that already guard agricultural production.

The IFA/AFG suggest that the governance aspects of the ERF be changed so that separate "Carbon Abatement Industry Hubs" are established for the following sectors: transport, aviation, industrial facilities, fossil fuels and then agriculture and forestry working together as one hub. There are many synergies between forestry and agriculture in carbon farming – both sectors are interested in soil carbon, appropriate tree planting, appropriate land use change and waste utilisation.

### **MANAGING RISKS TO ABATEMENT**

- *There are more problems with Crediting Periods than the Permanence Period Discount*

The permanence period discount of 20% for a 25-year crediting period, compared with a 100-year crediting period, disincentivises establishment of long-term storage of carbon from tree species that might take 35 – 50 years to come to maturity. That is, there is a commercial driver that pushes projects towards planting those species that mature in 25 years, which are usually softwoods or traditional pulp hardwood species on land that is also used by agriculture. If additional carbon abatement is sought from tree planting, then we must encourage long-rotation hardwood species planted on marginal land of no interest to agriculture. This will involve species that come to maturity well after 25 years. Such species, if they are to grow on marginal land, will be slow-growing and therefore not currently attractive to commercial forestry interests. This is clearly an opportunity for true additionality from carbon revenue to play a part – by encouraging species that will generate much more carbon volume than pure environmental plantings, but that mature much later. As Figure 2 illustrates, such species might take 50 years for their Current Annual Increments (CAIs) to intersect with their Mean Annual Increments (MAIs). Now these species are not being planted either for commercial plantations or for environmental plantings. With a higher carbon price, large areas of these species could be established under the Farm Forestry method.



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The discount factor is not a problem per se, but rather the 25-year crediting period is a problem. The IFA/AFG recommend keeping the 25-year crediting period but also establishing 40, 50 and 100-year crediting periods to facilitate new species in new regions, particularly lower rainfall areas that will not conflict with agriculture.

- *Convert the Risk of Reversal Buffer into a Carbon Insurance Scheme*

The current Risk of Reversal Buffer (RRB) of 5% for sequestration projects is working fine. In fact, it should be expanded and converted into an industry-wide insurance scheme, rather than just be held in reserve by government. As ACCUs are fungible financial products, it makes sense to use the RRB as a foundation for establishing an insurance scheme against any climate-related or force majeure events for sequestration projects.

- *Plantation Forestry & Farm Forestry projects would expand the current geographic reach of projects*

The current concentration of vegetation methods (predominantly HIR) in western Queensland and NSW is concerning. Using the policies IFA/AFG have outlined in this submission, the anticipated location of plantation forestry and farm forestry projects would augment and expand the current geographic reach of the ERF/CSF into those areas of marginal agricultural productivity.

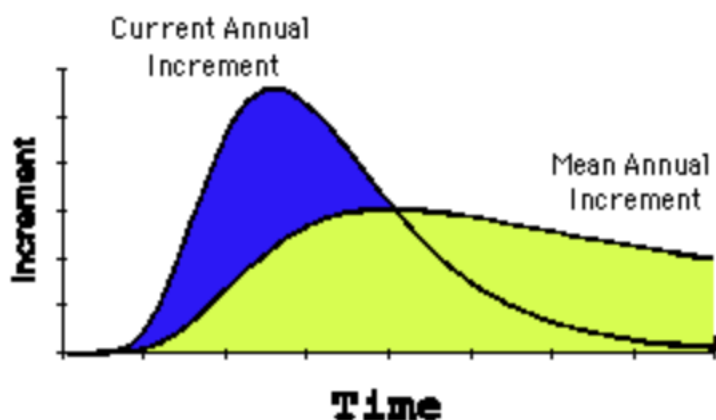


Figure 2: Traditional MAI vs CAI curve

### **OPPORTUNITIES FOR ENHANCING OUTCOMES FOR LAND-BASED PROJECTS**

- *Replace Least Cost Abatement with Total Economic Value (TEV)*

The key principle of the ERF is least cost abatement, which combined with the reverse auction process, puts downward pressure on prices and does not allow price transparency as occurs in all other market-based agricultural commodities. Least cost abatement does not usually result in the greatest total economic value, as it prioritises the cheapest carbon credits, resulting in the use of



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methods that do not involve significant upfront capital, such as is necessary in all tree planting projects.

A better principle to use for purchasing ACCUs would be for projects to demonstrate their total life-cycle capital and operational expenditure and the amount of funds that will be invested in rural and regional areas. That is, an economic rather than just financial appraisal of each project would give a better picture of the return to the taxpayer dollar (Consolidated Revenue), if the government wishes to continue to directly invest in such projects. Such analysis would often favour long-term forestry and farm forestry projects over the existing dominance of Human Induced Regeneration (HIR) and landfill/waste projects.

Replacing the policy of Least Cost Abatement with Total Economic Value (TEV) would drive additional economic activity in the aftermath of COVID, and this activity would involve substantially more investment into carbon farming than is currently occurring, especially if private sector funds were used to match Climate Solutions Fund investment on a dollar-for-dollar basis.

Unfortunately, the King Review recommends that the land-based sector should no longer be the only priority for investment by the government and that industrial facilities and the fossil fuel sector be granted their own form of carbon credits. Whilst it is a positive development that carbon abatement will increase in the non-land-based sector, it will not generate the co-benefits of land-based forestry and farm forestry projects.

- *Recognition of Co-Benefits is Crucial*

Although not a focus of this review, the IFA supports the idea of incorporating co-benefits, such as payments for ecosystem services, biodiversity credits, Reef credits and similar such schemes.

- *Encourage Energy from Biomass*

For some time, there has been considerable public discussion of the potential benefit of new industries that manufacture and operate fuel and energy production infrastructure that exploits renewable energy sources. The clean Energy Council reports that in the 5 years 2014 to 2019, Australia's electricity production using renewable energy source increased from 13% to 24% of total production. Adoption of renewable energy technology in the form of wind and solar generation has been extraordinary, indicating a desire and willingness for the community to contribute to net greenhouse gas emissions reduction. These two energy sources in particular however, have the disadvantage of being no-dispatchable. That is, the supply is contingent on factors out of the control of the generating business, and ideally generation needs to follow demand. This challenge has provided unforeseen challenges managing the national energy grid. The Snowy 2.0 project attends to this problem, proposing to use solar energy to pump and store water high in the landscape enabling electricity generation later through turbines within the Snowy River Scheme. An additional and unexploited source of fuel for generating dispatchable energy is biomass. Biomass also has the unique advantage of all renewable energy sources which is the ability to be converted to liquid fuels.

Exploiting biomass as a fuel has been impeded by several characters that render it uneconomic in a market where coal is the primary fuel used for electricity generation. These reasons relate to



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a lower energy density of biomass (~15MJ/t) compared to coal (~35 MJ/t), that is distributed in two dimensions across the landscape compared to coal which occurs in concentrated 3-dimensional deposits in the earth's crust. This of course leads to higher transport costs. The estimated difference in these fuels in terms of electric power production cost is about 4 to 5 times per kW capacity. Other issues exist as well, such as pollutants produced on combustion of biomass, that can be toxic to humans if not managed appropriately, which is expensive.

Agricultural production and forestry make significant contributions to Australia's economy (3% of GDP), and importantly this contribution is delivered in regional Australia. Primary production produces a substantial body of biomass as a by-product; however, this material is distributed in the landscape in smaller quantities. This also contributes to a poor competitive position due to small scale. However, if small scale conversion were available then this biomass could provide rural industries with a significant reduction in production cost, increase production efficiency, and substantially reduce net carbon emissions.

The technology that can economically convert biomass to fuel and electrical energy at small scale is in development and remains an opportunity for any economy that can commercialise first. Where biomass (or any organic waste including plastics) is accessed as waste from other processes, the cost of transport is essentially nothing. Where biomass must be disposed of and incurs cost, the fuel cost is negative. These features greatly improve the comparative cost of fuel and energy production using biomass and can compete with large scale use of coal.

An opportunity arises through the ERF to reduce emissions through the production of liquid fuel and electricity using biomass in place of mineral sources. If it is assumed that the carbon drawn from the atmosphere to produce biomass is balanced by the carbon returned on combustion as fuel, then the reduction in emissions will be equal to carbon consumed in the production of the same fuel and energy using mineral resources. Simple equations that incorporate efficiency parameters can provide conversions from kWhrs to kg coal or atmospheric carbon, or alternatively litres of fuels of various energy content to atmospheric carbon. A new project that installs and operates plant to exploit biomass to energy would attract payments according to the value of ACCUs as reduced emissions. These projects could contribute seed development of new technology and industries, reduce processing costs of primary produce through more efficient use of primary produce and reduce emissions.

- *Progress a Biochar Methodology*

Similarly to biomass, the issue of woody waste utilisation and biochar production needs to be addressed. Biochar methodology development should be prioritised as a form of carbon farming; the IFA/AFG understands a previous method has been pulled but there has not been sufficient public consultation regarding this matter.



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**SUMMARY POINTS**

1. *The Reverse Auction Mechanism is no longer working.*
2. *Planting Trees is the Answer to Crediting Genuine Additional Abatement.*
3. *Put Industry back in charge of the Method Development Process.*
4. *There are more problems with Crediting Periods than the Permanence Period Discount.*
5. *Convert the Risk of Reversal Buffer into a Carbon Insurance Scheme.*
6. *Plantation Forestry & Farm Forestry projects would expand the current geographic reach of projects*
7. *Replace Least Cost Abatement with Total Economic Value (TEV)*
8. *Recognition of Co-Benefits is Crucial*
9. *Encourage Energy from Biomass*
10. *Progress a Biochar Methodology*

**Further comment and contacts**

If you have any further queries on this submission, please contact Jacquie Martin, CEO of the IFA/AFG office on (03) 9695 8940.

We look forward to further contact on this matter and request that you keep us informed of further developments.

Yours sincerely

A handwritten signature in blue ink, appearing to read 'Robert Gordon', is written over a light blue circular stamp.

Robert Gordon  
President

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