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What is your submission based on? I am making this submission based on my professional knowledge, qualifications or experience or on behalf of a group or organisation

What is your area of professional expertise?

If you are lodging your submission on behalf of a group or organisation, what is the name of the group or organisation? Carbon Market Institute

Your Submission

In your experience, what areas of the bushfire emergency response worked well?

In your experience, what areas of the bushfire emergency response didn't work well?

In your experience, what needs to change to improve arrangements for preparation, mitigation, response and recovery coordination for national natural disaster arrangements in Australia?

With the broad acknowledgment that human induced climate change was at least a factor in the bushfires, a group of carbon industry, finance and insurance sector, Commonwealth and state government, scientists, indigenous and conservation groups (who came together at a workshop on 28 January 2020) noted that emission reductions to net-zero emissions was a central part of any fire and other climate hazard reduction strategy. Emission reduction and sequestration is hazard reduction. There was also recognition that there was a not well appreciated or engaged role for the carbon farming industry to complement public and private land management. Carbon farming is often not well represented or recognised in formal Ministerial and COAG processes or indeed properly recognised as a primary industry. As such the industry was not always "at the table" in key processes. It was recognised that this industry needs a seat at the table in other bushfire recovery-related processes, in order to contribute the fire and landscape management knowledge and experience of carbon farming, insurance and financial market participants across Australia.

Is there anything else you would like to tell the Royal Commission?

The aforementioned group is pushing for carbon farming to be mobilised to support bushfire recovery and build in additional resilience to Australia's economy through nature-based solutions. The carbon farming industry can play a key role in supporting bushfire recovery and building additional resilience to Australia's economy through nature-based solutions. The industry has nearly a decade of commercial operation providing numerous benefits to regional communities. Appropriate engagement of the industry as well as well targeted policies and investment can grow the industry's contribution and broader economic resilience and prosperity.

Do you agree to your submission being published? Yes I agree to my submission being published in my name

Supporting material provided:

Carbon Farming and Bushfire Recovery Report FINAL 140220.pdf



Carbon Farming and Bushfire Recovery National Workshop Report

February 2020

prepared by
Carbon Market Institute



Carbon Farming and Bushfire Recovery National Workshop Report



Summary

Representatives of the carbon industry, finance and insurance sector, Commonwealth and state governments, scientists, indigenous and conservation groups gathered in Brisbane on 28 January 2020. They met to determine how carbon farming can best be mobilised to support bushfire recovery and build in additional resilience to Australia's economy through nature-based solutions.

This report sets out CMI's synthesis of the key discussion points and observations from attendees. Except for opening panel comments, discussions took place under Chatham House Rules.¹

Participants were provided with a list of key questions for consideration prior to the workshop. Plenary discussion followed contributions from an opening panel of experts (See Appendix). After discussion that previous worst case scenarios had not included the scale of this year's fires, small groups discussed a "Black Sky" scenario and ways the carbon farming industry could act now to prevent this scenario or minimise risks. The group divided into three workshops:

- (a) Nature based solutions and valuing indigenous and other co-benefits;
- (b) Methods and Australia's emissions, and
- (c) Working together.

With over eight years' experience and over 800 projects since the passage of the Carbon Credits (Carbon Farming Initiative) Act in 2011 (CFI Act), there is considerable value in expertise and on-ground improvements that should be better engaged in the now urgent task of landscape and climate repair. This value is not adequately represented in landscape and bushfire risk management. Carbon farming is not well recognised as primary production and has piecemeal recognition in ministerial and COAG processes.

It was noted that fire is mentioned in 25 per cent of Nationally Determined Contributions under the Paris Agreement. Combined with growing global fire risks, this expertise can not only assist in making communities and environmental assets safer, but also in building economic opportunities from the sharing of Australia's expertise and investment.

As this season's fires were focused in eastern and south western forest regions, most current carbon projects were not heavily impacted. It was recognised that plantations established before the CFI Act and hence not carbon projects, were heavily impacted.

The workshop was advised that under natural disturbance provisions "normal" bushfires or prescribed burns are treated as carbon neutral on the assumption that carbon will be re-sequestered in regrowth. While estimates of emissions from fires are not normally included in that year's national inventory they are monitored and reported. The national annual inventories may be impacted if plantations do not regrow or there are ecosystem changes resulting from further human disturbance on the fire affected areas that would prevent or delay carbon recovery - for example from clearance to make a land use change to a grassland. There is not broad understanding of the way extreme bushfires are treated by national accounts, a matter the Commonwealth Department noted it was seeking to address.

With the broad acknowledgment that human induced climate change was at least a factor in the current fires it was noted that emission reductions to net-zero emissions was a central part of any fire and other climate hazard reduction strategy.

Emission reduction and sequestration is hazard reduction.

¹ This report comprises notes made by CMI and does not represent the views of any individual or other organisation attending the workshop.

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Workshop Outcomes

There was recognition that there was a not well appreciated or engaged role for the carbon farming industry to complement public and private land management. Carbon farming is often not well represented or recognised in formal Ministerial and COAG processes or indeed properly recognised as a primary industry. As such the industry was not always “at the table” in key processes.

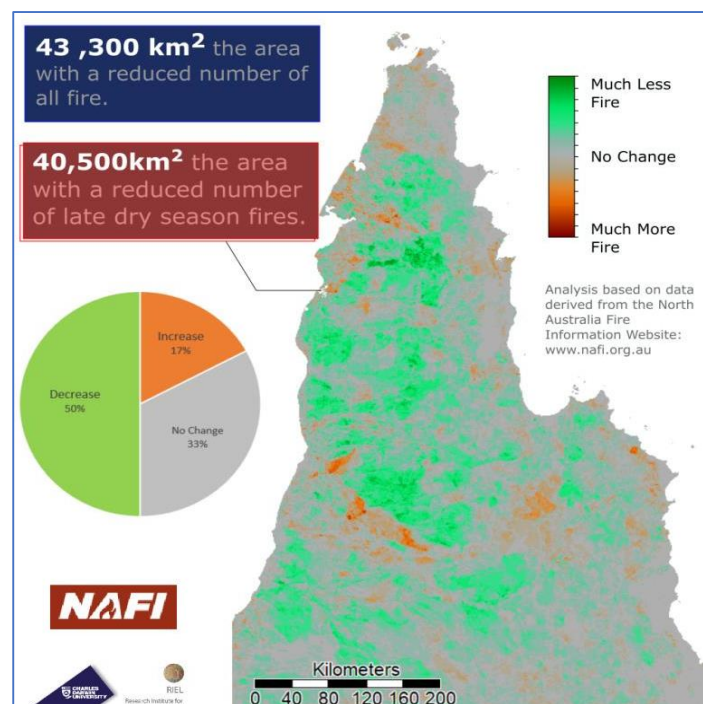
It was recognised that this industry needs a seat at the table in other bushfire recovery-related processes, in order to contribute the fire and landscape management knowledge and experience of carbon farming, insurance and financial market participants across Australia.

A common theme emerged from the industry that fire should be better treated as a management tool and not treated as generally an ineligible activity. The varied and sometimes “clunky” treatment of fire in various existing carbon farming methodologies approved was raised as an issue that needs to be addressed.

An innovative approach was recommended as new methodologies are generally developed and available for market uptake around two years from the time the relevant science is settled. It was noted that the Savanna burning methodology took even longer to be established (close to a decade), but that lessons from this process could ensure swifter consideration of cooler climate forest burning methodology for Southern Australia or others for central Australia. CMI’s Landscape Management Taskforce examining existing methodologies was identified as a preferred vehicle for examining issues in current methods.

Many participants spoke of the need for a new paradigm for landscape management that draws on the practices and knowledge of over 60 000 year of Indigenous fire management experience. The below figure from North Australia and Rangelands Fire Information (NAFI) shows net Cape York fire frequency had decreased by a third (33 per cent) following commencement of “cool” savanna burn carbon farming. Figure 1 below compares 2000-2006 and 2013-2019 pre and post burning averages.

Figure 1 North Australia Fire Management (Cape York, Qld). A comparison of average fire frequency between 2000-2006 and 2013-2019. Source NAFI



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Key Actions

Key discussion points and suggested actions from participants included:

1. Carbon farming experience and expertise to be better integrated in landscape management, primary production including bushfire hazard reduction and bushfire recovery-related processes.
2. Public funds including the Future Drought Fund, Bushfire Recovery Agency funding, Climate Solutions Funds, primary industry funding and related sources should have inclusive criteria for fire management and carbon farming support. This should include resourcing more rapid development and deployment of carbon methodologies and their potential for both emission reduction and resilience building.
3. The CMI Landscape Management Taskforce (currently examining whole of landscape changes to methodologies) will incorporate a review of the treatment of fire in its review and recommendations and engagement with the government.
4. A new ERF methodology should be separately considered by industry and Government for the prevention of increased fire frequency leading to ecosystem changes, this may include separate or related methodologies for fire management in Southern and Central Australia.
5. To the extent that a standalone “fire credit” methodology or similar concept cannot be integrated or developed under carbon farming methodologies because of potential lack of carbon outcomes, which should remain the focus for ACCUs, then fire benefits should be recognised in natural capital, ecosystem and Indigenous benefits crediting processes, e.g. within the Queensland Government’s Land Restoration Fund.
6. The special fire management knowledge of Australia’s Indigenous first nation people should be acknowledged, resourced and incorporated where possible in methodology development and verification processes, e.g. building on the Aboriginal Carbon Foundation’s Indigenous Core Benefits Verification Process.
7. ARENA and other similar technology development support funding mandates should also include criteria for investment to support nature-based solutions for fire management and other technology innovations that can further landscape and agriculture-based carbon projects. This should include soil and revegetation initiatives that can retain moisture (and carbon) in landscapes, and those that can reduce fuel loads at risk of combustion.
8. Greater steps be taken to broaden understanding of recent inventory method developments, including with respect to the accounting treatment of fire. The Department of Industry, Science, Energy and Resources has invited a representative of the CMI to participate in the next National Inventory Users Group meeting.
9. Taxation dis-incentives for carbon farming should be addressed such as denying primary producer status for carbon farming.
10. Relevant university and tertiary skills development programs should be reviewed to ensure carbon farming, landscape management including fire management are integrated.
11. That the cumulative quantitative status of the [risk of reversal buffer](#) premium of 5 per cent imposed on all carbon farming projects be transparently accounted for so that the community can better understand the conservative nature of Australia’s carbon farming operations. This buffer applies in addition to requirements for carbon projects to manage regrowth, to allow for carbon stocks to return to reported values prior to a fire or other disturbance.
12. The governments, industry and other stakeholders better communicate the benefits of improved vegetation cover and fire management, and the role for carbon farming in climate mitigation, repair and adaptation.
13. Innovative approaches should be considered to ensure the diminishing annual window of opportunity for hazard reduction and cultural burning practices between expanding bush fire

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- weather seasons is best utilised. This includes extra financial support, leave arrangements, engagement of reserve and defence personnel and “gap year” opportunities.
14. Funding for the Bushfire and Natural Hazard CRC be continued.
 15. Governments should dedicate extra resources to promote the voluntary and compliance carbon markets potential for providing private-sector funding at scale, for carbon farming ‘repair’, resilience, and fire-risk reduction projects.
 16. Each jurisdiction should facilitate and encourage standardised accounting frameworks that value other ‘co-benefits’ in addition to carbon, including fire management, biodiversity and community benefits (e.g. Accounting for Nature and Aboriginal Carbon Foundation’s Core Benefits Verification Framework).
 17. The review of the Environment Protection and Biodiversity Conservation Act should better integrate emergent climate risks and realities as well as opportunities for carbon farming and fire management to make valuable contributions to protect species and landscapes. The contribution of projects with carbon credits should be recognised alongside better integration with other environmental market offsets and accounting
 18. A positive that might come from the horrific fire season: taking up the potential for Australia to be a hub and leader in helping address global concerns regarding wildfire. Aboriginal people have commenced this, sharing approaches to savanna fire management with people in southern Africa. This could include furthering current work about the ways fire might be included in NDCs (essential steps relating to fire types, baselines, MRV, performance monitoring etc). Also, Article 6, paragraph 8 of the Paris Agreement provides a broader framework for cooperation that drives adaptation (as well as potential mitigation). This could provide opportunities for investment in resilience and adaptation focused activities that also deliver emissions reductions.

Participants also noted work underway to better understand insurance and other risk issues related to carbon farming and climate impacts. Further attention to this from industry, stakeholders and government will be vital as insurance is already difficult to obtain for some projects.

With the acknowledgment that human induced climate change was at least a factor in the current fires, some participants noted that net-negative emissions, drawing down atmospheric levels of heat trapping carbon dioxide will become an increasingly important objective. Microsoft’s [commitment to be net-negative emissions from 2030](#) is but one example of a growing public and private sector focus on net-negative emission, climate repair objectives.

Conclusion

The carbon farming industry can play a key role in supporting bushfire recovery and building additional resilience to Australia’s economy through nature-based solutions. The industry has nearly a decade of commercial operation providing numerous benefits to regional communities. Appropriate engagement of the industry as well as well targeted policies and investment can grow the industry’s contribution and broader economic resilience and prosperity.

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Appendix A

The workshop discussed opening panel comments from:

- Dr. Philip Stewart, *Bushfire and Natural Hazards CRC*, **University of Queensland** (presentation available)
- Rowan Foley, *Chief Executive Officer*, **Aboriginal Carbon Foundation** (presentation available)
- Dave Moore, *Chief Operating Officer*, **GreenCollar**
- Emily Gerrard, *Director and Principal Lawyer*, **Comhar Group**
- Paul Ryan, *Director Forests*, **Department of Industry, Science, Energy and Resources**

Key points from the presentations and discussions included:

Dr Philip Stewart - University of Queensland

What has happened:

- In history, the fires have been and are driven by climate.
- Since June 2019, 18.6 million hectares have burnt - unprecedented on the East Coast because of extent of forests that have been burnt, previous fires have covered greater territory, but these fires burnt grasses and forbs across central Australia.
- Climate change has exacerbated the situation – there has been 36 months of drought.
- We have seen (BOM data - David Karoly) that Australia's temperature anomaly has increased steadily from 1990-2010, meaning our maximum temperatures are increasing year on year.
- Invasive species, in particular grasses have increased fuel loads.

Impacts on vegetation:

- Xylem embolism - reduced moisture content in plants - causing increased mortality in trees and also increased fuel loads (e.g. up to 3-4x the fuel loads) due to droughts.

Future climate scenarios:

- Under both climate scenarios, there is an expansion of the tropical belt - increase in rainfall in the tropics.
- Reduction in rainfall across Australia and most other land masses.
- We are already exceeding model projections (see Canberra projections for temperature anomaly projections for 2030 - we exceeded those by 4x in 2019 already).

There are many ways to manage fire and fuel loads, not just fighting fire with fire.

Rowan Foley – Aboriginal Carbon Foundation

- Rowan Foley's presentation "Fresh thinking using old ways" included his recommendations to the Environment Minister's roundtable on bushfire recovery:
 - A Forest Fire Credit is developed that includes environmental, social and cultural outcomes that directly supports cultural burns/ cool burns/ hazard reduction burns in the winter months when conditions are ideal to reduce fuel loads.
 - A forest fire methodology is developed for southern Australia similar to the savanna burning methodology for northern Australia.
 - The Core Benefits Verification Framework is implemented to measure and verify environmental, social and cultural outcomes.

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- Rowan noted as the window of opportunity for burning decreases there must be a corresponding increase in available resources to implement burns, reduce emissions and protect communities
- Rowan called for an equal, if not greater, level of investment that is being made into the R&D of a blue carbon methodology should be allocated towards a forest fire methodology
- Rowan noted that the Aboriginal Carbon Foundation's core benefits verification framework could contribute essential knowledge sharing and learning after the bushfires and can assist local jobs and support economically depressed towns to recover
- Rowan recognised that cultural burning for hazard reduction was not a silver bullet but should play a central role in new responses, he shared data from North Australia and Rangelands Fire Information (NAFI) that Cape York fire frequency had decreased 50 per cent following commencement of "cool" savanna burn carbon farming comparing 2000-2006 and 2013-2019 averages. (Figure 1 above)

Dave Moore - GreenCollar

- Environmental markets can be used to both mitigate risks and unlock opportunities, especially when looking at the issue of fire.
- Carbon projects provide a good underpinning framework for integrating robust active management programs which allows the landscape to be more effectively managed and prevent fire risks – they are not as some say locking up land and increasing fire risk. Well run carbon projects are developed within a whole of system approach and active management is critical to their success.
- Maps show that a lot of these areas where existing carbon projects operate, with particular reference to our portfolio, weren't affected by fire (on Eastern states)
- We look at these sites every day, visit them every quarter, and have a 'risk based' approach to monitoring and evaluation, including fire management plans tailored to the location etc.
- Doing work with the South Australian Government - we are looking at integrating carbon projects within parts of the conservation land estate and the benefits that can come from active management via best practice carbon projects e.g. sophisticated and detailed monitoring of land condition, fire management, capacity building, opportunity to get back on country for local Aboriginal communities, job creation etc, using private sector investment - payment for ecosystem services.
- We are integrating the Accounting for Nature framework at a property and project scale - which looks at how to measure changes in environmental assets and land condition - metrics to show improvement, which may attract finance/private sector investment - whole of system approach, discreetly measuring whole ecosystems.
- Using fire to improve carbon sequestration - used as a management tool both for risk mitigation but also to unlock higher landscape regeneration / revegetation to sequester carbon, controlled and actively managed within the carbon management plans.
- Technical issues need to be ironed out, mostly minor adjustments, e.g. with clunky treatment of prescribed burning in HIR methodology, potentially including controlled burning practices as both suppression factor and possible management change.

Emily Gerrard - Director and Principal Lawyer, Comhar Group

- There are some important framing questions relevant to considering the topic, for example:
 - what does carbon farming mean in this context (do we mean CFI projects and methodologies, or broader land management incentives etc. or both)? There are relevant issues and benefits

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beyond carbon (species resilience, biodiversity, agricultural resilience etc.) Consideration should be given to evaluating existing frameworks and addressing gaps / inadequacies; and

- what are the short and medium term aims and what scope is appropriate for any reform? (pros & cons - do we need a complete paradigm shift, or should we work within what we already have?)
- At the outset, we must recognise the expertise of Aboriginal and Torres Strait Islander peoples in sustainably managing land. Non-Indigenous people in Australia just over 230 years ago (and didn't settle various parts of Australia for some time, so the period is less than that in many places). Comparing this period to the lived experience and expertise of Indigenous Australians (over 60,000 years), there is not only an opportunity, but a responsibility, to more appropriately engage with and value the experience and expertise of Aboriginal and Torres Strait Islander people.
- It is important to step back and work out where the gaps are, where effort is needed and to complement not compete with existing initiatives (unless a re-boot is needed). Local-level planning schemes regulate land use and development across Australia and consideration needs to be given to these frameworks in assessing compliance pathways and opportunities, e.g. in Victoria there are designated bushfire prone areas and bushfire management overlays, which apply to areas and establish building restrictions, requirements for hazard assessments and management measures, as well as mandatory conditions attaching to land use and development in these areas.
- Most if not all jurisdictions have laws in place that restrict clearing of native vegetation, protect and conserve flora, fauna and biodiversity, as well as enable governments to incentivise land management and biodiversity outcomes. Australian states and territories have established different biodiversity / environmental offset regimes which generally relate to land use and development approvals. These regimes have market drivers and operate separately from carbon markets, for example: Ecomarkets in Victoria; Biodiversity Conservation trust and offset drivers in NSW; Biodiversity Credit Exchange in South Australia, among others.
- At the Federal level, the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) is a driver for the procurement and delivery of biodiversity offsets, as well as a potential vehicle for better integrated land management assessment. Again, biodiversity offsets operate separately from carbon markets.
- In considering new opportunities, we need to be mindful of these cross-cutting markets, incentives and levels of regulation. A greater degree of coherence is likely to be needed across these frameworks in future (including to maintain environmental integrity, transparency, credibility and confidence). The current EPBC Act review may be a place to explore some of these ideas and opportunities.
- Existing regulation and incentives drive behavioural change and govern land use and development for *proposed* activities, however effort may be needed to improve the management of our existing built and natural environment. This could be an area for further consideration.
- There may be multiple pathways for appropriate private sector involvement in this area (incentives (tax), markets, emerging investment and finance vehicles (e.g. green bonds)).
- The international paradigm is also important. The Paris Agreement and transition from a 'Kyoto Protocol world' this year is an opportunity to innovate. What unfolds at the international level is relevant to greenhouse gas inventory and accounting approaches (and therefore domestic policy and incentives). Wildfire mitigation is a conversation at the international level, noting that CIFOR analysis indicates over 25% of countries report wildfires as a climate-related hazard in their nationally determined contributions (NDCs).
- There are conversations at the international level examining the ways fire might be included in NDCs (essential steps relating to fire types, baselines, MRV, performance monitoring etc. so some work to be done). Also, Article 6, paragraph 8 of the Paris Agreement provides a broader framework for cooperation

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that drives adaptation (as well as potential mitigation). This could provide opportunities for investment in resilience and adaptation focused activities that also deliver emissions reductions. A further positive to take from the horrific fire season might be whether Australia could be a hub and leader in helping address global concerns regarding wildfire.

Paul Ryan - Department of Industry, Science, Energy and Resources

- Permanence requirements for sequestration activities include obligations to manage carbon after a disturbance (e.g. fire)
 - There are requirements to report on significant losses and account for emissions
- Risk of reversal buffer - discounts credits issued by 5% to cover scheme-wide risk of losses due to disturbances
- Different methods have different specific requirements, e.g. on removing biomass. Fire management is generally not an eligible activity (aside from savanna burning methods). There are requirements for monitoring and reporting on disturbances.
- Fire emissions are included in our national accounts in line with international standards and approaches used by other countries. This assumes that emissions from burning are generally balanced by over time by regrowth. This can depend on, for example, whether an area is cleared after a fire and not regenerated, and the severity of the fire.
 - For large, infrequent fire seasons, reporting methods allow smoothing of the impact of variable emissions and the subsequent regrowth.
 - It's a current priority to improve accounting for fire emissions within the Dept
- New initiatives for managing fires - our questions are:
 - How do these fit within other ERF priorities - e.g. method development and streamlining in the Scheme?
 - How does fire management sit with other priorities for land management - productivity, water quality, biodiversity?
 - In relation to ERF methods, what's the potential for uptake, abatement, and adverse impacts, and are there other mechanisms that would provide a better way of providing an incentive or getting the desired outcome?
 - How does fire management fit under an emissions offsets scheme, noting the Government has a Bushfire Recovery taskforce, Environment is working on biodiversity recovery and Dept Agriculture is likely to be helping ag sectors such as forestry recover from large losses



for more information please contact

John Connor

Chief Executive Officer

