Australian Government
Department of Climate Change, Energy, the Environment and Water

EMISSIONS REDUCTION ASSURANCE COMMITTEE

ACCU SCHEME

Improved Native Forest Management in Multiple-use Public Native Forests (INFM)

NSW Department of Climate Change, Energy, Environment and Water

July 2024

Section 1: Method developer contact details

1.1 Method developer contact details	
Title of proposed method/variation, 10 words:	Improved Native Forest Management in Multiple-use Public Native Forests (INFM)
Contact name:	Atticus Fleming
Email:	See below
Phone:	NA
Position:	Deputy Secretary NSW National Parks & Wildlife Service
Organisation name:	NSW Department of Climate Change, Energy, Environment and Water
Organisation type:	State Government agency
Public facing name and contact details:	npws.carbonmethod@environment.nsw.gov.au

Section 2: Eligibility

2.1 Registering your idea with the ERAC Secretariat

Have you registered your method idea on the Method Development Tracker?

☒ Yes – please provide details below.

Date of registration: 28/06/2024

Registration ID:

☐ No – You are encouraged to submit an idea before an EOI. Please visit the department's website or email methodproposal@dcceew.gov.au to find out how to register your idea.

2.2 Eligibility of proposed carbon abatement

Appendix A to the EOI Guide lists the categories for which greenhouse gas emissions and removals are included in Australia's National greenhouse gas inventory. Following consultation with the Secretariat, indicate which of the below is correct. If you have not consulted with the Secretariat, please mark as unconfirmed.

Is the abatement described in your method proposal eligible carbon abatement under the ACCU Scheme? Which categories will your proposal impact? Please refer to Section 2 of the EOI Guide.

Please note that if it becomes clear proposed abatement is not eligible abatement, the Secretariat may not assess the remainder of your proposal.

☒ Yes – the EOI Guide (Appendix A) and the ERAC Secretariat indicate the activity covered under the proposed method is likely to result in eligible carbon abatement.

☐ Unconfirmed – feedback from the secretariat indicates further consideration is required.

The INFM method will incentivise projects that increase carbon stocks in forest-related carbon pools and avoid greenhouse gas emissions from these pools by avoiding or deferring forest harvesting. Relevant forest-related carbon pools are:

- live biomass, dead organic matter (fine and coarse woody debris) and soil organic carbon in multiple-use public native forests;
- harvested wood products (HWP) derived from the forests that are in service; and
- HWP deposited in landfills.

The greenhouse gas emissions from these carbon pools consist of carbon dioxide (CO_2), methane (CH_4) and nitrous oxide (N_2O) from the respiration of organisms, and from decomposition and combustion of organic matter.

To promote conservatism, in the project scenario, included carbon pools will be confined to live biomass, dead organic matter and carbon stored in long-lived HWP in service and landfills. Soil organic carbon will be excluded in both the project and baseline scenarios. Carbon stored in pulplogs and firewood will be assumed to be instantly oxidised upon harvest in the project scenario. In contrast, in the baseline scenario, the carbon stored in these log types will be modelled through their lifecycle. This will ensure conservatism and avoid the potential for ineligible abatement to be credited under the method.

The carbon stocks and associated CH_4 and N_2O emissions are accounted for under the Paris Agreement in the land use, land-use change and forestry sector, under forest lands remaining forest land and harvested wood products.

Section 3: Experience and consultation

3.1 Your skills and expertise

Provide a description of your skills, expertise and experience and their relevance to the method proposal. Please list any organisations involved in/collaborating on development of the proposed method.

NSW National Parks and Wildlife Service (NPWS) is part of Environment and Heritage in the NSW Department of Climate Change, Energy, the Environment and Water. It manages over 8 million hectares of land across NSW.

The INFM method proposal has been prepared in collaboration with a research team at The Australian National University, led by Professors Andrew Macintosh and Don Butler.

Professor Macintosh Andrew is a leading expert in climate policy and environmental market design, with a particular emphasis on the land sector and forests. He is the Director of Research at the ANU Law School and has published extensively in world-leading journals on forest carbon and carbon offsets schemes, including on multiple occasions in *Nature* journals. Prof Macintosh has been a member of the National Greenhouse Gas Inventory User Reference Group since 2010, was awarded the Schlamadinger Prize for Climate Change Research in 2012 for work on LULUCF rules, and has led multiple forest carbon modelling projects, including for the Victorian and New South Wales Governments.

In collaboration with the Department of Agriculture, Water and the Environment, Profs Macintosh and Butler led the design and development of the Australian Government's Agriculture Biodiversity Stewardship Program. Prof Macintosh was a member of the ERF Expert Committee in 2013-14, Chaired the Emissions Reduction Assurance Committee from 2014 until 2020, was an Associate Member of the Climate Change Authority in 2015-16, and was a member of the King Review into Additional Source of Low Cost Abatement in 2019-20.

Professor Butler is a vegetation ecologist and biogeographer with extensive experience in natural capital measurement and management, particularly the nexus between vegetation, biodiversity and carbon. Don was a Queensland Government scientist for more than twenty years before

joining the Australian National University in 2021. Don led the Queensland Herbarium's ecosystem survey and mapping team and has maintained a focus on land sector carbon management since 2011. He developed the method for Native Forests from Managed Regrowth under Australia's carbon credit market. As chief scientist in Queensland's Land Restoration Fund (LRF), he delivered the LRF's co-benefit standard for carbon projects, and wrote key foundational methods for Accounting for Nature. In 2021, he led establishment of a natural capital sciences unit within Queensland's Department of Environment and Science, to integrate the State's science capacity across disciplines such as vegetation mapping, remote sensing, and soil sciences, to inform natural capital management, including land sector carbon.

The CVs of Profs Macintosh and Butler are provided in confidential Attachment A.

3.2 Expert consultation

Provide names and organisations of experts consulted in developing this EOI. You must have consent from them to include their names prior to submitting this proposal.

Name	Organisation	Will you continue to engage with this expert if your proposal is progressed to be developed into a method?
See above	See above	See above

3.3 Community, organisations, and individuals

Please provide the names, communities, and organisations you have included, or engaged with on the development of this EOI including Aboriginal and Torres Strait Islander peoples and communities. You must have permission from the individual or organisation to include their names prior to submitting this proposal.

Name	Organisation	Will you continue to engage with this person or organisation if your proposal is progressed? If yes, what role will they play in the method development process?

The development of the INFM EoI reflects a whole of NSW Government position. It has been considered as part of the assessment process for a proposed Great Koala National Park; that process includes engagement with three Advisory Panels (Industry, Community and Aboriginal).

The Queensland Government has been consulted on the development of the EOI and will continue to be consulted during further development of the method, if shortlisted.

Dr Ken Henry – former Secretary of the Commonwealth Treasury – has also written a letter of support (attached).

3.3.1 First Nations opportunities

Does the proposed method idea apply to areas with a recognised Aboriginal or Torres Strait Islander peoples' rights or interests including Native Title interests or claims? What opportunities have you identified for Aboriginal or Torres Strait Islander participation? This includes during the method development process (such as recognition of Traditional ecological knowledge), at the project-level (through First Nations-led projects), or benefit sharing.

The method applies to public native forests in multiple States. This will include areas with native title interests.

There are very significant opportunities for Aboriginal co-design of, and participation in, projects including the management or joint management of relevant native forests. Project delivery will provide enhanced access to country for cultural and social practices. Joint management of forests, and co-delivery of projects, also provides potentially significant business and economic benefits for Aboriginal owners.

Joint management of relevant areas of public native forests, as part of the design and implementation of projects, has the potential to make a significant contribution to Closing the Gap targets. This has been demonstrated through joint management of national parks in NSW and other relevant jurisdictions and in the Indigenous Protected Area program.

Section 4: Similarity to existing or other proposed methods

EOIs should be drafted to be broadly applicable. EOIs that are substantially similar may be referred back to proponents, with a recommendation that a joint proposal be submitted instead. Registering your idea on the method development tracker will enable you to identify other, similar proposals under development, and help you to collaborate with proponents with similar ideas.

4.1 Similar methods under development

Are you aware of another method under development or method proposal which is similar to your proposal?

☒ There are no comparable methods under development.

☐ There are comparable methods under development – please list them below and explain why you are submitting a separate EOI.

4.2 Existing methods

Is this EOI adapting an existing ACCU method or method from another offsets scheme?

☒ No, this is a new method.

☐ Yes – please provide below:

1. The name of the scheme in which the method exists
2. Title/name of existing method
3. A reference/source for the existing method
4. Description of any major differences between this method proposal and the existing method.

Section 5: Activities and eligibility

5.1 Project activity

Describe the processes that would be involved in implementing the project activity/activities so it is possible to understand what would be required to conduct the applicable projects. Please identify whether projects using the proposed method would remove and/or avoid emissions. Provide supporting evidence when possible. (Note that details on how the baseline and project emissions are calculated are requested in Section 6.)

Eligible project activities will be confined to the cessation or deferral of harvesting in multiple-use public native forests.

The projects will seek to increase carbon stocks in forest-related carbon pools, and avoid greenhouse gas emissions from these pools, through the implementation of one of these two activities in multiple-use public native forests.

The cessation and deferral of harvesting generates greenhouse gas abatement via three main pathways.

(a) Forest harvesting results in the release of the carbon stored in forest carbon pools to the atmosphere as CO_2. Post-harvest burns result in CH_4 and N_2O emissions. Stopping or deferring harvesting avoids these emissions.

(b) Secondary native forests are generally harvested when they are between 40-80 years of age, when they are still growing and sequestering significant amounts of carbon. Allowing the forests to grow beyond their standard harvest age ensures they will continue to sequester carbon.

(c) Fossil fuels are used in the harvesting, haulage and processing of roundwood. When harvesting is stopped or deferred, these fossil energy related emissions are avoided. The abatement generated through the avoidance of fossil energy related emissions is generally small relative to (a) and (b).

The abatement generated through these pathways over a given time period can be reduced by related processes, including the following.

- The fact that, in the baseline scenario where harvesting occurs, not all carbon stored in the forest is immediately released to the atmosphere through harvesting – a proportion of it remains stored in HWP while the products are in service and in landfills.
- The potential for the cessation or deferral of harvesting to lead to increased harvesting elsewhere, either through activity shifting or indirect (market) leakage.
- The potential for the cessation of harvesting to lead to increased use of, and emissions from, emissions-intensive wood substitutes (e.g. cement, steel, aluminium).
- Natural disturbances, particularly bushfires.

These factors will be accounted for in the calculation of the net abatement amount.

The literature shows that, in Australian native forests, the avoidance or deferral of harvesting in public forest estates is likely to lead to significant greenhouse gas abatement. The amount of abatement that arises from avoiding or deferring harvesting depends on:

- the amount of carbon in the forests at the date of the counterfactual harvest event;
- where the biomass in the forests would have gone if it was harvested (e.g. how much of the carbon in the trees would have been left on the forest floor as slash, the fate of the slash, and the lifecycle of the roundwood produced);

- the carbon accumulation rate in the forest carbon pools after the date of the counterfactual harvest event; and
- whether the avoidance or deferral of harvesting results in any direct or indirect leakage.

There has been public and scientific debate about the climate impacts of various forest management interventions. A focus of this debate, particularly in Australia, has been whether stopping harvesting in native forests is better for the climate than continuing to use native forests for commercial roundwood production. 'Native forests' are defined for these purposes as 'self-regenerating ecosystems where ecological processes dominate' (see Keith, H. et al., 2015. Under What Circumstances Do Wood Products from Native Forests Benefit Climate Change Mitigation? PLoS One, e0139640, at 2).

At a global level, the literature suggests that whether commercial harvesting or forest conservation results in better climate outcomes depends on a range of contextual factors, including:

- the nature of the forests (e.g. old growth versus regrowth, degraded versus undegraded);
- how they are managed and are likely to be managed in the absence of the relevant intervention;
- the types of wood products that are produced (e.g. mostly pulplogs for pulp and paper versus mostly sawlogs long-lived wood products);
- how the resulting woody products are managed through their lifecycle (e.g. the term in use and whether they are ultimately recycled, incinerated or deposited in landfills); and
- the extent to which the wood products displace or substitute for more emissions-intensive products and energy (e.g. if log production falls, does it result in the substitution of emissions-intensive products like aluminium, steel and concrete, or sawnwood from poorly managed carbon dense tropical forests? And does the use of forest biomass to generate electricity reduce electricity generation from coal-, gas-, and diesel-fired generators?).

Sources:

- Marland, G., Schlamadinger, B., 1997. Forests for Carbon Sequestration or Fossil Fuel Substitution? A Sensitivity Analysis. Biomass and Bioenergy 13(6), 389-397.
- Marland, G., Schlamadinger, B., Leiby, P., 1997. Forest/biomass based mitigation strategies: Does the timing of carbon reductions matter? Critical Reviews in Environmental Science and Technology, 27(S1), 213-226.
- Marland, G., Schlamadinger, B., 1999. The Kyoto Protocol could make a difference for the optimal forest-based CO2 mitigation strategy: some results from GORCAM. Environmental Science & Policy 2, 111-124.
- Mitchell, S., Harmon, M., O'Connell, K., 2012. Carbon debt and carbon sequestration parity in forest bioenergy production. GCB Bioenergy 4, 818-827.
- Zanchi, G., Pena, N., Bird, N., 2012. Is woody bioenergy carbon neutral? A comparative assessment of emissions from consumption of woody bioenergy and fossil fuel. GCB Bioenergy 4, 761-772.
- Holtsmark, B., 2012. Harvesting in boreal forests and the biofuel carbon debt. Climatic Change 112, 415-428.
- Holtsmark, B., 2013. The outcome is in the assumptions: analyzing the effects on atmospheric CO2 levels of increased use of bioenergy from forest biomass. GCB Bioenergy 5, 467-473.
- Lamers, P., Junginger, M., 2013. The 'debt' is in the detail: A synthesis of recent temporal forest carbon analyses on woody biomass for energy. Biofuels, Bioproducts & Biorefining 7, 373-385.
- Keith, H. et al., 2014. Managing temperate forests for carbon storage: impacts of logging versus forest protection on carbon stocks. Ecosphere 5(6), Art. 75.
- Smyth, C. et al. 2014. Quantifying the biophysical climate change mitigation potential of Canada's forest sector. Biogeosciences, 11, 3515–3529.
- Keith, H. et al., 2015. Under What Circumstances Do Wood Products from Native Forests Benefit Climate Change Mitigation? PLoS One, e0139640.
- Macintosh, A., Keith, H., Lindenmayer, D., 2015. Rethinking forest carbon assessments to account for policy institutions. Nature Climate Change 5, 946-949.
- Macintosh, A., Keith, H., Lindenmayer, D., 2016. Policy institutions and forest carbon. Nature Climate Change 6, 805-806.

- Smyth, C. et al. 2020. Climate change mitigation in British Columbia's forest sector: GHG reductions, costs, and environmental impacts. Carbon Balance and Management 15:21.
- Law, B et al. (2018) Land use strategies to mitigate climate change in carbon dense temperate forests Proceedings of the National Academy of Science (PNAS) 115, 3663–3668.

Consistent with this, the IPCC's Fifth Assessment Report states:

> Increased wood use does not reduce GHG emissions under all circumstances because wood harvest reduces the amount of carbon stored in the forest, at least temporarily, and increases in wood harvest levels may result in reduced long-term carbon storage in forests.

Source:

- Smith P., et al., 2014. Agriculture, Forestry and Other Land Use (AFOLU). In Edenhofer, O. et al., Climate Change 2014: Mitigation of Climate Change. Contribution of Working Group III to the Fifth Assessment Report of the Intergovernmental Panel on Climate Change. Cambridge University Press, UK & USA, at 841.

Similarly, the IPCC's Sixth Assessment Reports states:

> The benefits and risks of improved and enhanced improved use of wood products are closely linked to forest management. … [C]arbon storage in wood products and the potential for substitution effects can be increased by additional harvest, but with the risk of decreasing carbon storage in forest biomass when not done sustainably … . Conversely, reduced harvest may lead to gains in carbon storage in forest ecosystems locally, but these gains may be offset through international trade of forest products causing increased harvesting pressure or even degradation elsewhere … .

Source:

- Nabuurs, G-J., Mrabet, R. et al., 2022. Agriculture, Forestry and Other Land Use (AFOLU). In Skea, J et al., Climate Change 2022: Mitigation of Climate Change. Contribution of Working Group III to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change, at 7-84.

In the Australian context, the evidence shows that stopping or deferring harvesting in native forests is likely to produce significant positive climate benefits relative to the scenario where current commercial harvesting practices continue. Stopping or deferring harvesting in native forests in Australia generates abatement because of the nature of the forests, silvicultural practices, and the dynamics in relevant wood product markets. The most notable factors are as follows.

- The harvested native forests are generally reasonably carbon dense, particularly the tall dense eucalypt forests found in southern NSW, VIC and TAS.
- A significant amount of biomass is often left as slash after harvest events (i.e. left on the forest floor rather than being removed for products).
- Slash is frequently burnt after harvest, including to facilitate regeneration, which results in emissions of CO_2, CH_4 and N_2O.
- The forests are now generally relatively young at the time of harvest, meaning there is significant capacity for additional sequestration if harvest events are avoided.
- A substantial proportion of the roundwood produced in Australian native forests is used to produce relatively short-lived wood products, particularly woodchips for export. The carbon in exported woodchips is not counted in Australia's harvested wood products pool, meaning the stock is lost from the national greenhouse accounts (i.e. it is treated as if the carbon was instantaneously oxidised).
- Biomass from native forests is not used to produce electricity that substitutes for fossil fuel-based generation. [A proposal for a biomass power station in the Hunter Valley is currently under consideration. However, the proposal is to use native woody weeds rather than residues from native forest harvesting.]

- Historically, as roundwood production has declined in native forests, substitution has primarily been to plantation products – woodchips from hardwood plantations in Australia and Southeast Asia and sawnwood from softwood plantations.

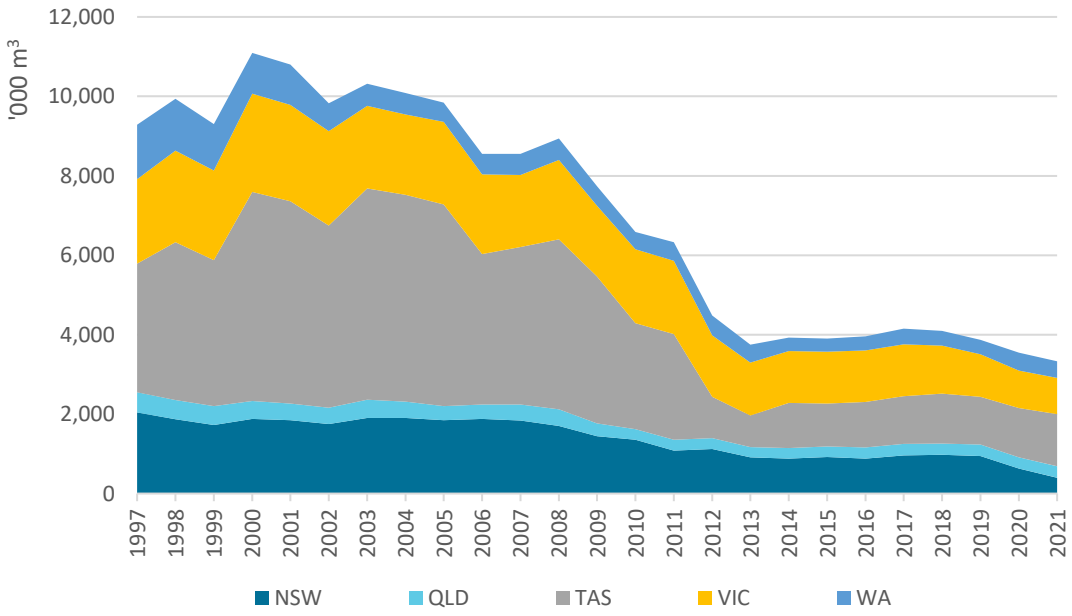
Sources:

- Department of Climate Change, Energy, the Environment and Water (2023) Quarterly Update of Australia's National Greenhouse Gas Inventory: March 2023. Commonwealth of Australia, Canberra.
- Mackey, B. et al. (2022) Net carbon accounting and reporting are a barrier to understanding the mitigation value of forest protection in developed countries. Environmental Research Letters 17, 054028.
- Frontier Economics and Macintosh, A. (2022). Carbon Abatement Potential of Improved Forest Management in Native Forests of Southern NSW. Report for NSW National Parks & Wildlife Service. Frontier Economics, Melbourne.
- Frontier Economics and Macintosh, A. (2021). Comparing the value of alternative uses of native forests in Southern NSW. Frontier Economics, Melbourne.
- Macintosh, A., Keith, H., Lindenmayer, D. (2016) 'Policy institutions and forest carbon', Nature Climate Change 6, 805-806.
- Keith, H., Lindenmayer, D., Macintosh, A., Mackey, B. (2015) 'Under What Circumstances Do Wood Products from Native Forests Benefit Climate Change Mitigation?' PLoS One 10(10), e0139640.
- Macintosh, A., Keith, H., Lindenmayer, D. (2015) 'Rethinking forest carbon mitigation assessments to account for policy institutions', Nature Climate Change 5(10), 946-949.
- Macintosh, A. (2013) The Australian native forest sector: causes of the decline and prospects for the future, Technical Brief No. 21, The Australia Institute, Canberra.

The impacts of declining native forest harvesting are reflected in Australia's greenhouse accounts. Australian native hardwood log production has declined by ~70% since the late 1990s, early 2000s, dropping from more than 10 million m^3 yr^{-1} to ~3.3 m^3 yr^{-1} in recent years (Figure 1). Reflecting the decline in production, the annual area harvested has decline from more than 100,000 ha yr^{-1} to less than 30,000 ha yr^{-1} (Figure 2). This has resulted in a marked increase in net removals from harvested native forests in Australia's National Inventory Report (Figure 3).

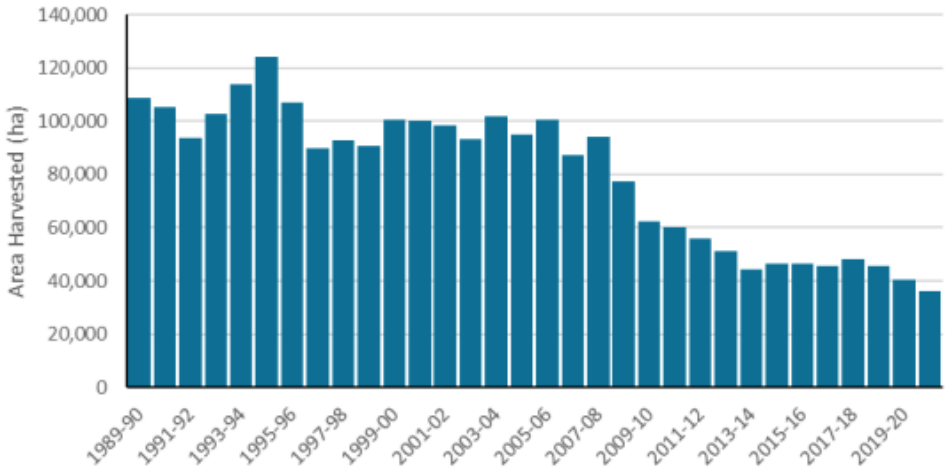
Further evidence that conserving forests and reducing harvesting is likely to generate climate benefits is provided by the fact it is the dominant activity under the main Improved Forest Management (IFM) methods that apply in other carbon offset schemes. Details of the scope of the main IFM methods that apply under these schemes are provided in Attachment B.

Figure 1. Native forest hardwood log production, 1996-97 to 2020-21



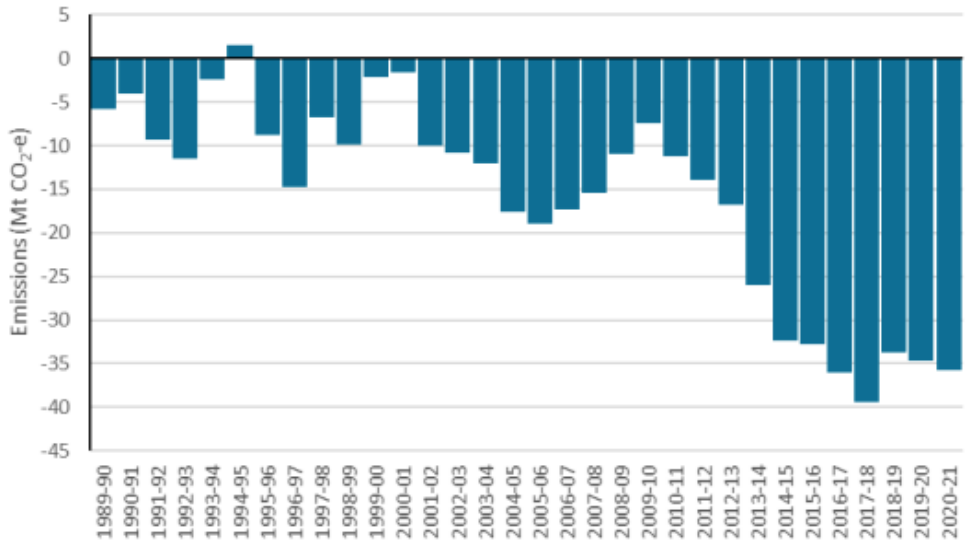
Source: ABARES (2022) Australian Forest and Wood Product Statistics. Commonwealth of Australia, Canberra.

Figure 2. Annual area of native forest harvested, 1989-90 to 2020-21



Source: Department of Climate Change, Energy, the Environment and Water (2023) Quarterly Update of Australia's National Greenhouse Gas Inventory: March 2023. Commonwealth of Australia, Canberra.

Figure 3. Harvested native forest emissions for 1989-90 to 2020-21



Source: Department of Climate Change, Energy, the Environment and Water (2023) Quarterly Update of Australia's National Greenhouse Gas Inventory: March 2023. Commonwealth of Australia, Canberra.

For completeness, it is noted there are studies suggesting continued commercial harvesting of Australian native forests can result in better climate outcomes than forest conservation. However, these studies are based on assumptions about future activity which are not likely to align with actual future activity. For example, they assume high rates of electricity generation from native harvesting residues, and that native forest bioenergy indefinitely displaces fossil fuel-based electricity generation. At present, no electricity is generated from native forest residues and, if it was, it could not indefinitely displace fossil fuel-based electricity generation. The studies also assume relatively low rates of carbon sequestration in native forests after 50-75 years. However, other recent studies show higher rates of sequestration in relevant forests.

Sources:

- Ximenes, F. et al. (2012) Greenhouse Gas Balance of Native Forests in New South Wales, Australia. Forests 3, 653-683.
- Ximenes, F. et al. (2016) Carbon stocks and flows in native forests and harvested wood products in SE Australia. Forest & Wood Products Australia.

The following activities will not be eligible activities under the proposed INFM method (i.e. the activities can be undertaken in the project area but their effects will be excluded from abatement calculations):

- implementation of low impact harvesting practices;
- increasing forest productivity through weed and pest control;
- infill (enrichment) plantings to promote regeneration of harvested forests;
- redirection of slash to wood products and bioenergy;
- increasing the proportion of harvested biomass directed to long-lived wood products; and
- improved fire management.

However, if the Commonwealth requests that these activities be further considered, additional assessment can occur as part of the development of the proposed INFM.

5.2 Project eligibility requirements

Clearly set out the requirements for projects to be eligible. The proposed eligibility criteria must describe the circumstances and conditions in which a project would be allowed to occur. Requirements may relate to ensuring newness, baseline setting and project boundaries.

Projects will need to meet the following eligibility requirements.

(a) Projects must be located on Crown lands designated for commercial forestry use, where a decision has not been made to stop harvesting (unless the decision was made conditional on the commencement of an offsets project).

(b) At a minimum, the boundaries of a project must incorporate at least one whole forest region. For these purposes, forest regions will be defined as regional forest agreement (RFA) regions or equivalent regions designated under state processes (e.g. Integrated Forestry Operations Approval regions in NSW).

(c) Projects must be located on Crown lands for which a sustainable yield estimate (or equivalent) has been prepared and published in the 10 years prior to 30 June 2024.

Projects involving the cessation of harvest will need to delineate no-harvest areas within the project boundaries. Projects involving deferral of harvest will not need to delineate no-harvest areas within the project area.

5.3 Potential for double counting

Is there a risk of double counting associated with the proposed method? Are relevant emissions counted in other contexts? Please describe how you propose to account for any potential for double counting in the method.

There are no double counting risks associated with the method.

Section 6: Calculating net abatement

6.1 Baseline scenario

Identify and describe the baseline scenario or scenarios for the proposed method.

Provide a description and evidence of current industry practice and how baseline emissions can be quantified and calculated. Provide supporting evidence.

Under the preferred approach, total net abatement will be calculated as the difference between the net emissions under the project scenario and net emissions under the baseline scenario over the 15-year crediting period. Projects will have shortened 15-year crediting periods to help mitigate additionality risks.

Alternatively, total net abatement could be calculated as the difference between long-term average net project carbon stocks and long-term average baseline carbon stocks, similar to the approach used for conversion projects under the *Carbon Credits (Carbon Farming Initiative—Plantation Forestry) Methodology Determination 2022* (Plantation Method). The credits representing this abatement would then be allocated over the crediting period (15 years).

The differences in these approaches are explained in more detail in Attachment C.

The carbon pools and emissions sources that will be accounted for in the abatement calculations are summarised in Table 1.

Table 1. Carbon pools and emissions sources

Carbon pool or source	Type	Greenhouse gas
Carbon pool	Live above ground biomass	Carbon dioxide (CO_2)
Carbon pool	Live below ground biomass	Carbon dioxide (CO_2)
Carbon pool	Above ground forest debris	Carbon dioxide (CO_2)
Carbon pool	Below ground forest debris	Carbon dioxide (CO_2)
Carbon pool	Harvested wood products (HWP)	Carbon dioxide (CO_2)
Emission source	Biomass burning	Methane (CH_4) Nitrous oxide (N_2O)
Emission source	Combustion of fossil fuels	Carbon dioxide (CO_2) Methane (CH_4) Nitrous oxide (N_2O)

The events that will be accounted for in the abatement calculations are summarised in Table 2.

Table 2. Events and associated type of greenhouse gas

Event	Greenhouse gas
Harvesting	Carbon dioxide (CO_2)
Other anthropogenic disturbances to forest carbon stocks	Carbon dioxide (CO_2)
Prescribed burn	Methane (CH_4) Nitrous oxide (N_2O)
Wildfire	Methane (CH_4) Nitrous oxide (N_2O)
Other natural disturbances	Carbon dioxide (CO_2)
Fossil fuel combustion for forest management, including harvest and haulage	Carbon dioxide (CO_2) Methane (CH_4) Nitrous oxide (N_2O)

Table 3 provides a summary of the coverage of relevant sinks and sources in the baseline and project scenarios.

Table 3. Coverage of relevant sinks and sources in the baseline and project scenarios

Scenario	Forest carbon	HWP	Biomass burning	Fossil emissions
Baseline scenario	Carbon stock change in above- and below-ground live biomass and debris	Stock change in HWP pool related to project area	CH_4 and N_2O emissions from prescribed burns and wildfires	CO_2, CH_4 and N_2O emissions from fossil fuel combustion associated with forest management, including harvest and haulage of roundwood
Project scenario	Carbon stock change in above- and below-ground live biomass and debris	Stock change in HWP pool related to project area	CH_4 and N_2O emissions from prescribed burns and wildfires	CO_2, CH_4 and N_2O emissions from fossil fuel combustion associated with forest management, including harvest and haulage of roundwood

Soil organic carbon (SOC) levels are subject to high interannual and interdecadal variability due to the effects of rainfall and climate. This creates a material risk that, if the SOC pool is included in the abatement calculations, projects could be credited for increases in SOC that are attributable to factors other than the project activities (cessation or deferral of harvest). There is also significant uncertainty associated with the effects of harvesting on SOC levels. Due to these issues, the SOC pool will be excluded from the abatement calculations. This promotes conservatism because the cessation or deferral of harvesting is likely to increase SOC stocks.

Sources:

- Nave, L. et al. (2010) Harvest impacts on soil carbon storage in temperate forests. Forest Ecology and Management 259(5), 857-866.
- Achat, D. et al. (2015) Forest soil carbon is threatened by intensive biomass harvesting. Scientific Reports 5, 15991.
- James, J., Harrison, R. (2016) The Effect of Harvest on Forest Soil Carbon: A Meta-Analysis. Forests 7(12), 308.
- Mayer, M. et al. (2020) Influence of forest management activities on soil organic carbon stocks: A knowledge synthesis. Forest Ecology and Management 466, 118127.
- James, J. et al. (2021) Effects of forest harvesting and biomass removal on soil carbon and nitrogen: Two complementary meta-analyses. Forest Ecology and Management 485, 118935.
- Nave, L. et al. (2024) Land use change and forest management effects on soil carbon stocks in the Northeast U.S. Carbon Balance and Management 19, 5.

The inclusion of HWP in ACCU methods is problematic because of the way HWP are accounted for under the Paris Agreement. Under UNFCCC accounting rules, the HWP carbon pool includes all wood products in service in the relevant jurisdiction, regardless of origin (domestically produced or imported), and wood products in solid waste disposal sites (if material). As Australia's *National Inventory Report 2022* states (Volume 1, p 389):

> Australia applies the stock-change approach for harvested wood products (HWP) in use and in solid waste disposal sites (SWDS). The carbon pool is therefore defined as the wood products in service life within Australia—that is, products consumed in Australia, including those imported and excluding those exported.

Due to this, the inclusion of the HWP pool in abatement calculations can lead to the crediting of ineligible abatement where the relevant forest products are exported (e.g. as occurs with most hardwood woodchips). Notwithstanding this, under the INFM method, it is proposed to include HWP products in both the baseline and project scenarios. This is because the exclusion of the HWP pool from the abatement calculations is likely to overstate the climate change mitigation benefits of the project activities. Including the HWP pool in both scenarios avoids this and promotes conservativism because carbon stocks in the HWP pool will always be lower in the project scenario relative to the baseline. To further promote conservatism and avoid the crediting of ineligible abatement, in the project scenario, carbon stored in pulplogs will be assumed to be instantly oxidised upon harvest, while in the baseline scenario the carbon stored in pulplogs will be modelled through their lifecycle.

Forest carbon stocks and CH_4 and N_2O emissions from biomass burning will be modelled in both the baseline and project scenarios using the Full Carbon Accounting Model (FullCAM).

Carbon stocks in the HWP pool will be modelled using either FullCAM or the Australian Government's HWP-Landfill model (subject to an adjustment for the assumed instantaneous oxidation of pulplogs in the project scenario).

CO_2, CH_4 and N_2O emissions from fossil fuel combustion will be required to be calculated in accordance with section 2.41 (method 1) of the *National Greenhouse and Energy Reporting (Measurement) Determination 2008*.

Proponents will be required to conduct an initial inventory of forest carbon stocks in the project area to calibrate FullCAM. Forest carbon stocks will be required to be re-measured every five years and following major natural disturbances.

Except for the cessation or deferral of harvesting, the silvicultural and forest management practices modelled in the baseline scenario will be required to reflect the practices undertaken and modelling in the project scenario. This includes product/slash proportions, log types, HWP and prescribed burns. This will ensure the credited abatement reflects the impacts of the cessation or deferral of harvesting and mitigate additionality and gaming risks.

In the baseline scenario, it will be assumed that harvesting of the multiple-use public native forests will be ongoing, but credits will only be issued for 15 years to mitigate additionality risks. However, where a jurisdiction has already made a decision that it will cease or reduce harvesting in multiple-use public native forests, the baseline harvesting levels must account for the decision, unless the decision was made conditional on the commencement of an offsets project.

Harvesting levels in the baseline will be calculated as the lower of:

(a) the latest applicable modified sustainable yield estimate, calculated as:
    i. for projects where there is a sufficient correlation between the sustainable yield and log production during the 10-year period prior to project commencement ($R^2 \geq 0.7$), the estimated sustainable yield multiplied by the average roundwood removal to sustainable yield ratio over the 10-year period prior to project commencement; and

ii. for projects where there is not a sufficient correlation between the sustainable yield and log production during the 10-year period prior to project commencement (R^2<0.7), either:

A. if the roundwood removal to sustainable yield ratio over the 10-year period prior to project commencement was ≥0.8 in all years, the estimated sustainable yield multiplied by 80%;

B. if the roundwood removal to sustainable yield ratio over the 10-year period prior to project commencement was <0.8 in any year, the estimated sustainable yield multiplied by the lower of the average roundwood removal to sustainable yield ratio over the 10-year period or 60%; and

(b) the last sustainable yield estimate published prior to a prescribed cut-off date (e.g. 1 July 2024).

Modified sustainable yield estimates must be recalculated every five years and following major disturbance events, particularly large bushfires.

The modified sustainable yield estimates will be required to be prepared in accordance with prescribed procedures and verified by a panel of independent experts contracted by the Clean Energy Regulator. All data relied on in the preparation of sustainable yield estimates will be required to be published.

6.2 Baseline scenario over time

Please indicate whether, and to what extent, the baselines should change over time. This may help ensure the activities under the proposed method remain additional. Provide supporting evidence.

Net emissions in the baseline will be required to be calculated at the end of each reporting period.

Baseline harvesting levels will be required to be recalculated every five years and following major disturbance events.

Except for the cessation or deferral of harvesting, the silvicultural practices modelled in the baseline scenario in the project area will need to reflect those undertaken and modelled in the project scenario.

6.3 Project activity emissions

Describe how you will calculate remaining emissions (in the project boundary) once the project has been carried out. This should include accounting for new emissions that may result from carrying out activities. Provide supporting evidence when possible.

See description in section 6.1.

6.4 Account for periodic variation

Describe how the method proposal would account for periodic variations that may occur in the amount of carbon stored or avoided (if applicable). Provide supporting evidence when possible.

Natural variability in forest carbon stocks can occur through four main pathways:

- climate related variability in forest growth (biomass accumulation);
- climate related variability in SOC levels;
- wildfires; and

- other (non-fire) natural disturbances (e.g. pests and disease).

The method includes mechanism to account for each of these four issues.

Climate related variability in forest growth

Requiring projects to model forest carbon stocks using FullCAM, and for net emissions to be calculated at the end of each reporting period, will ensure the effects of seasonal variability on forest growth are captured in the abatement calculations.

Projects will be required to use the most up-to-date version of FullCAM available at the time of the submission of the relevant offsets report.

Climate related variability in SOC levels

The exclusion of SOC stocks from the abatement calculations will prevent projects from being credited for fluctuations in SOC stocks that are due to seasonable variability.

Wildfires

Wildfires will be required to be accounted for in the abatement calculations as and when they occur in both the baseline and project scenarios. The inclusion of wildfire impacts—carbon stock changes plus associated CH_4 and N_2O emissions—in both the project and baseline scenarios will mean that, to some extent, the effects cancel each other out. However, including wildfire events in both scenarios will reduce over-crediting risks by ensuring projects account for the magnitude and timing of emissions from relevant pools (e.g. higher emissions from debris in the project scenario).

Projects will be required to recalculate baseline harvesting levels (i.e. modified sustainable yield estimates) following significant wildfire events. This will ensure proponents are not credited for avoiding or deferring harvest events that would not have occurred in the counterfactual because of the effects of wildfire.

Other (non-fire) natural disturbances

As with wildfires, projects will be required to recalculate baseline harvesting levels (i.e. modified sustainable yield estimates) following significant natural disturbance events.

6.5 Account for carbon leakage

Provide detail on whether – and to what extent – the proposed method may result in carbon leakage and how that has been or could be accounted for in the proposed method's design. Provide supporting evidence when possible.

Leakage comes in two main forms: direct and indirect. Direct leakage, also known as activity shifting, refers to instances where the project proponent physically moves the emitting activity to another location, while claiming credits for the reduction in emissions at the initial site of the activity. Indirect leakage refers to instances where the benefits of the abatement within the project boundary are negated by market-induced increases in emissions or reductions in removals outside of the project boundary.

Although leakage is generally discussed in the negative (i.e. where it reduces or even completely offsets the climate benefits of the abatement activity), it can be positive. Positive leakage refers to instances where there is a net reduction in emissions that occur outside of the project boundary.

Because these emission reductions occur outside of the project boundary, by definition, projects should not be credited for the 'leaked' climate benefits.

There are six potential pathways by which negative leakage could occur because of INFM projects.

1. Direct leakage (activity shifting): the proponent stops or defers harvesting in a project area but increases harvesting elsewhere in its multiple-use public native forest estate.
2. Leakage through cross-subsidisation: the proponent stops or defers harvesting but then uses the revenues from ACCUs to perpetuate harvesting in its multiple-use public native forest estate.
3. Indirect leakage to private native forests: the proponent stops or defers harvesting, triggering increased demand and/or domestic mill prices for logs, leading to increased harvesting in private native forests.
4. Indirect leakage to public native forests in other states: the proponent stops or defers harvesting, triggering increased demand and/or domestic mill prices for logs, leading to increased harvesting in public native forests in other states.
5. Indirect leakage into native forests in other countries: the proponent stops or defers harvesting, triggering increased global roundwood prices, leading to increased harvesting in other countries.
6. Indirect leakage into more carbon-intensive products: the proponent stops or defers harvesting, triggering an increase in wood product prices, which leads to substitution to more carbon-intensive products (cement, steel, aluminium).

The evidence associated with the decline in native forest harvesting in Australia over the past 15-20 years suggests the risk of material negative leakage is relatively low. Despite roundwood production from native forests declining by approximately 70%, it has not triggered a significant increase in emissions from other sources (see Attachment D). Most of the resulting substitution has come from domestic plantation softwoods in the sawnwood sector and plantation hardwood woodchips, domestic and foreign, particularly from Vietnam; not emissions-intensive wood and non-wood products (Attachment D provides further details).

Two other factors should be noted about leakage risks.

- Strictly, leakage into other jurisdictions should not be considered in abatement calculations for ACCU projects. This is because any increase in emissions that occurs overseas is not reflected in Australia's greenhouse gas accounts and is captured by the Nationally Determined Contribution of the receiving country.
- Leakage into facilities covered by the Safeguard Mechanism should not be considered in abatement calculations for ACCU projects. This is because emissions from covered facilities are subject to the emissions constraints that apply under the Safeguard Mechanism.

Notwithstanding these issues, the proposed INFM method will include comprehensive measures to mitigate leakage risks. These are summarised below.

- To reduce the risk of direct leakage, proponents will be required to include whole forest regions within their project areas (RFA regions or equivalent).
- To further reduce direct leakage risks, proponents that do not include their entire forest estate within the project boundary will be required to set baseline harvesting levels in the excluded sections of the estate and make leakage deductions when roundwood removals exceed the baselines. The baseline harvesting levels will be set as the lower of:

- average roundwood removals from the excluded sections of the estate over the 10-year period prior to project registration (baseline period); and
- the sustainable yield associated with the excluded sections of the estate multiplied by a historical roundwood removal to sustainable yield ratio.

- To reduce the risk of leakage through cross-subsidisation (and associated gaming risks), the INFM method will include a hurdle requirement that makes the issuance of ACCUs contingent on the level of harvesting in the project being at least 25% below the baseline harvesting levels, both in the reporting year and on average since project commencement.
- To address the risk of leakage into private native forests in the project jurisdiction, a leakage deduction will be applied in the net abatement calculation based on the extent of any observed increases in roundwood removals from private forests relative to a pre-set baseline roundwood removal level.
- The risk of leakage into native forests in other jurisdictions, and into emissions-intensive products like concrete and steel, will be dealt with via a leakage discount that could be updated periodically in accordance with prescribed procedures.

6.6 Calculating net abatement

Describe how the net abatement will be calculated and how the uncertainty of the net abatement will be calculated. Provide supporting evidence.

You are encouraged to provide a diagram which clearly shows the baseline relative to the proposed abatement over the life of projects conducted under the proposed method.

As detailed in section 6.1, under the preferred approach, total net abatement will be calculated as the difference between the net emissions under the project scenario and net emissions under the baseline scenario over the 15-year crediting period. Projects will have shortened 15-year crediting periods to help mitigate additionality risks.

Alternatively, total net abatement could be calculated as the difference between long-term average net project carbon stocks and long-term average baseline carbon stocks, similar to the approach used for conversion projects under the Plantation Method. The credits representing this abatement would then be allocated over the crediting period (15 years).

The differences in these approaches are explained in more detail in Attachment C.

Section 7: Offsets Integrity Standards

The Offsets Integrity Standards are legislated in section 133 of the *Carbon Credits (Carbon Farming Initiative) Act 2011* that methods must meet.

7.1 How will your proposed method be additional to business-as-usual practice?

Provide supporting evidence when possible.

The INFM method will credit reductions in net emissions generated by stopping or deferring harvesting in multiple-use public native forests.

There are four main additionality risks associated with the INFM method:

- harvesting may have declined anyway because of a reduction in the available resource (e.g. the age-class of the forest estate);

- harvesting may have declined anyway because of a reduction in demand;
- harvesting may have declined anyway because prior decisions which change the level of harvesting; and
- harvesting may have declined anyway because of likely future policy changes.

The risk of crediting non-additional abatement that arises through natural variability in stocks is addressed above (see section 6.4).

The proposed INFM method includes a comprehensive range of measures to address these four additionality risks.

Harvesting may have declined anyway because of a reduction in the available resource

This risk is mitigated by the proposed approach to determining the baseline harvesting levels, particularly the reliance on a modified sustainable yield method. Any decline in the available log resource will be reflected in the sustainable yield. The sustainable yield estimates must be updated every five years and following major natural disturbances to ensure they remain current.

Harvesting may have declined anyway because of a reduction in demand

This risk is mitigated through the use of the modified sustainable yield method, where a discount is applied to sustainable yield levels based on the historic relationship between sustainable yield and actual roundwood removals. Harvesting in most multiple-use public native forest regions have tended to be significantly below sustainable yield levels. This is partly due to demand factors; low demand and low wood prices have reduced the financial returns from harvesting. The application of the historically based adjustment factor to the sustainable yield provides a repeatable and conservative way of capturing the effects of demand in the abatement calculations.

Harvesting may have declined anyway because of prior decisions about the level of harvesting

A prior decision to change harvesting levels in public native forests will be required to be reflected in the estimates of baseline harvesting levels (i.e. reduced sustainable yields). Projects will also be required to meet the newness requirement.

Harvesting may have declined anyway because of likely future policy changes

Historically, the risk of future policy change has not been treated as a relevant consideration in the development of ACCU methods. The first time it has been explicitly considered is in the recently released DCCEEW reform paper on the ACCU scheme's landfill gas methods. In this context, DCCEEW's approach was to rely on the testimony of state government representatives about the prospects of relevant future policy changes. Even where these representatives indicated reforms were likely to be a priority, no measures were proposed in the landfill method to mitigate the risk posed by future reforms. In this regard, the DCCEEW reform paper states:

> Except for New South Wales, TWG state government representatives indicated introducing more stringent regulation of methane capture at landfills was unlikely to be a future reform priority. Future reforms instead related to waste sector regulatory frameworks to promote resource recovery. The TWG noted commitments to net zero in the sector should complement and foster activities under the ACCU Scheme but not be considered equivalent to regulation that would affect calculation of a regulatory baseline.

Source:

- DCCEEW (2024) Reform options for ACCU Scheme landfill gas methods: Implementing recommendation 10 of the ACCU Review. Commonwealth of Australia, Canberra, p 22.

While noting this, conceptually, the risk of future government policy change should be a relevant consideration in method development. However, the approach to this risk needs to be guided by a coherent set of principles and applied consistently across all methods and project types. Taken to extremes, the risk of future policy change could be used to exclude all project types from the ACCU scheme. Ultimately, governments could potentially use other policy instruments to mandate or incentivise the realisation of all abatement opportunities. Hence, there is a need for principles that require the risk of future government policy change to be considered but without unnecessarily excluding abatement opportunities that are well-suited to being realised through the ACCU scheme.

When considering the risk of future policy changes in the context of the INFM method, the approach should be guided by three issues.

- How likely is it that a relevant government will make a policy decision to stop or substantially reduce harvesting in state forests *in the absence of an INFM method*?
- If a relevant government decides to stop or substantially reduce harvesting in state forests, how likely is it that it will be able to give effect to the decision by enacting and implementing relevant laws and policies?
- If a relevant government is able to give effect to a decision to stop or substantially reduce harvesting in state forests, how likely is it that the policy change will persist? Or, put another way, how likely is it that the policy change will be reversed or otherwise be temporary only.

Having regard to these issues, the integrity risks posed by future policy changes in the relevant jurisdictions (Tasmania, NSW and Queensland) are low. To further mitigate this risk, the INFM method will include the following measures.

- Projects will have maximum 15-year crediting periods.
- Roundwood removals in the project scenario will need to be ≥25% below the baseline harvesting levels before proponents can claim credits.
- Projects will have mandatory 100-year permanence periods.
- Relinquishment requirements will apply during the permanence period to mitigate the risk of harvesting increasing after the end of the crediting period.

7.2 How will your proposed method be measurable and verifiable?

Provide supporting evidence when possible.

Robust and conservative measurement will be assured through the proposed approach to estimating net emissions in the project and baseline scenarios. The following measures are of particular note.

- Forest carbon stocks and CH_4 and N_2O emissions from biomass burning will be modelled in FullCAM, consistent with the approach in the National Inventory Report and other ACCU methods.
- Carbon stocks in the HWP pool will be modelled using either FullCAM or the Australian Government's HWP-Landfill model.

- CO_2, CH_4 and N_2O emissions from fossil fuel combustion will be required to be calculated in accordance with NGERS methods.
- Proponents will be required to conduct an initial inventory of forest carbon stocks in the project area to calibrate FullCAM.
- Forest carbon stocks will be required to be re-measured every five years and following major natural disturbances.
- Modified sustainable yield estimates must be recalculated every five years and following major disturbance events.
- The SOC pool will be excluded from the abatement calculations.
- In the project scenario, pulplogs will be assumed to be instantly oxidised following harvest.
- Except for the cessation or deferral of harvesting, the silvicultural and forest management practices modelled in the baseline scenario will be required to reflect the practices undertaken and modelling in the project scenario.

7.3 What evidence will your proposed method be based on?

Provide a summary of the type of evidence your method proposal draws on and describe any uncertainties or limitations associated with it.

The evidence on the climate benefits of stopping or deferring harvesting in Australian native forests is detailed in section 5.1.

The evidence on the robustness of the approach to measurement (FullCAM and related measurement approaches) is detailed in Australia's National Inventory Report.

The evidence of the robustness of the approach to addressing additionality risks is detailed in 7.1.

The evidence of the robustness of the approach to addressing leakage risks is detailed in section 6.5 and Attachment D.

The most material risks associated with the INFM method relate to:

a. additionality – most notably, the risk that, in the absence of the incentive associated with the ACCU scheme, there could be policy or other changes that would result in a comparable decline in native forest harvesting to what is credited under the method; and
b. Leakage – particularly the risk that a decline in harvesting in multiple-use public native forests could trigger an increase in harvesting in private native forests.

The method includes mitigants to address both of these risks that go beyond equivalent measures included in other ACCU methods.

7.4 How will your proposed method be conservative?

Provide supporting evidence when possible.

Measures in the proposed INFM method to ensure conservatism include the following.

a. The confinement of the scope of the method to multiple-use public native forests (i.e. exclusion of private native forests), which reduces additionality risks.

b. The confinement of eligible activities to the cessation or deferral of harvesting, which increases confidence in abatement outcomes and reduces the scope for gaming and adverse selection.

c. Conservative procedures for setting baseline harvesting levels, based on modified sustainable yield projections (see section 6.1).

d. Shortened 15-year crediting periods to account for that risk that harvesting might otherwise decline.

e. Inclusion of a hurdle requirement that means roundwood removals in the project scenario will need to be ≥25% below the baseline harvesting levels before proponents can claim credits.

f. A comprehensive suite of measures to mitigate leakage risks (see section 6.5).

g. Robust and conservative measurement requirements, based predominantly on approaches in the National Inventory Report (see section 7.2).

h. Mandatory 100-year permanence periods.

i. During the period after the end of the crediting period but prior to the end of the permanence period, proponents be required to relinquish ACCUs where: (i) roundwood removals within the project boundaries exceed baseline harvesting levels; and (ii) roundwood removals from the excluded sections of the proponent's native forest estate exceed the prescribed leakage baseline harvest levels.

Section 8: Method proposal triage criteria

In addition to considering whether a method proposal has the potential to meet the legislated Offsets Integrity Standards, the ERAC assesses method proposals against the triaging criteria.

8.1 Total abatement potential, including likely uptake

Describe the possible <u>total</u> abatement potential of the proposed method, including:

- Likely uptake, including justification and evidence for your estimate and factors likely to influence the uptake.
- Possible locations of projects (i.e. particular regions/jurisdictions).
- Accessibility of the proposed method to all stakeholders.
- Given the above, the likely abatement in the short and longer-term from the method.

Provide supporting evidence when possible.

The eligibility requirements mean the INFM method will only apply to the multiple-use public native forests in New South Wales, Tasmania and Queensland.

Total possible abatement and ACCU generation from INFM projects for these three jurisdictions (combined) are provided in Table 4 below. These estimates are intended to illustrate maximum abatement potential across these three States, noting that the extent to which this is realised will depend on the number and scope of individual projects that are proposed over time in each State. This will be a matter for State Governments taking into account the range of social, economic and ecological factors that inform decisions on project selection.

For the purposes of identifying total abatement potential, the estimates assume complete cessation of harvesting in each State, with net abatement calculated using the preferred approach described above and baseline harvesting levels based on the procedures described in section 6.1. Further details of the method applied in generating these estimates is provided in Attachment E.

The scope of the method means it is not possible to predict the level of uptake by each eligible state government.

Table 4. Abatement and ACCU estimates, New South Wales, Tasmania and Queensland (combined)

Abatement	**Cumulative ($MtCO_2$-e)**	**Average annual ($MtCO_2$-e)**
10 year	28.33	2.83
15 year	45.82	3.05
25 year	84.89	3.40
ACCUs	**Total (million)**	**Average annual (million)**
10 year	26.91	2.69
15 year	43.53	2.91

8.2 Proposal complexity

Describe the complexity of the method proposal, including how difficult it may be, and how much time it may take, to develop, maintain, and regulate.

The primary remaining technical tasks associated with the proposed INFM method involve:

(a) development of the forest inventory protocols that will govern the direct measurement of biomass in the project area for the purposes of calibrating FullCAM;

(b) development of protocols for determining sustainable yields; and

(c) determination of the best ways to devise leakage discounts to account for the risk of leakage into other native forests and emissions-intensive products like concrete and steel.

The proposal for (a) is to build on the protocols developed for other ACCU methods, including the approaches used in the now repealed *Carbon Credits (Carbon Farming Initiative) (Avoided Deforestation) Methodology Determination 2013* and *Carbon Credits (Carbon Farming Initiative—Avoided Deforestation 1.1) Methodology Determination 2015*, and the existing *Carbon Credits (Carbon Farming Initiative) (Measurement Based Methods for New Farm Forestry Plantations) Methodology Determination 2014* and *Carbon Credits (Carbon Farming Initiative—Reforestation and Afforestation 2.0) Methodology Determination 2015*.

For (b), the proposal is to work with state forest agencies to develop a standard sustainable yield protocol that draws on those used in existing state processes.

For (c), various approaches could be used, including the simple approach used in the *Carbon Credits (Carbon Farming Initiative-Designated Verified Carbon Standard Projects) Methodology Determination 2015*, where a uniform 10% discount is applied. This discount is likely to be too high for use in the INFM, due to the likely magnitude of the reductions in harvesting and roundwood production (i.e. there is an inverse relationship between the size of the reductions in log product and likely magnitude of leakage into domestic native forests), and the other measures that are proposed to be used to mitigate leakage risks. However, a similar uniform discount could be used, thereby mitigating the risk without creating unnecessary complexity. The alternative is to conduct more detailed modelling and use the modelling outcomes to guide the factors that are used in each jurisdiction.

Please note: The NSW Government will provide resources to assist the Commonwealth in completing its assessment and consideration/decision-making in relation to the proposed method. This will include resources to help the Commonwealth to draft relevant statutory instruments and incorporated documents (if necessary).

Sources:

- Whittle, L., Berry, P., Heyhoe, E. (2013) Leakage from avoided clearing and harvesting of native forests under the CFI: A quantitative assessment. ABARES, Canberra.
- Whittle, L., Berry, P., Heyhoe, E. (2012) Leakage from avoided harvesting in native forests under the Carbon Farming Initiative: A qualitative assessment. ABARES, Canberra.

8.3 Broader positive outcomes

Describe any positive environmental, economic, social and/or cultural outcomes and benefits, including for Aboriginal and Torres Strait Islander peoples, that might occur from the uptake of the proposed method. Provide a clear rationale for each proposed outcome, with supporting evidence where possible.

Uptake of the proposed method will generate significant social, economic and cultural benefits for Aboriginal and Torres Strait Islander people – see the response to question 3.3.1.

Uptake of the proposed method, supported by effective ongoing land management, will generate significant biodiversity benefits. For example, it will enhance long-term conservation of habitats for a range of forest dependent threatened species (flora and fauna) and ecological communities, and contribute to broader "nature positive" objectives.

8.4 Innovation

Briefly describe how the method proposal could foster innovation in the relevant sectors.

The forest inventories undertaken as part of INFM projects will increase the scientific understanding of the carbon cycle in Australia's temperate and subtropical forests. The method could also facilitate innovation in technologies associated with the conduct of forest inventories (e.g. in the use of LiDAR to collect biomass and other relevant data).

8.5 Preliminary risk assessment and any potential adverse impacts

Please indicate what, if any potential adverse or negative environmental, economic, social and/or cultural impacts could result from the method. Consider the circumstances under which the risks or outcomes might arise and any method requirements that could avoid or minimise the risks.

To mitigate any potential negative economic and/or social impacts on communities where native forest harvesting supports employment, it will be important to provide adequately for adjustment, ongoing industry and community support and investment to protect employment levels (noting the need for matching employment opportunities taking into account salary levels, permanent/ongoing employment status etc). Relevant state governments will be responsible for considering these issues in the design of projects and associated complementary programs. Income from ACCU sales can support relevant investment in local communities.

Section 9: Method tools

9.1 Method tools (optional)

If applicable, describe any tools that would be used as part of the method, for example to model or calculate abatement under the method. Please provide information outlined in the EOI Guide.

As detailed above (sections 6.1 and 7.2):

- forest carbon stocks and CH_4 and N_2O emissions from biomass burning will be modelled in FullCAM;
- carbon stocks in the HWP pool will be modelled using either FullCAM or the Australian Government's HWP-Landfill model; and
- CO_2, CH_4 and N_2O emissions from fossil fuel combustion will be required to be calculated in accordance with NGERS methods.

Section 10: Method Development Project Plan

10.1 Project plan for method development

Provide a high-level project plan for developing your proposal. The plan can take any form and be submitted as an attachment. Please provide the information outlined in the EOI Guide.

If shortlisted, the development of a draft method will be a high priority for the NSW government, supported by significant resources. The plan for the development of the proposal is as follows.

- **July-September 2024**: ERAC/DCCEEW endorsement to proceed, if short-listed. Additional technical work undertaken by NSW in parallel.

- **August-September 2024**: Two technical workshops on the proposed method, focusing on the approach to the calculation of the net abatement amount, protocols for direct measurement and the determination of sustainable yields, and the process for setting appropriate leakage discounts.
- **September-November 2024**: Targeted consultation on the proposed approach, including with Aboriginal community, scientists, industry, environmental and community groups.
- **November 2024**: Submission of final proposal, incorporating feedback from consultations, to DCCEEW and ERAC for approval.
- **December 2024**: INFM method is made by Minister

Please note: The NSW Government will provide resources to assist the Commonwealth in completing its assessment and consideration/decision-making in relation to the proposed method. This will include resources to help the Commonwealth to draft relevant statutory instruments and incorporated documents (if necessary).

Section 11: References

11.1 References

Provide a full citation for all reports, papers and journal articles cited in the method proposal.

Marland, G., Schlamadinger, B., 1997. Forests for Carbon Sequestration or Fossil Fuel Substitution? A Sensitivity Analysis. Biomass and Bioenergy 13(6), 389-397.

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Section 12: Appendices

12.1 Appendices

List and attach all relevant documentation to support an assessment of the proposal including cited reports, papers and journal articles that are not publicly available.

Attachment A: CVs of Professor Macintosh and Professor Butler.
Attachment B: Eligible activities under main IFM methods
Attachment C: Alternative Approaches to Calculating Net Abatement
Attachment D: Wood Product Substitution Following Decline in Australian Native Roundwood Production
Attachment E: INFM Carbon Abatement and ACCU Generation – Method Summary

Section 13: Declaration

This application must be signed by a duly authorised representative of the proponent. The person signing should read the following declaration and sign below.

Division 137 of the Criminal Code makes it an offence for a person to give information to a Commonwealth entity if the person providing the information knows that the information is false or misleading. The maximum penalty for such an offence is imprisonment up to 12 months.

By signing below, the signatory acknowledges that he or she is an authorised representative of the proponent, and that all of the information contained in this application is true and correct. The signatory warrants that they own or have a licence to use all of the relevant intellectual property rights in the application submitted. The signatory also warrants that they have read, and agreed to all information on the submission portal for this EOI, including the important information, privacy notice, public disclosure statement, intellectual property agreement, and declaration.

Full name of the person signing as representative of the proponent	Atticus Fleming AM		
Position	Deputy Secretary, National Parks and Wildlife Service, Department of Climate Change, Energy, Environment and Water		
Signature		Date	12/07/2024