Australian Government

Department of Climate Change, Energy, the Environment and Water

EMISSIONS REDUCTION ASSURANCE COMMITTEE

# Review of the Animal Effluent Management method 2019

## Consultation paper

Emissions Reduction Assurance Committee

February 2025

**Cataloguing data**

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**Acknowledgement of Country**

We acknowledge the Traditional Owners of Country throughout Australia and recognise their continuing connection to land, waters and culture. We pay our respects to their Elders past and present.

## Animal Effluent Management method – Periodic review: Have your say

The Emissions Reduction Assurance Committee (the Committee) is seeking feedback on the ACCU Scheme *Carbon Credits (Carbon Farming Initiative– Animal Effluent Management) Methodology Determination 2019* (the AEM method 2019) compliance with the Offset Integrity Standards as set out in the *Carbon Credits (Carbon Farming Initiative) Act 2011* (the Act) and associated matters.

This will inform the Committee's advice to the Assistant Minister for Climate Change and Energy on whether the method should be varied.

### To have your say:

- Read the consultation paper
- Provide a written submission via our Have Your Say portal

The Department of Climate Change, Energy, the Environment and Water (the department) will host an online information session on this consultation paper on **Wednesday 12 March 2025**. You can register for this session on the Have Your Say website.

Submissions are welcome until **11:59pm AEDT on Tuesday, 25 March 2025.**

If you have questions about the consultation process or would like to request an extension, please contact the Emissions Reduction Assurance Committee Secretariat at ACCUSecretariat@dcceew.gov.au.

### Confidentiality and publication

Unless you indicate that your submission is confidential, it will be treated as a public document. It may be published in full on the department's website or included in a published summary report of submissions.

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- Emissions Reduction Assurance Committee
- Department of Climate Change, Energy, the Environment and Water
- Clean Energy Regulator

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# 1 Introduction

The Australian Carbon Credit Unit (ACCU) Scheme plays an important role in helping the Australian Government achieve its legislated emissions reductions targets of a 43% reduction on 2005 levels by 2030 and net zero by 2050. Approximately 18 million ACCUs were issued in the 2023-2024 financial year, equivalent to 18 million tonnes (Mt) of abatement. Since 2012, the ACCU Scheme has incentivised nearly 48 Mt of abatement from the waste sector (around 31% of total credited abatement) and 2.5 million tonnes of abatement from the agriculture sector (almost 2% of total credited abatement).[1]

## 1.1 Role of the Emissions Reduction Assurance Committee

The Minister for Climate Change and Energy (the Minister) is responsible for making, varying or revoking methodology determinations (methods) in the ACCU Scheme. Under current administrative arrangements, the Assistant Minister for Climate Change and Energy is responsible for exercising the Minister's powers regarding methods under the Act.

The Emissions Reduction Assurance Committee (the Committee) is an independent statutory committee established under the *Carbon Credits (Carbon Farming Initiative) Act 2011* (the Act). The Committee's functions include conducting reviews of ACCU Scheme methods and undertaking public consultation to ensure the methods continue to comply with the Act's Offsets Integrity Standards (OIS) contained in s133(1). These functions are set out in ss255, 255AA, and 255A of the Act.

The outcome of periodic reviews is advice to the Minister on whether a method continues to comply with the OIS and, where appropriate, what amendments could be considered for incorporation into the method to improve its usability and encourage uptake (a variation).

If the Committee finds there is reasonable evidence a method no longer complies with one or more of the OIS, it can propose to make an order, by legislative instrument, under s27A(1) of the Act, to suspend the processing of applications for project declarations under the method for up to 12 months.

The findings of periodic reviews are provided to the Minister and published on the department's website. In accordance with s114(6) and s123(2) of the Act, the Minister can then seek advice from the Committee as to whether the reviewed method should be varied or revoked.

In line with its method review function, the Committee is undertaking a periodic review of the Carbon Credits (Carbon Farming Initiative – Animal Effluent Management) Methodology Determination 2019 (AEM method 2019).

[1] ACCU project and contract register | Clean Energy Regulator (cer.gov.au)

## 1.2 Scope of the review

The Committee is reviewing the AEM method 2019 to determine whether it continues to meet the OIS, and if it should be varied to account for emerging technologies, scientific knowledge, or outstanding issues identified in previous reviews undertaken by the Committee, including:

- 2024 consultations on the crediting period extension (CPE) review for the AEM method 2019
- 2023/24 consultations for the CPE review of the *Carbon Credits (Carbon Farming Initiative – Domestic, Commercial and Industrial Wastewater) Methodology Determination 2015*[2] (Wastewater method 2015).

During those reviews, stakeholders identified a range of issues and opportunities that this periodic review seeks to explore and, if deemed consistent with the OIS, recommend to the Minister for action:

- allow completed projects from the AEM method 2019 and legacy animal effluent methods to restart crediting
- integrate Wastewater method 2015 activities into the AEM method 2019 and allow completed Wastewater projects to restart crediting
- expand the range of eligible materials allowed under the method, with suitable calculations to subtract process emissions and ensure only eligible emissions abatement is credited
- make changes to the method to improve the implementation and operation of AEM method 2019 projects.

### *Other relevant method reviews*

Apart from the Wastewater method 2015 and AEM method 2019, a range of other waste-related methods are available under the ACCU Scheme, as outlined in Table 1. The Committee is currently undertaking periodic reviews of some of these methods and will use these reviews to identify synergies between the methods and/or recommend consolidation of the methods into a smaller number of methods (if a decision is made by the Assistant Minister to remake the methods).

[2] Carbon Credits (Carbon Farming Initiative—Domestic, Commercial and Industrial Wastewater) Methodology Determination 2015

Table 1 Relevant ACCU Scheme methods and reviews

| Method | Expiry | Coverage / Activity | Status as at February 2025 |
|---|---|---|---|
| *Carbon Credits (Carbon Farming Initiative – Alternative Waste Treatment) Methodology Determination 2015* | 31 March 2025 | Projects introduce waste facilities to reuse mixed solid waste.<br>Facilities process solid waste that would otherwise go to landfill; process commercial, industrial, construction, demolition or Class I or II municipal solid waste, or use an enclosed composting facility, an anaerobic digester or process engineered fuel manufacturer technology. | Periodic review underway by ERAC |
| *Carbon Credits (Carbon Farming Initiative – Landfill Gas) Methodology Determination 2015* | 31 March 2025 | Projects update landfill gas collection systems, re-start non-operational systems, or install new systems to regulate and combust landfill gas to reduce methane emissions. | Proposed method remake in development by the department |
| *Carbon Credits (Carbon Farming Initiative— Electricity Generation from Landfill Gas) Methodology Determination 2021* | 31 March 2031 | Projects combust landfill gas from waste to generate electricity or produce biomethane. Projects must use a new gas collection system or upgrade an existing gas collection system. | Proposed method remake in development by the department |
| *Carbon Credits (Carbon Farming Initiative – Source Separated Organic Waste) Methodology Determination 2016* | 31 March 2026 | Projects separate their organic waste from other waste, reducing the amount that goes to landfill, or divert food from landfill and donate it to registered charities. | Sunsetting review to be conducted by the department prior to expiry of the method |

### *Offsets Integrity Standards (OIS)*

In conducting this review, the Committee will assess whether the AEM method 2019 and any proposed changes align with the OIS. Assessment against the OIS considers developments in the industry, advancements in scientific knowledge and technology, and changes in state and territory regulations and policy settings.

The purpose of the OIS is to ensure abatement credited by a method is genuine and additional to what would otherwise occur in the ordinary course of events (business-as-usual). Table 2 summarises the OIS.

### Table 2 Offsets Integrity Standards (OIS)

| Offsets Integrity Standards | Statutory reference (sections in the CFI Act) | Description |
|---|---|---|
| Additionality | 133(1)(a) | Projects covered by the determination should result in abatement that is unlikely to occur in the ordinary course of events (i.e. unlikely to occur in the absence of the incentive provided by the scheme). |
| Measurement and verification | 133(1)(b) | Removals, reductions and emissions covered by the determination are measurable and capable of being verified. |
| Eligible carbon abatement | 133(1)(c) | Abatement accredited under the determination is 'eligible carbon abatement' (abatement due to the project that can be used to meet Australia's international mitigation obligations). |
| Evidence | 133(1)(d) | The method is supported by clear and convincing evidence. |
| Project emissions and leakage | 133(1)(e) | The method provides for deductions of material emissions that occur as a direct result of the conduct of projects. |
| Conservativism | 133(1)(g) | All estimates, projections or assumptions in the determination are conservative. |
| Legislative rules | 133(1)(h) | The determination satisfies any applicable legislative rules. |

### *Additional considerations*

While a periodic review must consider a method's compliance with the OIS, the Committee will consider other issues, including:

- transaction costs associated with its application
- its effectiveness in measuring and rewarding genuine abatement
- ease of administration and enforcement
- consistency with other ACCU Scheme methods
- positive and negative broader environmental, social and economic impacts of projects

## 1.3 Sources of information

Respondents should consider the information at the following links to assist with their responses to this consultation process.

***AEM method 2019***

- *Carbon Credits (Carbon Farming Initiative—Animal Effluent Management) Methodology Determination 2019*
- Supplement to the *Carbon Credits (Carbon Farming Initiative – Animal Effluent Management) Methodology Determination 2019* (AEM method 2019 Supplement)
- Animal Effluent Management method – the department
- Animal Effluent Management method - Clean Energy Regulator

***Wastewater method 2015***

- *Carbon Credits (Carbon Farming Initiative—Domestic, Commercial and Industrial Wastewater) Methodology Determination 2015*
- Participating in the Emissions Reduction Fund - Using the domestic, commercial and industrial wastewater method (Clean Energy Regulator)
- Domestic, commercial and industrial wastewater method – the department
- Domestic, commercial and industrial wastewater method | Clean Energy Regulator

***ACCU Scheme legislative framework***

- *Carbon Credits (Carbon Farming Initiative) Act 2011*
- *Carbon Credits (Carbon Farming Initiative) Rule 2015*

# 2 Overview of the relevant methods

## 2.1 Animal Effluent Management (AEM) method 2019

The AEM method 2019 incentivises projects to capture and destroy methane in biogas that would otherwise have been released to the atmosphere from open anaerobic ponds used to treat animal effluent. Eligible methane destruction (combustion) devices include boilers, internal combustion engines and flares. The AEM method 2019 also incentivises upgrading biogas into biomethane, and emissions avoidance by removing volatile solids and treating them using an aerobic process (aerobic treatment). The method replaced 3 legacy related methods[3].

As of 24 November 2024, 31 projects have been registered under the AEM method 2019 and legacy animal effluent methods.

- 1,251,113 ACCUs have been issued to 11 projects under the AEM method 2019 and 3 legacy animal effluent methods
- 417,980 ACCUs have been issued to 4 projects under the AEM method 2019. All are projects that transferred from the *Carbon Credits (Carbon Farming Initiative) (Destruction of Methane Generated from Manure in Piggeries-1.1) Methodology Determination 2013* (Manure in Piggeries 1.1 method 2013)
- Four projects under all methods have been revoked
- Nine projects under all methods have completed Carbon Abatement Contracts
- One biomethane project and one composting project are registered under the AEM method 2019 but neither have generated ACCUs.

The AEM method 2019 was made on 6 December 2019 and varied on 21 January 2022 to include converting captured biogas into biomethane.

The AEM method 2019 is due to expire on 31 March 2030 and sunset on 1 April 2030.

In 2024, the Committee undertook a CPE review of the AEM method 2019, as required under s255A of the Act, and considered whether:

- existing AEM method 2019 projects are likely to continue in the absence of revenue from ACCUs

[3] Carbon Credits (Carbon Farming Initiative) (Destruction of Methane Generated from Dairy Manure in Covered Anaerobic Ponds) Methodology Determination 2012 (Dairy Manure in Covered Ponds method 2012); Carbon Credits (Carbon Farming Initiative) (Destruction of Methane Generated from Manure in Piggeries—1.1) Methodology Determination 2013 (Manure in Piggeries method 2013); Carbon Credits (Carbon Farming Initiative) (Destruction of Methane from Piggeries using Engineered Biodigesters) Methodology Determination 2013 (Engineered Biodigesters method 2013)

- ACCUs generated in the future under an extended crediting period will continue to be additional and provide genuine abatement.

The Committee found sufficient evidence to demonstrate that project activities were unlikely to occur in the ordinary course of events. This includes potential opportunities for new projects that would otherwise be uneconomic with the existing crediting period.

Based on its findings, the Committee recommended the crediting period for flaring projects be extended by 3 years and electricity generation projects by 8 years, each to a total of 15 years.

Steps to implement the CPE are proceeding.

## 2.2 Wastewater method 2015

The Wastewater method 2015 incentivises projects to capture and use or destroy methane in biogas that would otherwise have been released to the atmosphere from open anaerobic lagoons used to treat domestic, commercial, or industrial wastewater. The Wastewater method 2015 also incentivises upgrading biogas into biomethane.

The method was made on 26 March 2015 and varied on 2 January 2022 to include upgrading captured biogas into biomethane.

Projects involving combusting methane in a flare, in an engine to generate electricity or in a device to generate heat currently have a 7-year crediting period. Biomethane projects have a 12-year crediting period.

As at 10 November 2024, 9 projects have registered under the method.

- Two have been revoked
- 177,409 Australian Carbon Credit Units (ACCUs) have been issued to 3 projects
    - The first of these finished its crediting period on 1 January 2024. The second finished its crediting period on 14 October 2024
- The 4 remaining projects were registered between June 2020 and September 2024 (the last after the results of the CPE outlined below was announced). These projects are yet to be credited any ACCUs.

There are no biomethane projects registered under the method.

The method is due to expire on 31 March 2025 and sunset on 1 April 2025.

In 2024, the Committee undertook a CPE review of the Wastewater method 2015, as required under s255A of the Act, and considered whether:

- existing Wastewater method 2015 projects are likely to continue in the absence of revenue from ACCUs
- ACCUs generated in the future under an extended crediting period will continue to be additional and provide genuine abatement.

The Committee found sufficient evidence was provided to demonstrate that project activities were unlikely to occur in the ordinary course of events. This includes potential opportunities for new projects that would otherwise be uneconomic with the existing crediting period.

Based on its findings, the Committee recommended the crediting period for projects other than biomethane projects be extended by 5 years to a total of 12 years.

The department is implementing this variation.

# 3 Feedback sought from stakeholders

To assist its review, the Committee welcomes submissions from stakeholders on any matters within the scope of the review.

## 3.1 Assessment against the Offsets Integrity Standards

This section outlines elements of the AEM method 2019 designed to meet the OIS (Table 1). Compliance with the additionality OIS was considered during the CPE reviews. Compliance with all the OIS needs to be considered as part of a periodic review.

*Additionality: A method should result in carbon abatement that is unlikely to occur in the ordinary course of events (disregarding the effect of the Act)*

At the time the AEM method 2019 was made, the Committee noted that carbon abatement is genuine and additional and is unlikely to occur in the absence of the ACCU Scheme. The Committee noted that project activities required to realise abatement are complex and costly, and atypical of most pork and dairy production in Australia.

The Committee also noted the use of technologies eligible under the draft method for reducing methane emissions were not required by state or territory regulations. The Committee referenced the financial assessment, which concluded that despite returns from electricity generation for some emissions destruction projects, these were unlikely to be sufficient to incentivise activities in the absence of the generation of ACCUs from registered ACCU projects. Emissions destruction technologies were relatively new in Australia, with uncertainties around the guarantee of supply, installation, operation and maintenance. Uptake was only at large facilities.

The Committee's 2024 CPE review of the AEM method 2019 confirmed it was still additional, noting no state or territory indicated an intention to introduce regulatory controls for methane emissions in agricultural effluent treatment in the foreseeable future.

Sectoral targets and commitments by industry associations are not legally binding and do not preclude the issuance of ACCUs. Financial assessment for the CPE review found that most AEM method 2019 projects have relied on ACCUs to support project initiation citing increases in capital costs and significant operation and maintenance costs and reduced benefits of operation from electricity generation as having made project initiation increasingly challenging with the current level of support from ACCUs.

The assessment concluded that the current financial challenges in the sector limit the risk of claims to carbon abatement that would have occurred in the ordinary course of events.

***The Committee welcomes views on:*** the impact of regulatory and other changes since 2019 that may influence the additionality of projects under the method (Question 1).

*Measurable and verifiable: Estimates of abatement should be measurable and capable of being verified*

At the time the AEM method 2019 was made, the Committee assessed the estimations of the net abatement amount use either measured input values or default values that are supported by evidence and do not result in an over-estimation of the net abatement amount.

The Committee noted that measured values can be verified from laboratory test results, project records and repeat measurement while default input values are based on outcomes from previous robust assessment. The Committee noted that where there is variation in reported values, the AEM method 2019 ensures values resulting in conservative estimates of net abatement are used.

***The Committee welcomes views, including any supporting examples, on***: whether provisions for measuring and verifying abatement estimates are fit for purpose. Are there material changes in emissions that should be accounted for in the AEM method 2019? (Question 2).

*Eligible carbon abatement: A method should provide abatement that is able to be used to meet Australia's international mitigation obligations*

At the time the method was made, the Committee noted that the method used the same approach as the National Inventory Report (NIR) 2016 to determine emissions resulting from the management of animal effluent. The Committee noted that input values to determine abatement are either defaults from the NIR or the National Greenhouse and Energy Reporting Scheme[4] (NGERS) or measured. The Committee also noted the provisions in the method that require inputs in the most recent version of the NIR and NGERS be used when estimating the net abatement amount for each offsets report. This ensures that abatement resulting from AEM method 2019 projects is evident in Australia's accounts and contributes to our international targets.

***The Committee welcomes views, including evidence, on***: whether changes to the AEM method 2019 should be made with respect to eligible carbon abatement that can be counted in Australia's National Greenhouse Accounts (Question 3).

*Evidence-based: A method should be supported by clear and convincing evidence*

When the AEM method 2019 was made, the Committee noted that equations used to estimate abatement are consistent with those used in the NIR. Measurement approaches to determine input parameters are consistent with accepted industry requirements and standards. The Committee noted that the AEM method 2019 Supplement allows these factors to be updated in the future to align with updates to the national accounting framework and industry standards for measurement.

[4] National Greenhouse and Energy Reporting Scheme - DCCEEW

***The Committee welcomes views on:*** whether there is new or different evidence on the emissions reduction arising from animal effluent management that should be considered in this review (Question 4).

*Project emissions: Material greenhouse gas emissions emitted as a direct result of the project should be deducted*

When the AEM method 2019 was made, the Committee noted that it deducts project related emissions from fuel and electricity use. In addition, emissions resulting from post-diversion treatment in emissions avoidance projects are also deducted from the gross abatement. The Committee also noted that emissions from ineligible material added to the destruction devices are also deducted from gross abatement, to ensure these avoided emissions are not credited as being additional. (Ineligible material is material that would not have been diverted to the destruction device in the absence of the project.)

***The Committee welcomes views, including any supporting examples, on:*** whether the AEM method 2019 sufficiently accounts for material greenhouse gas emissions directly resulting from carrying out the project (Question 5).

*Conservative: Where a method involves an estimate, projection or assumption, it should be conservative*

When the AEM method 2019 was made, the Committee noted that there are several mechanisms in the method to ensure that abatement estimates remain conservative. Where a range of values for input factors are known, the value that results in the most conservative estimate of abatement is used. Emissions from ineligible material are always assumed to be the maximum potentially possible, although they are normally less than this maximum potential amount. These are deducted from gross abatement, ensuring that net abatement remains conservative. Input values are determined in the AEM method 2019 Supplement, allowing updates should understanding change in the future.

***The Committee welcomes views, including supporting examples, on:*** whether the inputs and variables used in the method's abatement equations remain conservative (Question 6).

## 3.2 Opportunity to integrate Wastewater method 2015

The Wastewater method 2015 is due to expire on 31 March 2025 and sunset on 1 April 2025. While the expiry of a method has no impact on existing projects that have commenced their crediting periods, no new projects can register or commence crediting after a method expires.

Proponents have indicated ongoing interest in registering projects under the Wastewater method 2015 and the ability to access the CPE approved in May 2024. At its November 2024 meeting, the Committee agreed to examine the merit of incorporating elements of the Wastewater method 2015 into the AEM method 2019, which expires on 31 March 2030. The potential merger of the two methods could provide opportunity for ongoing registration of wastewater-type projects in a 'framework' liquid waste method.

The two methods have very similar abatement mechanisms - avoiding methane emissions by capturing methane from previously uncovered lagoons or ponds. Eligible waste sources are a major difference between the two methods. Project eligibility could be merged or expanded.

Calculation of avoided emissions and process emissions also differ in the two methods. Proponents have also raised difficulties measuring maximum methane producing capacity in the Wastewater method 2015.

***The Committee welcomes views on the following questions:***

Do you support the incorporation of activities from the Wastewater method 2015 into the AEM method 2019, potentially to create a 'framework' or expanded liquid waste method, or potentially a broader 'organic waste' method? Please provide details. (Question 7).

What would be the most appropriate structure, terminology and set of eligible activities in a combined method? (Question 8).

Which abatement estimation approaches and equations in the two methods are useful and workable, and which are not? (Question 9).

What size project if any, in megalitres (ML), megalitres per day (ML/d) or some other metric, would no longer be 'additional' given the likely greater financial viability of larger projects? If possible, please provide financial or other information that supports your position (Question 10).

## 3.3 Transitioning and restarting provisions for AEM and Wastewater projects

Proponents of expired projects in the AEM method 2019, legacy animal effluent methods and the Wastewater method 2015 have requested to be able to restart these projects due to the ongoing cost of operation and maintenance. At its December 2024 meeting, the Committee agreed to examine this issue in the AEM method 2019 periodic review.

***The Committee welcomes views on the following questions:***

Under what conditions should projects be eligible to restart? What sensible in lieu of newness provisions should be provided in the method? (Question 11 A&B).

What restart date/period should be provided given requirements for monitoring and reporting, and eligibility generally? (Question 12).

## 3.4 Definition and inclusion/exclusion of Eligible Material

In the AEM method 2019, eligible material is defined as material that is sourced from a piggery or a dairy or is a material that is a 'Listed Type' in the Schedule 1 of the AEM method 2019 Supplement.

Experience with projects registered to date suggests that in certain circumstances this can require significant additional assessment to determine eligibility. While maintaining the existing eligibility framework, consideration could also be given to explicitly stating the inclusion, or exclusion, of certain types of waste.

Conversely, proponents have requested that types and proportion of eligible material be expanded, for example to improve digester performance. This could be considered, but the eligibility of a portion of the carbon abatement would likely also need to be examined.

Eligible materials could potentially include a combination of materials that were traditionally allowed in the Wastewater method 2015 with those allowed in the AEM method 2019, and other organic waste sources and mixed solid waste. Crediting periods would need to be examined for new materials and combinations of materials, especially for large projects.

***The Committee welcomes views on the following questions:***

What materials should be included as eligible in an expanded liquid waste method, while still meeting the OIS requirements including for eligible emissions reduction? (Question 13).

How would methane generated from the inclusion of wastes from sources that currently do not generate emissions best be identified and excluded as process emissions? (A response to this question could include consideration of calculations and formulae) (Question 14).

What circular economy drivers / policies are relevant in this space that might impact on the *Additionality* of activities? (Question 15).

## 3.5 Biomethane activity

Biomethane projects involve the capture of biogas from decomposing waste, and refining of that biogas into biomethane, a low-emissions natural gas substitute. ACCUs could be issued for the abatement generated when the biomethane is burned (conversion abatement), and from biomethane displacing fossil fuel natural gas consumption (displacement abatement).

Both the AEM method 2019 and Wastewater method 2015 as well as the *Carbon Credits (Carbon Farming Initiative—Electricity Generation from Landfill Gas) Methodology Determination 2021 (Landfill Gas (Generation 2021)*[5] were varied in 2022 to include biomethane activities. Only 1 biomethane project has registered under any of the methods and this project is yet to generate ACCUs.

Some potential proponents have expressed general interest in biomethane activities. Low uptake of biomethane projects may be indicative of difficulties achieving financial viability or other challenges.

[5] Carbon Credits (Carbon Farming Initiative—Electricity Generation from Landfill Gas) Methodology Determination 2021

The crediting period of biomethane activities was not considered in the 2024 review due to the small number (only1) of registered projects and that the biomethane activities were introduced relatively recently and project viability could be assumed to remain similar to that in 2022.

The Guarantee of Origin (GO) Scheme once fully implemented may provide additional or alternative support for biomethane activities. Additionality of biomethane activities in the ACCU Scheme may need to be reviewed if support is provided by the GO Scheme.

***The Committee welcomes views on the following questions:***

Do you expect there will be continued demand for biomethane in a liquid / organic waste method? (Question 16).

What crediting period and/or other features would need to be changed in the AEM method 2019 to encourage biomethane project initiation while still meeting the OIS? (*If possible, please justify your answer with data and/or calculations*) (Question 17).

Do you expect the Guarantee of Origin Scheme to provide more effective support for biomethane activities than the ACCU Scheme? (Question 18).

## 3.6 Digestate treatment options & emissions from end-management of digestate

Digestate is defined in the Wastewater method 2015 as the 'residual solids or semisolids stream that: (a) remains in an anaerobic digester following anaerobic treatment; and (b) must be removed periodically.'

The Wastewater method 2015 includes calculations of emissions from the end-management of digestate in the net abatement amount while the AEM method 2019 does not. The question of whether the emissions from end management of digestate in AEM projects are material has been raised in the past. The Department of Climate Change, Energy, the Environment and Water (the department) commissioned an assessment of materiality of digestate emissions in 2022/23, with a range of results reported. If emissions are material, they must be accounted for in a method as a source of project emissions.

The Committee is seeking data and information from AEM method 2019 and Wastewater method 2015 project proponents to assist its evaluation of emissions related to end-management of digestate. Relevant information includes:

- the significance of emissions from end management of digestate
- how emissions from digestate might be calculated
- the type of anaerobic digester system in use and the frequency of digestate removal (cleaning)
- the method of digestate treatment, such as disposal to landfill, composting or land spreading
- the weight ratio of digestate to the feedstock

Further, the Committee is aware that water industry participants have been examining newer or alternative treatments of digestate such as incineration and pyrolysis, including approaches that

produce biochar. An expression of interest (EOI) for a biochar method[6] was received and considered by the Committee as part of the 2024 interim proponent-led method development process.

The Committee would like to understand whether there is interest in including calculations – such as abatement and process emissions – relating to these or other treatments in an expanded method.

***The Committee welcomes views on the following questions:***

How is your digestate currently managed – including removal frequency and end use or disposal? (Question 19)

Are emissions from digestate likely to be material? Should they be considered as a source of project emissions in an expanded effluent method? (Please provide supporting evidence based on the data request above) (Question 20 A&B).

Are the existing digestate emission calculations in the Wastewater method 2015 workable? Are there more user-friendly alternatives to these calculations that would satisfy the OIS? (Question 21 A&B).

Are there alternative treatments of digestate that should be considered and included in an expanded liquid-waste method? (Question 22).

## 3.7 Need for solids separation and aerobic treatment

The AEM method 2019 allows for solids separation and aerobic treatment of these solids as an emissions avoidance approach, while the Wastewater method 2015 does not. Uptake under the AEM method 2019 has been very limited. The crediting period for this activity was not considered in the 2024 CPE review. Ensuring that separated wastes remain aerobic and thereby minimise greenhouse gas emissions, and verifying this, may be difficult.

[6] Conversion of biomaterials for permanent carbon dioxide removal, EOI2024-14. Committee assessment available at: https://www.dcceew.gov.au/sites/default/files/documents/proponent-led-method-development-2024-eoi-assessment-summaries.pdf

***The Committee welcomes views on the following questions:***

Do you see a need for the emissions avoidance / aerobic treatment option in the AEM method 2019? What uptake do you believe could be achieved using this option? (Question 23 A&B).

What has prevented uptake of emissions avoidance projects in the AEM method 2019? (Question 24).

Would a different crediting period encourage emissions avoidance project initiation while still meeting the OIS? If possible, please justify your answer with data and/or calculations (Question 25).

Do current treatment processes and measurement approaches in the AEM method 2019, particularly maintenance of aerobic stockpiles, ensure emissions avoidance? (Question 26).

## 3.8 Use of biogas for heating

Use of biogas for heating has been very limited in the AEM method 2019. The crediting period for this activity was not considered in the 2024 CPE review.

***The Committee welcomes views on the following questions:***

Is there a need for this activity in the AEM method 2019 to support project initiation? (Question 27).

What crediting period and/or other features would be needed to encourage heating project initiation while still meeting the OIS? (If possible, please justify your answer with data and/or calculations) (Question 28).

## 3.9 Gas (and electricity) displacement abatement

The Wastewater method 2015 and AEM method 2019 currently recognise abatement for displacing natural gas via production of biomethane. However, the AEM method 2019 does not credit abatement for electricity generated and used in place of other sources of electricity. Some Wastewater method 2015 projects provide biogas for displacement of natural gas using the *Carbon Credits (Carbon Farming Initiative – Industrial and Commercial Emissions Reduction) Methodology Determination 2021*[7] (ICER method). This is expected to improve the overall financial return of projects to the point that the Additionality OIS may be difficult to demonstrate. Conversely, should the Additionality OIS be met, allowing credits for additional abatement activities within a framework liquid waste method may be justifiable and a more efficient approach.

[7] Carbon Credits (Carbon Farming Initiative—Industrial and Commercial Emissions Reduction) Methodology Determination 2021

Displacement of electricity has currently not been used/recognised in these methods. However, Large Scale Renewable Energy Certificates (LGC) generated under the Renewable Energy Target (LRET) have provided additional financial incentives for some projects. LGCs can be created until 2030 when the LRET ends.

The GO Scheme will have a mechanism to certify renewable electricity, called the Renewable Electricity Guarantee of Origin (REGO). Both the LRET and GO Schemes therefore have potential to provide financial assistance to projects. Financial additionality is important for the Committee's assessment of additionality but is not the only consideration.

***The Committee welcomes views on the following questions:***

Should natural gas and/or other fuel gas displacement activities be included an expanded liquid waste method? (Question 29).

Should displacement abatement credits be extended to any other activities, for example electricity generation? (Question 30).

If possible, please provide information on the actual and expected financial returns achieved by generating LGCs and/or REGOs via displacement of electricity and/or other fuel gases (Question 31).

## 3.10 Adequacy of deferral to start of crediting period

The AEM method 2019 and Wastewater method 2015 have the standard limit of 18 months on deferral of crediting period commencement following project registration, as provided in the CFI Act. During consultation on the *Carbon Credits (Carbon Farming Initiative – Alternative Waste Treatment) Methodology Determination 2015* (AWT method)[8], stakeholders have requested a longer deferral period.

***The Committee welcomes views on the following question:***

Whether the current limit of 18 months deferral of crediting period commencement following project registration is adequate for AEM method 2019 and Wastewater method 2015 projects (Question 32).

[8] Carbon Credits (Carbon Farming Initiative—Alternative Waste Treatment) Methodology Determination 2015

## 3.11 Difficulties meeting newness provisions given approvals processes

In previous consultations, stakeholders have indicated that approvals processes such as completion of Development Applications can present challenges to meeting ACCU Scheme project newness requirements. This could impact the eligibility of AEM projects under the ACCU Scheme.

***The Committee welcomes views on the following questions:***

What changes, if any, relating to approvals processes should be made to newness requirements to avoid project ineligibility, while ensuring that projects meet additionality requirements? (Question 33).

## 3.12 Usability and other improvements

The Committee welcomes any other comments and suggestions on the design and operation of an expanded liquid waste method that would help improve its usability and encourage uptake while meeting the OIS, such as:

- proponents' experience in implementing AEM method 2019 and Wastewater method 2015 projects, including any opportunities to remove barriers and increase uptake
- barriers to using the methods, such as the scope of activities covered by the methods, meeting the project eligibility requirements, estimating the potential abatement using the calculation stipulated in the methods, or applying the reporting, measurement and verification rules and requirements
- whether and how the AEM method 2019 should be modified or streamlined to improve its usability
- issues related to adverse or beneficial environmental, economic or social outcomes from projects under the methods
- should other activities be included.

***The Committee welcomes any other suggestions to improve the AEM method 2019*** (Question 34).