National Waste and Recycling Industry Council

Date: 14 June 2024

Emissions Reduction Division,
Carbon Crediting Branch – Emissions Avoidance Methods and Method Reform Section
Department of Climate Change, Energy, the Environment and Water
51 Allara Street,
Canberra, ACT 2601.

Attention: Ms Kate-Lea Perry

Cc: ACCUSecretariat@dcceew.gov.au

Dear Kate,

Re NWRIC Submission into Reform Option for ACCU Scheme Landfill Gas Methods

The National Waste and Recycling Industry Council (Council) makes its submission in response to the Department's Options Paper on reform options to the ACCU Scheme Landfill Gas Methods *(Reform Options Paper).*

Australia's Waste Generation Performance- Implications - Waste Disposal & Community Amenity

As confirmed by the Department of Climate Change, Energy, the Environment and Waters 'Australia's National Waste Policy Action Plan, Second Biennial Review 2022-2023', waste generation in Australia has increased by an estimated 3% per person since 2016–17, and national resource recovery rates for Municipal Solid Waste and Commercial and Industrial Waste (the largest two streams for organics) has stalled with forecasts showing neither stream is on track to meet its 80% target diversion from landfill by 2030.

Impacts from Australia's population increase, that for every additional person a further 2.48 tonnes of waste is now being generated, these two key factors are going to have profound implications for the Waste and Recycling Industry, State and Local Governments and importantly long term community amenity.

It is therefore difficult to comprehend or understand:

- against a known future operating environment where waste generation is increasing in line with the nation's continuing population and immigration growth,
- where stalled resource recovery performance is challenged by increased regulatory requirements, high energy costs, and escalating wages of operations,
- Where State and Local Government planning delays in allowing industry to build the required alternate infrastructure for managing residuals of waste disposal needed to support this growth.
- and where it is proven the required additional infrastructure spend of $ 27 billion is required to meet the disposal challenges of the future in line with the 2050 zero carbon emission policy directives

Government is proposing to undermine the nations largest generator of ACCU's that are central to the nation's international agreements of methane abatement pledges.

National Waste, Recycling Industry Council ABN 22 617 891 899
A Level 1, The Realm, 18 National Circuit, Barton, Canberra, Australia
T +61 407 125 680 E ceo@nwric.com.au

Our Council over the past 18 months has provided clear evidence of the challenges these reforms will deliver and yet despite this cogent and factual evidence presented time and time again of the implications of the changes, the Department has ignored that advice and often failed to accurately record minutes of those discussions in working groups.

In Summary

Executive Summary

1. The current landfill gas method has appropriately delivered methane abatement projects and real emissions reduction with the cost of this abatement primarily borne by the private sector including NWRIC Members, supported with ACCU incentives.

The current system is working and delivering real, high integrity abatement.

2. The proposed recommended positions outlined in the Reform Options Paper are overly conservative and based on flawed and incorrect methodology, and if implemented will result directly in increased methane emissions. Further as costs increase of abatement these will be passed through to the householder due to low or no further investment in landfill gas methane abatement by existing project proponents. The risks in terms of future investment will be borne by Local Government, as the largest owner of landfills across Australia.

Local Government will bear the highest burden and householder cost of living pressures will directly increase.

3. The proposed recommended position outlined in the Reform Options Paper will make it harder for Australia to meet its emissions reduction targets and the cost of the transition to net zero higher.

There will be more emissions and fewer ACCUs.

4. The ability for the landfill gas industry to innovate in further methane abatement such a biomethane and renewable natural gases desperately needed to decarbonise the natural gas grid will evaporate due to the lack of certainty to invest.

Innovation will be stifled.

5. Waste generation per capita is increasing, recycling rates are not on track to meet national targets, and alternatives to landfill need time and investment to be developed.

The landfill gas industry is being asked to do more with less.

6. Based on scientific and operational data from project proponents, industry common practice, and validated by an international third-party expert,

NWRIC's proposed position will deliver high integrity sustained abatement, per Table 01 below.

Table 01

Issue	Issue 1 – Methane Proportion of Landfill Gas	Issue 2 – Resetting Baselines	Issue 3 – Increasing baselines over Time	Crediting Period
Proposed Position (Department Recommended / preferred Position)	Option 1 – Direct Measurement	Option 2A – Reset default baseline factors to 36% Disagree	Option 3A – Apply a 1.9% gradient unit value to the default baseline factors Disagree	Silent on crediting period. Review baseline factors and gradients at least every 5 years
NWRIC Position	**Agree**	Reset default baseline factors to 33%	Apply a 0.5% gradient unit value to the default baseline factors	A multi-decade crediting period is essential, proposed 25 years Review baselines and gradients every 7+ years

Submission in full

Australia should take pride in its emission reduction achievements from the landfill sector as it is proven the sector is achieving a high level of success in reducing methane emissions from waste through landfill gas capture. This is largely because of Government incentivisation from its ACCU scheme and precursors over time.

The current systems is working. Real methane abatement is occurring, emissions are being reduced, and the cost of abatement borne primarily by the private sector with the support of ACCU incentives.

Our Council has consistently maintained that any reforms to the important ACCU calculating methodologies must be based on evidence-based facts that are consistent with 'real world' common operating performance and desk top data assessment practices prepared by proponents and landfill owners. Conversely, if the assumptions for the reforms are purely philosophical, prospective, or flawed, the outcomes of these reforms will be overly conservative and result in increased methane emissions. All transfer costs for additional abatement will be passed to householders causing them more cost of living pressures, result local government being the largest landfill owners and operators being directly affected

The overly conservative recommendations will result in a method that will make Australia's net zero transition harder and more costly.

As set out in its December 5, 2023, Councils response in relation to the department's draft options reforms paper (as a member of the Departments technical working group), we identified fundamental technical flaws forming the basis of Departments proposed changes.

Disturbingly, we note despite providing the department with thorough analysis in support of that position, Industry's operating expertise has been ignored and the flaws identified then have not been rectified in the Reform Options Paper. In some instances, the Department has recommended options that are worse, such as the proposed upward sloping baseline of 1.9%., which were never discussed, or evidence provided for

It is therefore Council's position that the reforms proposed by the government will if not amended lead to long term catastrophic consequences both in terms of foregoing the nations international methane abatement pledges, but also increased costs to all Australians in terms of cost of living, as future investment decisions for maintaining existing infrastructure as well new capital investment will be withdrawn. To maintain current methane abatement the investments will be transferred to landfill owners and local government and those additional costs therefore passed on to all residents and ratepayers.

Critically, the impacts of the proposed reforms without modification will certainly lead to unacceptable negative impacts on community amenity, cost of living pressures, societal liveability, and will lead to increases in methane to the receiving environment, and failure of governments national targets and international methane abatement pledges.

Specific comments on *Issues and Options for Method Reform*

Issue 1 – Methane Proportion of Gas

Option 1 – Agree with the position recommended in the Reform Option Paper.

Issue 2 – Resetting Baselines

Councils Position

- **A reset of baselines to 36% is rejected. Baselines must be reset to 33%. Any higher baseline reset will have catastrophic impacts to future investment decisions and methane abatement initiatives at Australian landfills.**

Increasing baselines reduces the number of ACCU's issued to Landfill Gas projects, therefore making the cost of offsetting abatement for the hard to abate sectors more costly. Cost of living pressures will increase.

In its previous advice to the DCCEEW (October 2023, as appended), our Council provided solid evidence of why we would only support a reset default baseline of 33%. Whilst we stand by this evidence, we also understand this is likely to be a conservative estimate of the baseline achieved by electricity generation from recovered methane, which is likely to be less than 30%[1].

[1]Data sourced from Australian Energy Statistics confirms approximately 1,100 GWh per annum of electricity was generated across 2019-21 and using NGER generator efficiency defaults to estimate methane abatement. https://www.energy.gov.au/publications/australian-energy-statistics-table-o-electricity-generation-fuel-type-2021-22-and-2022

Disappointingly we note the Departments proposed reset to 36% ignores industry advice and data sets given to it in confidence. The evidentiary data set which is contained within our correspondence to the Department (October 2023) is appended to our submission.

The Councils proposed 33% baseline reset represents a conservative approach and a near 40% increase above the current national average baseline of 23.7%. This baseline uplift supports a transition without destroying existing industry investments or inhibiting new investments.

Further, there has been no evidence given by government at any of the technical working groups over the past 12 months to support governments 36% recommendation.

Issue 3 – Increasing Baselines over Time

Council Position

- **Increasing Baselines with an upward sloping gradient at 1.9% or 1.5% is rejected. Baselines must be adjusted using a 0.5% gradient, the analysis of which is supported by actual operating data.**

Increasing baselines over time with a severe upward slope will not increase methane capture rates. Conversely it will reduce investment certainty and directly reduces ACCU availability and supply.

A baseline gradient slope of between 0.5% and 0.92% is vitally important to ensuring investment in methane abatement continues and that methane emissions do not increase with the expected increase in waste generation. In respect to "Increasing Baselines over time" Council members are fundamentally challenged with introducing the upward sloping gradient and our forensic analysis of the proposal which has no international standing or comparisons show that higher rates of baseline increase (1.9% or even 1.5%) would:

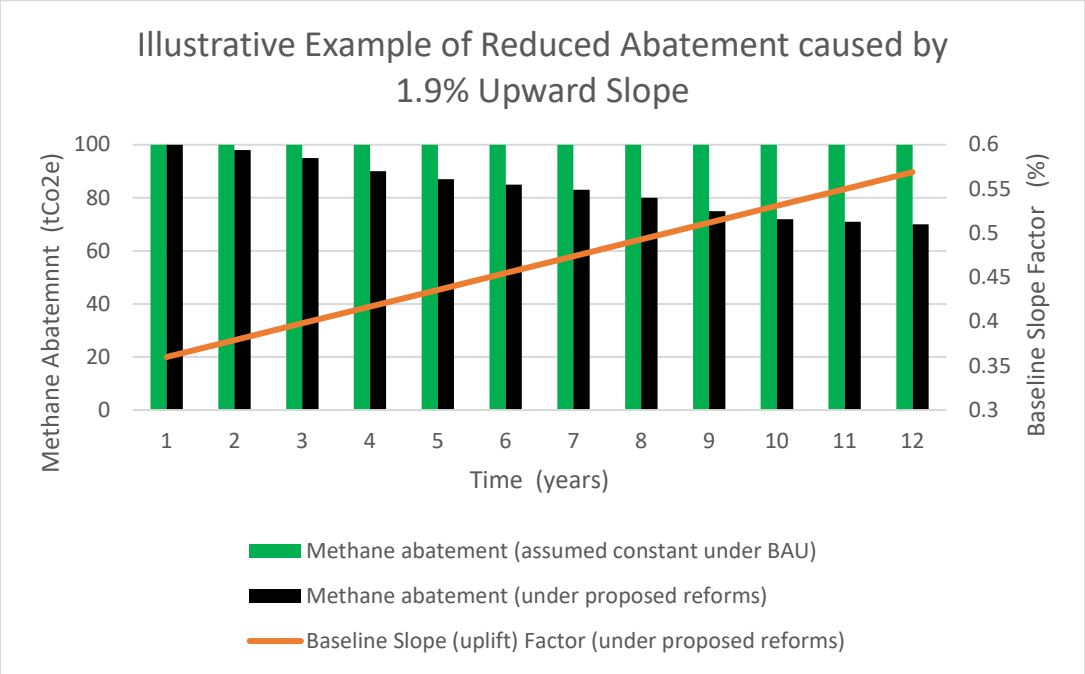
- Significantly reduce the viability of investments – with some existing sites needing to cease methane capture within 5 years and new investments in capturing methane reducing or ceasing altogether
- Rapidly reduce ACCU supply (estimated at millions units over forward)
- Reduce landfill gas capture and increase methane emissions.
- Reduce opportunities for landfill gas to help establish biomethane or sustainable aviation fuel industries which are critical for decarbonisation of the gas network and hard-to-abate sectors, and
- increase cost of living pressures as Council rates and waste fees are increased to cover costs of landfill gas capture.
- Provide no incentives for the 100's of small landfills or new facilities to be developed

Adopting this measurement will further discourage all new investment in landfill gas abatement projects and therefore the generation of further ACCU's. There is no step change improvement in landfill operational practices or innovation in landfill gas capture that could possibly keep pace with the proposed 1.9% or 1.5% upward slope.

NWRIC's position of a starting baseline of 33% and a 0.5% gradient reset will result in an almost doubling from the current day baseline average by 2050. Noting that the method review periods allow for periodic resetting of baselines and gradient.

The Table below illustrates that methane abatement will decrease under the 1.9% upward slope due to the steepness of the slope disincentivising investment and outpacing innovation in landfill gas capture or landfill operational practice improvement.

An Illustrative example of how the steepness of the upward slope would cause emissions to rise because of decreasing investment in methane abatement



This is also a baseline increase significantly higher than what has occurred over the past decade. Any steeper trajectory would move too fast for the sector to invest adequately and innovate, leading to increased emissions. A 33% starting baseline, resetting by 0.5% gradient baseline would see Australia's baseline align with 'best-in-class' capture rates being achieved internationally (including those likely to be overestimated) and would be well above the average international rate. Importantly this approach brings an achievable approach for resetting the baseline which we maintain is not the case with Option 3A

Against this measure waste generation will have also increased by more than an additional 19.6 million tonnes per annum. Even if the national 80% diversion targets are met the residuals that remain to be managed will result in an additional 4 million tonnes per annum. As stated in our October 2023 paper a 2050 gas capture rate cannot reasonably be set anywhere close to 95% as gas capture efficiencies are impossible to achieve due to the physical constraints of landfill sites. Achieving and maintaining the highest capture rates through ongoing operational and capital investments also requires an ongoing degree of incentivisation. The reforms proposed remove all basis of industry taking up that business opportunity.

Issue 4 - **Crediting Periods and Review Timeframes**

Council position

- **Crediting Periods must be multi-decade, we propose 25 years.**

The Reform Options Paper does not put forward a recommendation on an appropriate crediting period. A long, multi decade, crediting period is essential for current and future landfill gas projects to abate emissions and provide project proponents and the ACCU investment community the certainty to invest. A 25-year crediting period aligns with Australia's net-zero goals.

Importantly, *long-term investment certainty has been recognised by the Chubb Review*. It is critical to support the significant ongoing investment needed to maintain and expand methane abatement from landfills, particularly as ACCU generation declines with upward sloping baselines.

The resetting of baselines combined with the proposed annual upward gradient slope, and the ability for periodic reviews, ensures that only additional abatement is credited. These settings are the risk mitigant against crediting non-additional abatement over the proposed 25 year crediting period, provide for investment certainty for project proponents to continue to invest in landfill gas projects.

With landfill gas systems requiring continuous capital and operational investments through into several decades after a landfill stops receiving waste, crediting periods should be multi-decadal (e.g. 25 years) to ensure optimised methane abatement continues at landfill sites across gas production timeframes.

As the nation is already sending more than 28 million tonnes of waste to landfill annually with expectations this will exponentially rise until recycling rates increase or alternate technologies compliment landfill, the nation needs a supportive regulatory and policy environment that continuously incentivises landfill gas capture.

We strongly urge DCCEEW to amend this oversight and that it incorporate an aligned crediting period extension in the Paper as we believe it is both essential to provide long term timelines and certainty to the industry and investment community and it is entirely appropriate to do such at this time with the other proposed reforms.

A new Method with a multi-decade, we propose 25 year, crediting period will maximise environmental outcomes provided it is supported by 7-yearly reviews

Other issues – AWT Method and SSOW Method

Council Position

- **Alternative Waste Technology crediting periods must be extended to advance investment in landfill alternate residuals management**

Council recommends that the Alternative Waste Treatment (AWT) and Source Separated Organic Waste (SSOW) methodologies crediting periods be extended in alignment with the landfill gas method reforms to recognise the higher order use that recycling, and recovery of organics provides via emissions avoidance and alignment with the governments Offset integrity Standards (refer overleaf).

The Alternative Waste Treatment (AWT) and Source Separated Organic Waste (SSOW) methodologies have only supplied to date 3.19% of total ACCUs issued in Australia. These ACCUs represent real, measured, and verified methane avoidance and abatement. The current level of market participation

and abatement could materially increase if policies are structured to incentivise and maintain the long-term investment and operations of resource recovery and recycling assets in Australia via longer crediting periods.

Australia and our businesses need the supply of waste sector ACCUs and the real emissions reductions from these activities to achieve net zero by 2050.

We trust that our response is fully considered by the Department as the preferred option.

- Increasing Baselines to 33% only
- Upward sloping increase at 0.5% only
- Confirmed crediting periods of 25 years.
- AWT and SSOW crediting periods must also align with landfill gas methods.

Offset Integrity Standards – NWRIC Submission meets and exceeds these

Section of CFI Act	Offset Integrity Standard	How Landfill Gas Projects address the Standards	Section of our submission	Meets Standard
133(1)(a)	Additionality	Uncertain and tapering non-ACCU revenue outstrips project costs resulting in an evidenced based position that the abatement would not have otherwise occurred. In relation to regulatory additionality, jurisdictional environmental legislation does not stipulate what percentage of gas needs to be captured, and no jurisdiction is moving to mandate minimum gas capture	Page 4-7 Consultation questions responses	**Yes**
133(1)(b)	Measurable and verifiable	Stringent and comprehensive data sets against the method calculations are maintained for each registered project, enabling verification through scheduled third-party audits	Page 4	**Yes**
133(1)(c)	Eligible carbon abatement	All determinations by ERAC and the Department have concluded that landfill gas project carbon is eligible	Not required to be addressed	**Yes**
133(1)(d)	Evidence based	Prudent data and calculations demonstrate a robust evidence based approach to landfill gas projects under the method	Page 4-7	**Yes**
133(1)(e)	(Material) Project emissions	Landfill gas projects net abatement is quantifiable and auditable	Page 4	**Yes**
133(1)(g)	Conservative	Landfill gas projects return ACCUs for an 67% of total carbon abatement under our proposal. The assumptions in the method are cautious estimates. Demonstrating the moderate and conservative nature of the method.	Page 4-7 Consultation question responses	**Yes**

Consultation questions

Measuring methane proportion of landfill gas

1. **Is the preferred approach (Option 1) appropriate, and will it strengthen integrity of the landfill gas methods?**

Yes

2. **Are there any circumstances where conservative default factors should still be available for projects other than flaring projects at closed landfills?**

No comment.

Resetting baselines

3. **Is the preferred option (Option 2A) appropriate?**

No – as per the body of our submission, a 33% baseline would be a suitable alternative based on data and represents a significant uplift from the current industry average baseline of 23.7%. A 33% baseline coupled with a 25 year crediting period would be responsible and appropriate.

4. **Are there other options for resetting baselines, or other impacts of options, that should be considered?**

A 33% must be accompanied with an upward baseline of no more than 0.5% and a 25-year crediting period (with review mechanisms of 7 years built in).

5. **Would requiring project proponents to improve modelled estimates of methane generated at landfills (before capture) so capture efficiencies measurements are more accurate be burdensome?**

Models need to be practicable and not overly burdensome.

6. **Should small, regional landfills (landfills located near small population centres that receive less than 50,000 tonnes of waste per annum) have lower baselines, and if so, what should the baselines be?**

A baseline of mid 25 % would be appropriate for smaller, regional landfills but applying higher upward rates bringing them in line with larger facilities over time. A high starting baseline provides no incentives for new or small facilities.

Increasing baselines over time

7. **Is the preferred option (Option 3A) appropriate?**

No, Option 3A and Option 3B are not endorsed.

In Australia, the last 9 years of data show an average rate of increase of 0.36% p.a. The 1.9% p.a. proposed rate of rise is not justified and is bot backed up by data. We point to the data presented in our submission.

All of our Members landfill facilities are managed to best practice. There is no significant innovation or improvement in the operation of these facilities or in the capture of landfill gas that could possibly keep pace with the rises as proposed under Options 3A and 3B.

As presented in our submission, we forecast an increase in emissions released to the environment under the proposed starting baseline of 36% and upward slope any greater than 0.5%. Investments in landfill gas capture would reduce or stop completely, emissions would rise, and

We know that under current settings, significant investments are planned in upgrading existing landfill gas facilities and building new facilities. This type of discretionary work would potentially cease as funds reduce, resulting in the perverse outcome of reduced methane abatement.

8. Are there other options for increasing baselines, or other impacts of options, that could be considered?

We consider that incentivisation should be maximised – not minimised – to achieve the objectives of the scheme and best possible outcomes. All options presented are excessive and risk the ACCU Scheme's Objects to avoid emissions of greenhouse gases. Instead, an upward slope of no more than 0.5% p.a. is supported, in addition to a multi-decade crediting period, we propose 25 years, for current and new projects. This remains conservative against Australia's performance in recent data and expected common practice improvements.

Our members are landfill owners, and do not forecast step changes in landfill design, operational management or closure which are expected to deliver great changes in gas capture. This must be taken into consideration when determining the steepness of the upward slope and the consideration of common practice improvements.

The Options Paper highlights regulators are focussed on promoting resource recovery of organics over new landfill regulations. The intention in the Option Paper that, if new landfill gas regulations were introduced requiring methane abatement above baseline levels, baselines for impacted ACCU projects are to be adjusted accordingly ensures continued conservatism if relevant regulatory changes are made.

9. Is legislating a process for reviewing the baselines beneficial? Is the chosen review period time appropriate? Why/Why not?

The nations landfills will continue to produce methane for decades once closed. Effective multi-decade crediting, we propose 25 years, is needed to maximise methane abatement and aligned to this, review times need to be sufficiently spaced to enable decisions to be made that suit investment timeframes. An open review every 7 years and the potential for more ad hoc reviews is too frequent. A significantly longer period for reviews (e.g., 7+years) or, alternatively, at least restrictions on the scope of change that can occur every 7 years is required to support infrastructure decisions and operations that require continuous investment over decades.

Support for a 7-year baseline review could be achieved if an enshrined process for ERAC review included sufficient robustness to allow the private sector to proceed with investment without unnecessary concern. Concerns relate to a change in government and/or potential to change legislation that would materially impact an AWT proponent's ability to generate ACCUs over an extended period is at risk. We request further information and/or definition as to what could potentially change on a 7-year basis. The most important aspect is that the risk of legislative change, and the risk of government 'winding back' crediting periods post investment decision is mitigated.

Evaluation

10. Are the proposed evaluation criteria appropriate for assessing options? Do you agree with the assessment? If not, why?

No, the proposed evaluation does not give proper weight or consideration to 'investor confidence'. It incorrectly suggests that having high levels of conservatism across each feature of the Method equates to high integrity. If investments cannot be made, this equates to more methane emissions – the exact opposite of what is desired through carbon policy and a grim consequence for our future. It is essential that this be given greater consideration. The method reform must ensure it provides investable and bankable policy that supports investment in genuinely additional abatement**.** A weighting of only 20% for investor confidence does not support this policy development goal. This should be increased to at least 40-50% and the scores re-cast for the Options

Other issues

11. If crediting periods were to be extended for waste methods, what would be the appropriate extension or end date, considering the Offsets Integrity Standards?

Landfill gas systems require continuous capital and operational investments while landfill gas is generated – which extends to several decades after a landfill stops receiving waste. Crediting periods should act to support maximised landfill gas capture for landfills while operational and post-closure. A multi-decade crediting period, we propose 25 years, is needed to ensure methane abatement continues at landfill sites.

a) NWRIC advocates that an AWT/SSOW crediting period must least align with any extension provided to landfill gas methods, and incorporate an extension commensurate with any proposed increase (plus the increase awarded to landfill gas when the AWT extension review was rejected)
b) An alignment (at least with) landfill timeframes with AWT facilities would justify a of 25-year crediting period
c) For the avoidance of doubt, the AWT crediting period must align with the lifecycle of AWT infrastructure assets at ~25-30 years. Council notes that in the longer term, resource recovery and landfill diversion will be become more essential in the absence of growth or capacity in landfills. To sustain the required investment and infrastructure growth to achieve GHG ambitions, a decoupling and / or 'remaking' of the AWT method to landfill gas method baselines may be required to incentivise ongoing investment and operations
d) AWT assets provide a benefit in diverting the balance of residual waste, even in an environment of landfill gas inclining default baselines. Subject to future reviews of 'common practice', AWT assets must continue to receive ACCUs. It is also noted that waste processed by AWTs would always otherwise go to operating landfills
e) AWT projects are not common practice, as seen in the material difference in ACCUs generated by other waste methods versus landfill methods and thus provide a significant business opportunity to advance this infrastructure and incentives such as extended crediting periods are critical for the enduring development of these
f) Under the current crediting period, there is a lack of financial viability over the lifecycle of AWT assets which do not align with ~30-year lifecycle
    a. AWT asset owners often need to purchase / leasing industrial land and make considerable capital investment in processing equipment (~$70m)
    b. Other waste methods compete with landfill for waste, and in an environment where landfill gate fees are still the cheapest option, the financial returns under current market and crediting period conditions are not feasible in the longer term

12. What evidence supports the application of a similar approach to waste diversion methods? (possible crediting period extensions alongside increasing baselines)

The waste transition and associated mandated targets cannot be achieved in the current environment, however, meaningful long-term settings and support would allow for sector growth and abatement outcomes to be achieved in the mid to longer term. The current approach has been detrimental to meaningful private sector investment and growth in the resource recovery sector, as the current and previous regulatory settings have not provided the needed confidence to allow a sustainable 'waste

transition' to occur and encourage investment into waste diversion assets to grow and become profitable over the longer term.

a) AWT assets align closely to the objectives of the Act
b) higher order waste diversion methodologies are more important to the waste sector via avoided emissions as opposed to capturing after emissions have been generated. The noted competition (included within the paper) for waste streams is genuine. This is in an environment where emissions avoidance is considered a priority,
    a. AWT assets compete with landfills for waste at gates
    b. Applying a similar approach to both landfills and AWT assets will 'level the playing field'.
    c. Gate fees in the waste sector are skewed towards lower prices in the landfill sector, making it difficult for waste diversion methods to compete based on higher capex and opex costs (and higher gate fees)
c) We note the volume of ACCUs generated by the landfill sector versus waste diversion sectors:
    i. AWT assets have only produced 4.6m ACCUs (3.19% of total ACCUs)
    ii. Landfill methodology assets have produced 39.589m ACCUs (27.42% of total ACCUs)
    iii. In the absence of AWT and other waste methods, the government would be solely reliant on landfills to capture waste sector emissions.
d) The volume of waste still being disposed of in landfill is a clear example of the opportunity for the waste diversion sectors and government to focus on higher order outcomes and emissions avoidance whilst still maximising capture.
    a. In the last National Waste Report, Australia disposed 23.260 million tonnes (mt) of waste to landfill:
    b. Of the ~23mt, 15.19mt was derived from Construction & Demolition (C&D) and Commercial & Industrial (C&I) waste which is largely biogenic
    c. AWT assets typically generate ~1 x ACCU for each tonne of waste diverted generates 1 x ACCU
    d. There is potential that Australia could utilise ~60+ AWT assets to divert waste from landfill, as opposed to the 11 AWT assets that have generated ACCUs to date
    e. An additional 13-14 million tonnes per annum of CO2-e could be abated if the AWT industry is supported appropriately
    f. Putrescible waste could be diverted in material volumes with the right settings, diverting up to 7.5mt per annum of organic waste from landfill and generated another ~7 million ACCUs and CO2-e savings per annum

We welcome DCCEEW to seek clarification of any part of this submission and that this important reform agenda undertakes thorough consideration of the industry's feedback before the options are finalised and advanced further in the reform process.

NWRIC and its Members are available to discuss any component of this submission.

Yours sincerely

Rick Ralph

Chief Executive Officer National Waste and Recycling Industry Council

Enclosed: NWRIC October 2023 submission to the Department on the Draft Reform Options Paper

NWRIC CONFIDENTIAL OPTIONS PROPOSAL

ACCOUNTING FOR METHANE ABATEMENT

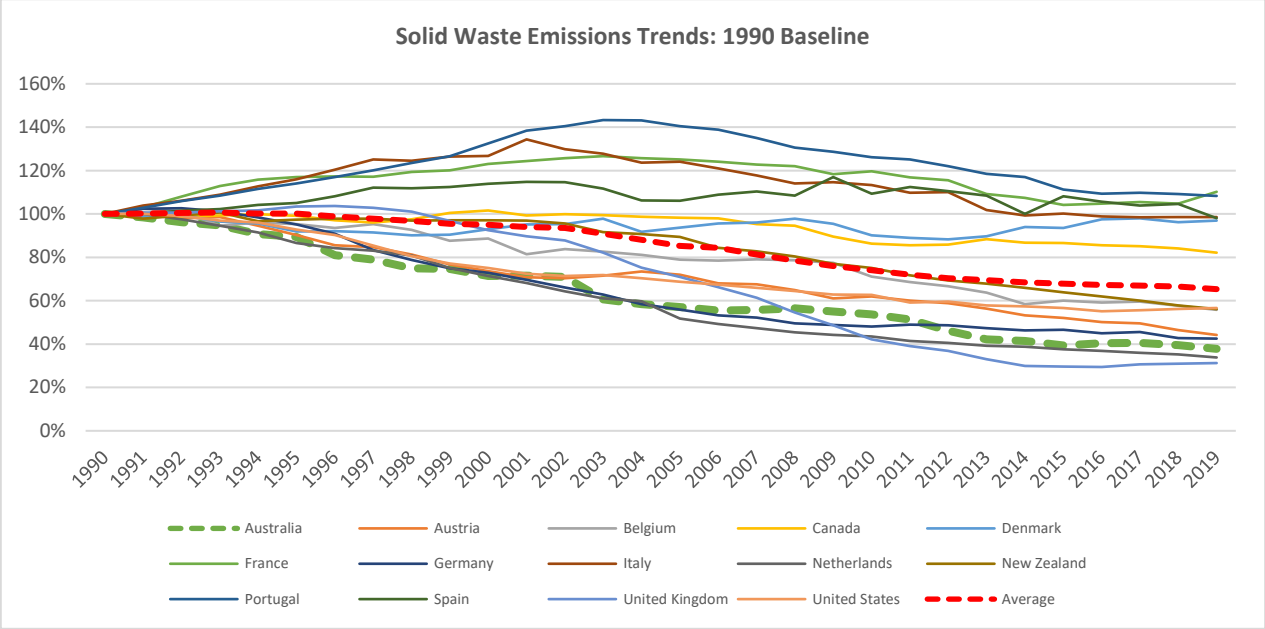
USE BETWEEN TWG INDUSTRY PARTICIPANTS AND THE DEPARTMENT

OCTOBER 2023

CONTENTS

INTRODUCTION

In an international context, Australia should take pride in its emission reduction achievements from the landfill sector – being one of the world's leaders as depicted below. The sector is clearly achieving a high level of success in reducing waste emissions through landfill gas capture because of incentivisation, through the ACCU scheme and its precursors, across time.



Method review options should be considered in this context to ensure that we do not undermine significant and continuing abatement achievements.

Proposals for improved methane measurement, an initial baseline and upward slope that seek to ensure Australia continues as a leader in reducing actual emissions through conservatively incentivising abatement are presented below with explanatory rationale.

ACCOUNTING FOR METHANE ABATEMENT

Option 1	Different projects to use values depending on the characteristics of the landfill or the project. different default methane proportion
Option 2	Introduce a requirement to measure the methane content of landfill gas in the methods.
Option 3	**Introduce a requirement to measure (or back-calculate) the methane content of landfill gas for electricity generation projects but allow for a default factor to be used for flaring-only projects.**

The NWRIC agrees that methane proportion is a key element for the integrity of abatement calculations.

NWRIC advocates option 3 as the most proportionate approach, noting:

- a default factor is a proportionate option for flaring-only projects given their small scale,
- infrared methane analysers are appropriate measurement tools.

Infrared type analysers are used widely across Australian landfill gas projects and are the industry norm globally. This is due to their accuracy levels and quick response times, which are necessary for optimising engine management. In-situ gas chromatography is too slow and expensive to be suitable for use. It is therefore suggested that infrared or technologies with equivalent capabilities be supported.

The Council does not support Option 1 due to its its complexity and uncertainty given the wide variety of landfill performance due to their varying characteristics within any classification (including design, waste character, climate and management), ability to be manipulated by users (noting the sensitivity of characteristics) and measurement tool availability.

Implications for intended actions.

With this view, the work required by the Department and project proponents for action 1.2 will be greatly reduced, being limited to considering the distribution and variance across flaring only projects.

The effort required for determining the pros and cons of options (identified on page 5 of the Briefing paper) should also be simplified by industry accepting measurement for all electricity generation projects.

OPTIONS FOR RE-SETTING BASELINES

Option 1	Reset baselines based on financial viability of projects
Option 2	Review regulatory changes in landfill management guidelines at the state and territory level and use this to reset baselines
Option 3	**Reset baselines based on conservative National Inventory capture rates**
Option 4	New default baselines for key categories of landfills and projects
Option 5	Reset baseline based on the conservative National Inventory capture rates, specify a lower baseline for small/regional projects, and require long term existing projects to use upgrade methodology for determining baselines

The weighted average industry baseline is c.23.7% (not the default 30% of the current method), exceeding regulatory outcomes as these can potentially be met without any active gas capture (as recognised in the briefing paper). ***Any re-setting of baselines must recognise that 23.7% is the current industry average.***

The Council does not support options 1 and 2 for the reasons given in this paper.

Option 5 is not at all suitable. It does not adequately take into account current achievements and would create a perverse incentive for existing facilities to minimise their performance and reduce investment to be able to create upgrade opportunities. It would thereby result in higher emissions and penalise high performing sites as expanded upon below. The upgrade methodology is not a replacement for the default method but a useful complementary method, which is how it is used now.

An option drawing from elements of Options 3 and 4 will be the preferable approach.

Under option 3, a *45% baseline is too high,* given it includes significant incentivised gas capture activity with extensive ACCU Scheme projects (operating to a weighted industry baseline of 23.7%). Industry instead proposes using the National Inventory data as a starting point to establish a simple, justifiable and conservative baseline, by considering capture rates across time and definable incentivised aspects, particularly capture attributable to flaring activity, and comparing against international capture rates.

<u>*An initial baseline in the low-mid 30s is proposed*</u> as appropriate using such analysis as discussed below with, per option 4, a potential exception for smaller and regional sites. This rate would comprise a step change in the near-term baseline across the sector given the current weighted baseline while clearly being conservative, maintaining desirable operational simplicity and reducing perverse emission outcome risks.

Calculating a suitable initial (2026) baseline

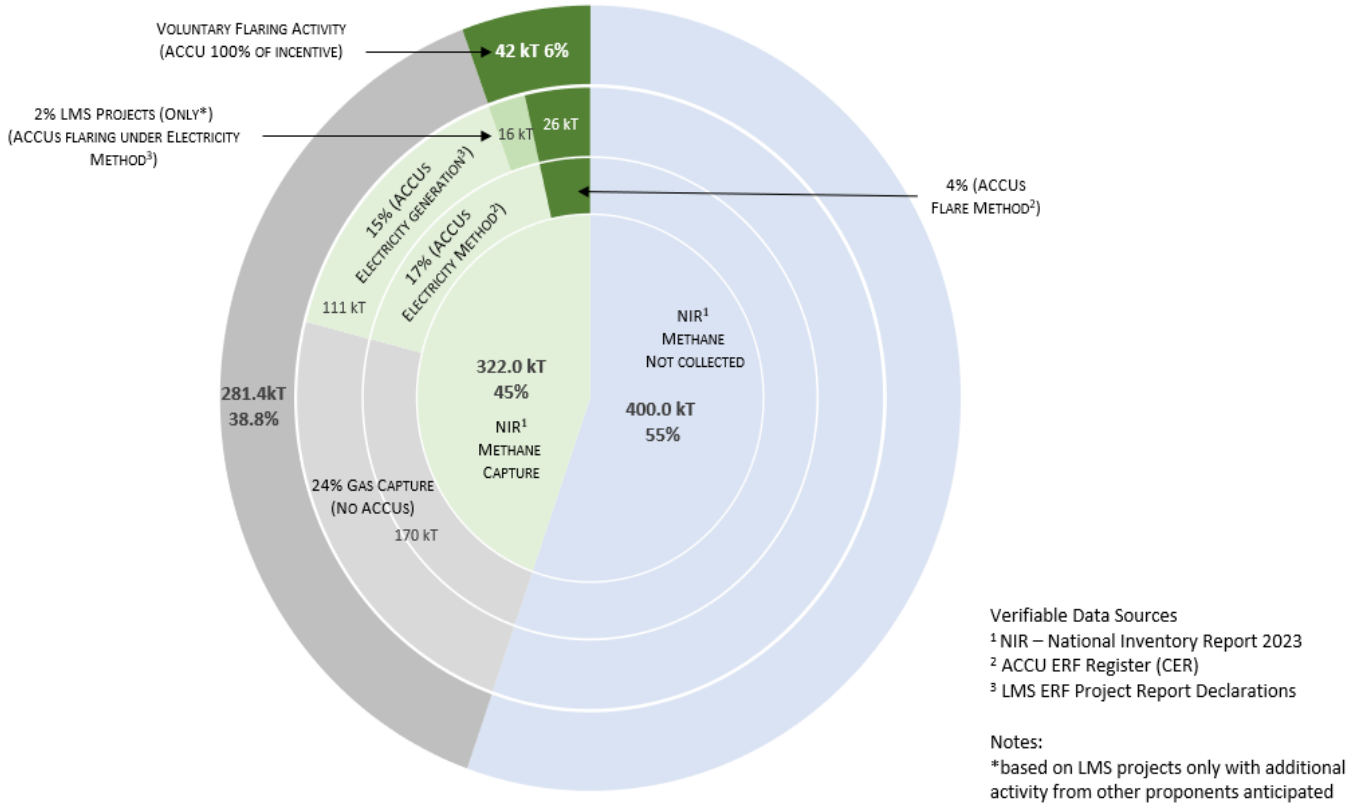
Using flaring to help inform the baseline

Consideration of flaring activity within the National Inventory Data could form a readily measurable and appealingly simple, conservative representation of the proportion of total capture attributable of incentivised activity observing that the only revenue source for flaring is ACCUs – whether as flaring only projects or associated with electricity generation projects – such that they are very unlikely to be established in the absence of ACCU generation.

The diagram depicted shows that:

- The impact when methane capture attributable to all ACCU incentivised flaring only projects is removed from total landfill methane capture (using National Inventory and ERF Registry data).
- Substantial flaring is also voluntarily occurring at electricity generation projects where ACCUs have directly incentivised methane destruction. When the methane destruction from just one NWRIC member's flaring (LMS) from these projects is also subtracted from the National Inventory data, the capture efficiency reduces to under 39%. If this is extrapolated to include all electricity projects in the sector, capture efficiencies would further reduce to around 37%. Actual unincentivised activity (BAU) will therefore be less than that again.

Capture efficiency rates including flaring activities (2021)



Reasonableness relative to international capture efficiencies

Overall capture efficiency rates from National Inventory Data for 13 nations with similar per capita GDP are presented below:

	National Inventory Data 2021 – total CE	Total CE rate less flaring (where data available)
Australia	**45%**	**37-39%** [ND1]
Austria	11%	9%
Belgium	40%	40%[ND]
Canada	35%	16%
Denmark	12%	12%[ND]
France	43%	34%
Germany	46%	46% [ND]
Italy	35%	25%
Netherlands	14%	6%
New Zealand	54%	42%
Portugal	20%	20% [ND]
Spain	23%	16%
UK	55%	50%
USA	57%	57% [ND]
Average CE	34%	29%

Consideration of these international rates shows that a capture efficiency in the low-mid 30s would be comparable to those being achieved internationally with various incentive schemes in place, noting that the average capture rate is 34% and there are large variations in rates reported between individual countries. Flaring reporting is often separately available and reveals that an average capture rate attributable to energy recovery would be less than 29%.

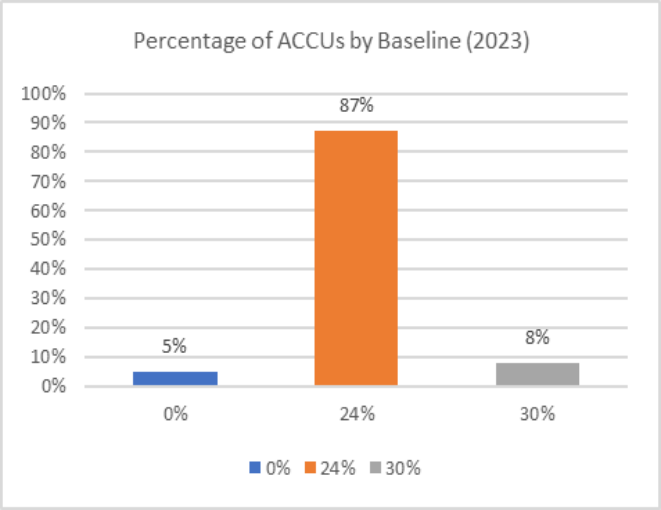
Notably, these findings also confirm that Canada, the most comparable nation to Australia in respect of economic character and geographic considerations, has a total capture efficiency rate of 35% and when flaring is removed this reduces to only 16%.

Care must be taken in seeking to draw too closely from specific numbers vs the general range presented as there are differences in how the data is collected between countries. Australia relies to a great extent on high quality inventory gas collection data while a number of others rely more on methods that may result in artificially high efficiencies. For example, the USA which has the highest CE presented has data collection that it states relies on multiple and conflicting data sources. Similarly, NZ assumes higher default CE and, in recent years, have revised input defaults to significantly lower methane potential of waste in their calculation methods which will materially impact the reported generation and capture rates leading to higher CEs.

The existing baseline and rate of change

As well as using flaring activity and international comparison to reflect conservatively on unincentivised capture described above, it is necessary to consider Australia's current scheme status. Over 90% of the ACCU's generated by LFG projects have a baseline of 24% or less as depicted over the page. Only 8% of ACCUs are derived from projects with a baseline of 30% or above.

[1] ND: No flaring data recorded in UNFCC reports.



Accordingly, the weighted baseline across existing and new projects (ie, 0%, 24% and 30% methods) established from ACCU registry data is 23.7%. Almost doubling this current baseline to 45% would materially impact investment opportunities, meaning that there would be significant reductions in emissions abatement as investment in existing and new project retreats.

A 45% baseline would result in a reduction of close to 1 million ACCUs annually.

The NWRIC proposal to achieve a suitable balance.

Industry seeks an alignment with a conservative consideration of Australia's current capture efficiency (37%) and international averages that include flaring (34%) or without (29%) that takes into account the current scheme status and feasible increasing baselines for investment and innovation.

A 2026 baseline of 33% is proposed as suitable having regard to the above and having regard to an upward sloping baseline to 2050.

With over 90% of ACCUs issued under an existing baseline of 24% or less and a weighted average of 23.7% applying – this substantial headline rise to 33%, would effectively comprise a step change increase of around 40% from the current level (ie, is 140% of the current baseline).

Given its context and the subsequent increases proposed (as discussed below), it defensibly and conservatively caters for incentivised activity.

Smaller and regional landfills

Around Australia, there are many sites that continue to have no active gas capture or that currently cannot feasibly achieve renewable energy generation to maximise capture benefits. A lower baseline for smaller or regional landfills could aid further growth in methane abatement by acting to facilitate projects or improvements that are otherwise non-economic.

Rejection of Option 5

The proposal that long-term existing projects be required to use upgrade methodology to determine baselines would actively and perversely slow methane abatement.

Pursuing this approach would not cater appropriately for the ACCU scheme's significant achievements in maximising gas capture above what would have otherwise been achieved in the absence of the scheme. It will penalise high-performing sites and freeze investment potential at some of Australia's largest and best performing landfill sites.

Council advocates it would create a situation that would drive existing facilities to minimise any investment through to after 2026 (as well as any future review points) to be able to have room to create upgrade opportunities. It would not make economic sense to invest early for a long-term disadvantage.

The concept that higher baselines can drive higher performance (or that static baselines result in underperformance) is flawed. In an upgrade scenario, the margins will be slimmer, resulting in less capital and resources being available for new infrastructure, ongoing maintenance, technology, research and innovation so improvements will slow or cease.

Also, it needs to be noted that in many cases, particularly larger urban landfills, gas production per tonne of waste is reducing over time due to the progressive introduction of food and garden organic recycling opportunities. This means that, as is already the case at a number of the best performing landfills, more investment in landfill gas systems is being required simply to maintain gas collection volumes – ie, an uplift is gas capture volumes may be impossible as there are less organics present per tonne of waste.

Additional considerations

Industry considers the costs and benefits presented in section 4 of the paper need further refinements.

Although acknowledging and working to the drive for an upward sloping baseline, industry strongly disputes the rationale that static baselines can act to discourage technological improvements. Rather, high baselines, can simply make investment margins slimmer or negative resulting in less resources with costs shifted to ratepayers. This will impact the ability to invest in new infrastructure, ongoing maintenance, technology, research and innovation.

In summary:

- a 33% initial revised baseline is proposed with potentially lower rates for smaller and regional landfills.

- the international average capture efficiency with incentivisation is 34% and 29% when flaring is excluded.

- the existing Australian weighted baseline is 23.7% so this would represent a step change in the industry.

- pursuit of an upgrade approach would penalise high-performing sites, freeze investment and result in increased methane emissions

Implications for intended actions

For action 2.1, industry appreciates the calculation methodology used to reach the 45% capture rate and requests that the implications of the removal of flaring activity also be considered with TWG.

Industry considers that provision of additional data on capture rates, segmented by project type, for action 2.2 and international assessments for action 2.3 would involve significant effort by both proponents and the Department for very little to no benefit given the predominant influence of individual landfill design, character and management over scale and other simple characteristics. The simple and justifiable approach proposed for establishing a baseline is recommended.

Actions 2.4 and 2.5 are generally supported for assessment of the treatment of smaller and regional landfills.

The limitations of upgrade project use are discussed above, such that action 2.6 becomes unnecessary.

CREDITING PERIODS AND UPWARD SLOPING BASELINE

Crediting period

Industry welcomes the Department's consideration of investment considerations and Australia's carbon goals.

A crediting period that can ensure continued abatement activities to 2050 is strongly supported by industry as it will provide the investment certainty necessary, whilst clearly aligning with Australia's net zero goals.

Upward sloping baseline

Upward sloping baseline considerations

The Council appreciates that a rising baseline is required as an outcome of the Independent Review of ACCUs.

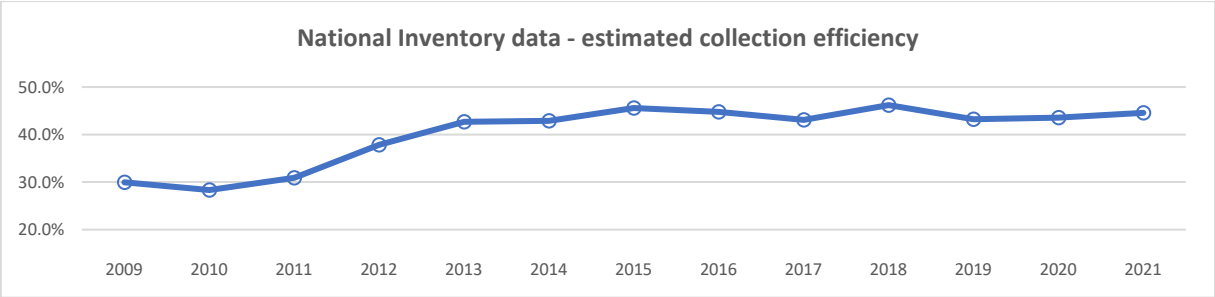
Industry envisages that further improvements will arise from continuing investment and small, evolving innovations. Landfill design and management is also a key influence on potential capture rates. As highlighted in the paper, the ACCU Review's finding that it can be assumed that technological progress is possible does not diminish the need for investment.

A 2050 gas capture rate cannot reasonably be set anywhere close to 95% as such capture efficiencies will not be possible due to:

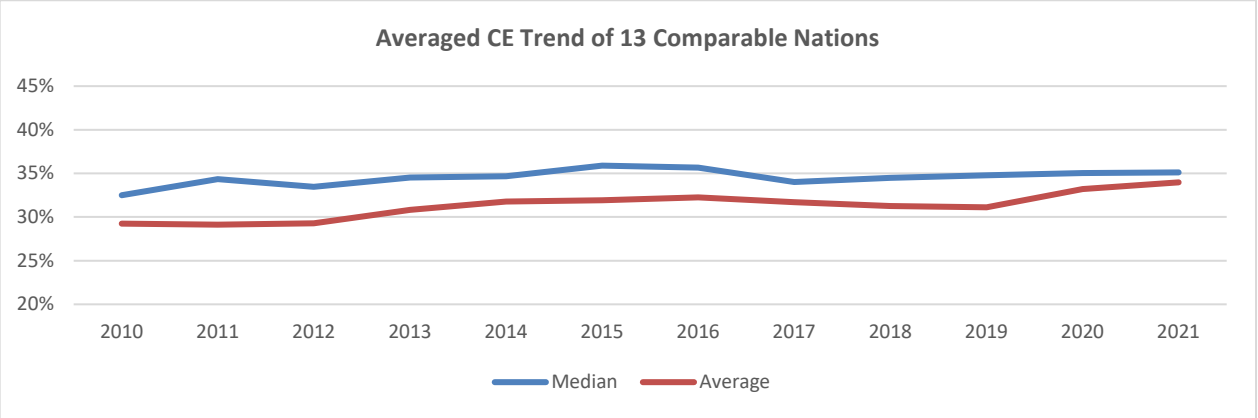
- the physical constraints at various sites limiting maximum capture, sites too small for active gas management in any circumstances, and legacy sites, and
- to achieve and maintain the highest capture rates through ongoing operational and capital investments, a degree of incentivisation remains necessary.

Capture efficiencies over time

In Australia, there was a rapid climb in the overall capture efficiency through the early positive impacts of ACCU incentivisation and, subsequently, this has remained relatively stable, with ACCU incentives, at 43-45% (including all flaring) over the past decade - though continuing increases in overall methane capture tonnages have occurred. This is depicted in the diagram over the page.



The chart depicts the international average capture efficiency over time. Using the 13 countries already reported in this paper over time reveals a comparable pattern of relatively stable capture efficiencies over the past decade.



Domestic and international patterns highlight:

- The introduction of incentives have driven significant increases.
- Smaller increases in capture efficiencies are subsequently the norm.

The NWRIC upward sloping baseline proposal for consideration

The Council proposes a model, (depicted over the page), that considers overarching National Inventory Data across time relative to weighted averages across time and international capture comparisons for a balanced position, with:

- The higher upward sloping line uses BAU with ACCUs (minus flaring) as a reference point for a projected trajectory.
- The lowest upward sloping line uses actual weighted baseline rates to reflect what the sector has worked to and may achieve on a consistent trajectory.
- The middle upward sloping line depicts the proposal as a fair balance between these and having regard to international average and median capture efficiency rates (depicted in the horizontal lines).

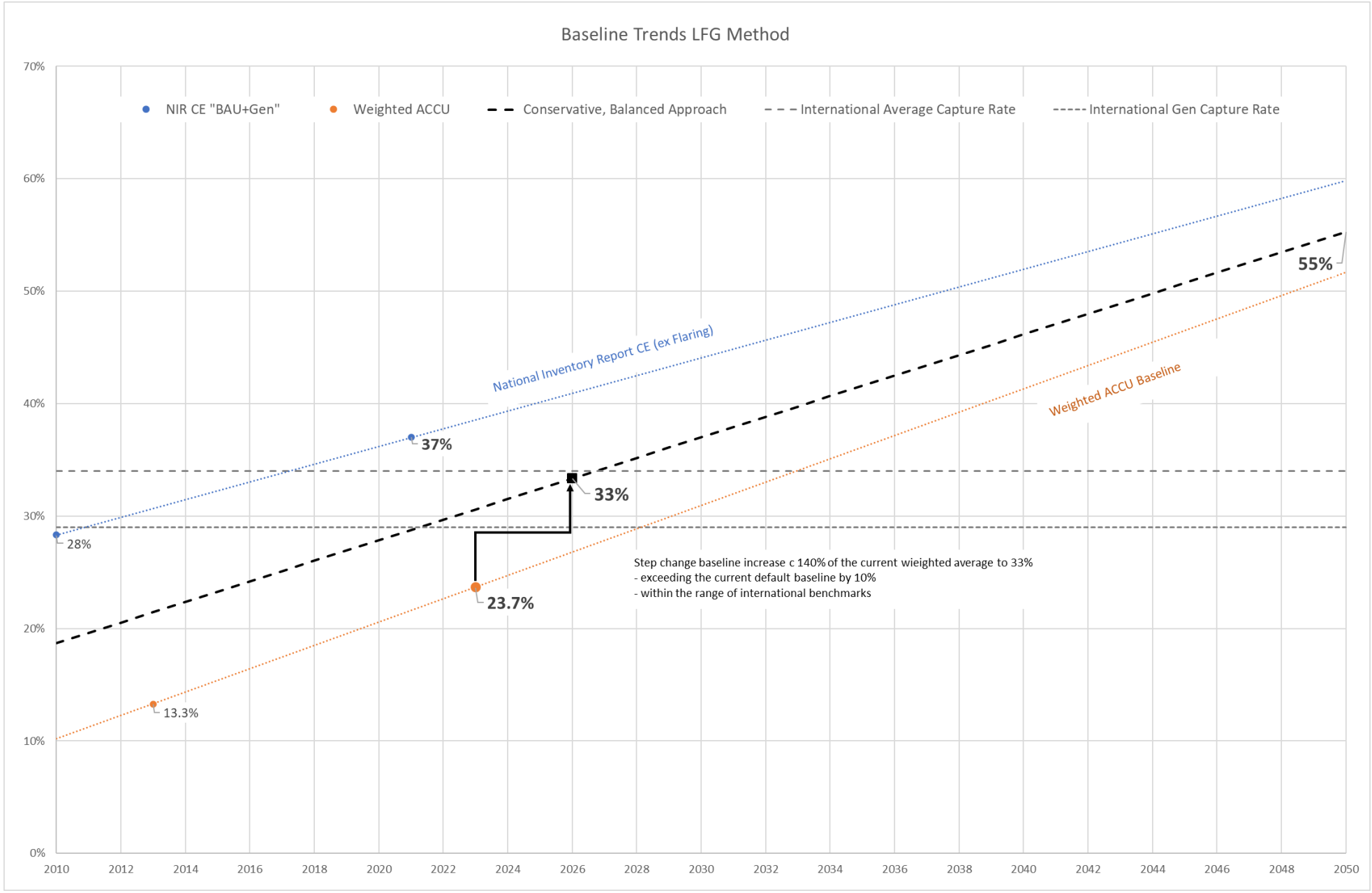
This proposal would see the baseline rise from 33% in 2026 – that is, it begins with the step change described above – rising to 55% by 2050.

Under this proposal, there is a baseline increase significantly higher than has occurred over the past decade. Any steeper trajectory would move too fast for the sector to invest adequately and innovate, meaning it would increase emissions.

The 55% outcome would see Australia's baseline (ie. BAU) align with best-in-class capture rates being achieved internationally (including those likely to be overestimated) and well above the average international rate.

This approach will ensure that total waste sector emissions continue to decline in practice to best support carbon emission reduction goals.

NWRIC
National Waste and Recycling Industry Council



Implications for intended actions

The Council considers that action 3.1 has limited value given the observations made about upgrade projects. If still pursued, it would be necessary to consider the circumstances of upgrade projects have been pursued relative to implications for high-performing sites.

Industry appreciates the rationale for action 3.2 to assess ACCU issuance and has reported above on the decline that would occur immediately with a 45% baseline. The information above provides a proposal for an ambitious but feasible rate of change relative to performance in Australia and internationally over time for action 3.3. It has been established through earlier TWG meetings that progress is anticipated to be driven by investment to support expert management approaches, additional infrastructure and maintenance with incremental innovation rather than any transformative technological change.

SHORT-TERM VOLUNTARY OPTIONS FOR EXISTING PROJECTS

Voluntary options can only be considered alongside gaining long-term certainty of investment considerations. To do otherwise, could risk breaching corporate obligations.

SHORT-TERM INTERACTION WITH SAFEGUARD MECHANISM REQUIREMENTS, CAPTURE EFFICIENCY CEILING & POSSIBLE METHOD DEVELOPMENT TIMEFRAMES

A very small number of very large landfills are likely to become designated as Safeguard Mechanism entities ahead of the review of the inclusion of landfills. If they are captured by the Safeguard Mechanism, industry understands that, under current law, they will remain ineligible for future ERF Projects.

The current Landfill Methods review process is helping to highlight the character of landfill gas character and the barriers faced. It is essential that the current review's timing is aligned to both the Safeguard Mechanism's transitional provisions and the review of the capture efficiency ceiling (75%).

With respect to the Safeguard Mechanism, consideration must be given to captured facilities' potential future ACCU Scheme participation under revised conditions if they are removed from the Safeguard Mechanism.

With respect to the capture efficiency, the timing of the revision should be introduced when the new baseline commence; if the maximum efficiency is not revised as new baselines start, it could result in a perverse outcome of suboptimal gas capture.

National Waste and Recycling Industry Council

Rick Ralph

Chief Executive Officer