

# Collaboration challenges in multidisciplinary audit teams for public sector assurance

Journal of Public  
Budgeting,  
Accounting &  
Financial  
Management

1

Angela Hecimovic

*School of Accounting, Governance and Regulation,  
The University of Sydney Business School, Sydney, Australia*

Received 13 April 2025  
Revised 31 August 2025  
11 September 2025  
18 October 2025  
Accepted 6 November 2025

## Abstract

**Purpose** – This study examines how multidisciplinary audit teams (MATs) collaborate in sustainability assurance engagements, focusing on an Australian government organisation responsible for natural resource management assurance. Specifically, it explores how MATs are resourced, how diverse expertise is integrated and managed, and the collaboration challenges arising from this diversity, as well as their perceived impact on assurance quality.

**Design/methodology/approach** – A qualitative case study approach was undertaken, drawing primarily on semi-structured interviews with multidisciplinary audit team members, including auditors, managers and contractors. Resource diversity theory was applied as a lens to examine how MATs were composed, managed and the collaboration challenges they encountered in assurance practice.

**Findings** – The study highlights that diverse expertise within MATs can enhance assurance quality, but these benefits are contingent on strategic planning, effective communication, and strong leadership. Where engagement was limited and communication unclear, tensions arose that undermined trust, impeded knowledge transfer and restricted collaboration, ultimately diminishing the effectiveness of MATs.

**Research limitations/implications** – The study highlights the importance of structured engagement strategies, robust communication protocols, and leadership development in enabling MATs to realise the benefits of multidisciplinary. By strengthening these areas, organisations (private and public) can improve collaboration, build trust and integrate diverse knowledge more effectively to enhance the quality of sustainability assurance.

**Originality/value** – This study provides rare in-field insights into the collaborative dynamics of MATs in sustainability assurance in the public sector. It identifies the organisational conditions necessary for leveraging multidisciplinary expertise and addresses a significant gap in the literature on the effectiveness of audit team diversity.

**Keywords** Assurance, Audit, Diversity, Collaboration, Multidisciplinary audit team (MAT), Natural resource management (NRM), Sustainability information

**Paper type** Research article

## 1. Introduction

Sustainability reporting and assurance has rapidly progressed from largely voluntary corporate social responsibility disclosures to a regulated domain with significant implications for organisational accountability and stakeholder trust (Sharma and Ray, 2025; Venter and Krasodomska, 2024; Hummel *et al.*, 2019). To meet these demands, the literature highlights the need for multidisciplinary audit teams (MATs) that integrate financial assurance auditors with experts in fields such as engineering, law and climate science, particularly given the technical complexity and interdisciplinary nature of sustainability topics (Ekasingh *et al.*, 2025; Velte, 2025; Kim *et al.*, 2016; Parker and Northcott, 2016). In Australia, the introduction of mandatory climate-related disclosures from 1 January 2025, alongside a phased approach to independent assurance, marks a generational shift that motivates the need to understand how MATs collaborate in practice to deliver credible sustainability assurance (Sharma and Ray, 2025;



© Angela Hecimovic. Published by Emerald Publishing Limited. This article is published under the Creative Commons Attribution (CC BY 4.0) licence. Anyone may reproduce, distribute, translate and create derivative works of this article (for both commercial and non-commercial purposes), subject to full attribution to the original publication and authors. The full terms of this licence may be seen at [Link to the terms of the CC BY 4.0 licence](#).

Journal of Public Budgeting, Accounting  
& Financial Management  
Vol. 38 No. 6, 2026  
pp. 1-19  
Emerald Publishing Limited  
e-ISSN: 1945-1814  
p-ISSN: 1096-3367  
DOI 10.1108/JPBAFM-04-2025-0098

Velte, 2025; KPMG, 2024; Venter and Krasodomska, 2024; Venter and van Eck, 2021). While existing assurance standard ISA 620 *Using the Work of an Auditor's Expert* provide some guidance for utilising external experts in audit engagement teams, the guidance is limited to addressing the lead auditor's responsibilities in assessing the capabilities, competencies and objectivity of experts utilised, and stops short of providing detailed guidance on how experts from diverse fields (e.g. legal, environmental, actuarial) should be managed and integrated into MATs to ensure seamless collaboration and effective communication (as opposed to ad hoc use of experts). The global *International Standard on Sustainability Assurance* ISSA5000 (Australian equivalent, ASSA5000) promises to standardise reporting and assurance practice (effective December 2026), and assist in addressing MAT tensions arising from divergent professional norms, communication barriers and unclear delineation of roles, which can undermine quality of sustainability assurance engagements.

Understanding how MATs collaborate in practice to deliver quality (i.e. credible and efficient) assurance over sustainability information is particularly critical for natural resource disclosures (the next mandatory subject matter area after climate-related disclosures), which demand specialised knowledge and present unique risks not typically encountered in traditional financial statement audits, such as verifying sustainability data from ecological models monitoring soil health and biodiversity indices (Ekasingh *et al.*, 2025; Lu *et al.*, 2023; Serrao-Neumann *et al.*, 2019; Hossain *et al.*, 2017; Vella *et al.*, 2015). While the importance of audit quality has been widely debated in financial audits, how collaboration within MATs directly affects sustainability assurance quality in this context is underexplored with calls for more field empirics (Amel-Zadeh and Tang, 2025; Ekasingh *et al.*, 2019, 2025; Zhou *et al.*, 2016; Simnett *et al.*, 2009, 2022). Prior studies (Farooq *et al.*, 2024; Boiral *et al.*, 2020; Channuntapipat *et al.*, 2019) tend to focus on the classification and comparison of two assurance providers, the accountants (mainly the Big Four) and non-accountants (such as consultants/engineers) in separate teams. A recent exception is Ekasingh *et al.*'s (2025) experimental study, which compared functional teams (where auditors and technical experts work sequentially) with integrated teams (collaborating throughout the engagement), finding that integrated teams deliver higher quality assurance. In contrast, this study explored how people from different disciplines worked together in the same audit team, each drawing on their disciplinary knowledge (e.g. accounting and assurance, law, engineering, science) to explore how MATs collaborate in practice when assuring sustainability-related information, with a particular focus on the public sector context of natural resource management (NRM) assurance.

The study is based on a qualitative case study of an Australian public sector audit body, hereafter referred to as VERDA, which has a legislative mandate to audit NRM performance. VERDA's context offers a unique opportunity to observe how MATs function under real legislative and technical constraints. Over three years, data were collected from seventeen semi-structured interviews with internal staff, financial auditors and external experts, as well as evidence from internal audit working papers. The study uses resource diversity theory (Fiedler, 1986; van Knippenberg *et al.*, 2004) as a lens to understand how MATs are resourced, how diverse expertise is integrated, how they are managed and the collaboration challenges arising from this diversity.

The findings show that while resource diversity within MATs has clear potential to strengthen assurance quality, this benefit is not automatic. Collaboration is frequently hindered by differences in epistemological assumptions, interpretation of evidence and communication styles. Without careful team design, role clarity and shared objectives, MATs can become disconnected groups of "specialists" rather than cohesive units. This can compromise assurance quality, even in teams that are technically well resourced. Conversely, when trust, mutual understanding and structured communication and management are in place, MATs can deliver high-quality assurance that is both credible and contextually informed.

By drawing lessons from VERDA's experience, this paper informs the ongoing implementation of sustainability assurance standards and highlights that realising the

promise of high-quality sustainability assurance hinges as much on human interaction and governance as on technical compliance with assurance standards. It also suggests in the VERDA case that having a mandate is one thing, but operationalising any legislation into practice is challenging.

Our findings contribute to the literature in several ways. First, it offers rare empirical insight into how assurance unfolds in practice, particularly in a legislated public sector context where sustainability assurance is already mandated. Moving beyond the normative “*need for experts*” to illuminate how multidisciplinary synergies are mobilised (or constrained) on the ground, reiterates the calls for more robust assurance guidance. Existing research has largely focused on the choice of assurance provider or the credibility of sustainability assurance at the macro level (e.g. [Velte, 2025](#); [Venter and Krasodomska, 2024](#); [Krasodomska et al., 2021](#); [O’Dwyer et al., 2011](#)); however, the internal functioning of MATs, particularly in the complex public sector context, has received scant empirical attention, at a time when they too (like listed companies) will be required to follow ISSA/ASSA5000 sustainability assurance mandate. Second, this study extends resource diversity theory in audit research by demonstrating that the positive effects of diverse knowledge depend heavily on the conditions under which that knowledge is shared, managed and applied. Third, it engages critically with the promise of standards such as ISSA/ASSA 5000, showing that technical compliance must be accompanied by organisational and relational strategies to support collaboration.

Our findings also provide important contributions to assurance practice. They offer practical lessons for audit firms, regulators, and standard setters by identifying the factors that enable or hinder effective multidisciplinary teamwork, including the importance of shared language, interpersonal trust and deliberate management and knowledge integration. While much of the emerging literature (e.g. [Velte, 2025](#); [Venter and Krasodomska, 2024](#)) has examined the determinants of assurance provider choice and the credibility of sustainability assurance more broadly, few studies have investigated the actual collaboration processes and challenges faced when diverse skillsets, such as environmental scientists, hydrologists and financial auditors, work together within the same assurance team. Although it may be premature to evaluate assurance engagement teams working on climate-related disclosures under the new global/Australian assurance standards, VERDA’s mandate to audit NRM provides valuable insights into how effective multidisciplinary teams can be built to deliver high-quality sustainability assurance in practice.

The paper is structured as follows: [Section 2](#) reviews prior literature and presents the theoretical lens. [Section 3](#) outlines the case background, while [Section 4](#) presents the research method. Findings are presented in [Section 5](#) and discussed further in [Section 6](#). [Section 7](#) concludes the study with implications, limitations and directions for future research.

## 2. Literature review and theoretical lens

### 2.1 Literature review

The development of sustainability reporting from voluntary disclosures to regulated frameworks has intensified expectations for robust, credible, and decision-useful information ([Venter and Krasodomska, 2024](#); [Velte, 2025](#)). The emergence of global standards such as the IFRS Sustainability Disclosure Standards, IFRS S1 and IFRS S2, alongside the European Sustainability Reporting Standards (ESRS), reflects growing international convergence in sustainability reporting and assurance requirements. While these frameworks aim to strengthen transparency and accountability, the assurance of such disclosures remains a contested area. Although assurance coverage has expanded, concerns persist regarding the consistency, methodological rigour, and competence of assurance providers ([Sharma and Ray, 2025](#); [Channuntapipat et al., 2019](#)). [Venter and Krasodomska \(2024\)](#) emphasise that despite progress in standard setting, there is limited empirical insight into how assurance quality is achieved through the internal interactions within assurance teams.

Much of the existing literature focuses on the determinants of assurance provision, such as firm size, stakeholder pressure, or governance characteristics (Velte, 2025), literature reviews on sustainability assurance (Velte, 2025; Zhou *et al.*, 2025; Farooq *et al.*, 2024; Venter and Krasodomka, 2024; Simnett *et al.*, 2022) or it examines macro-level legitimacy and credibility outcomes (Boiral *et al.*, 2020). These studies highlight the importance of assurance but offer little understanding of how assurance is produced in practice. Given the technical complexity and interdisciplinary nature of environmental, social and governance (ESG) topics, recent work stresses the need for collaborative MATs that combine financial auditors with domain experts in environmental science, engineering and law (Amel-Zadeh and Tang, 2025; Ekasingh *et al.*, 2025; Sharma and Ray, 2025; van Brenk *et al.*, 2020; Parker and Northcott, 2016; Parker *et al.*, 2008). Several studies suggest that integrating such diverse expertise is fraught with challenges, including epistemological tensions, professional identity conflicts and communication breakdowns (Ekasingh *et al.*, 2025; Velte, 2025; Parker and Northcott, 2016; Channuntapipat *et al.*, 2019), and this study provides further evidence of these challenges.

The focus of Velte (2025) on the determinants and consequences of sustainability assurance provider choice, particularly the dominance of Big Four audit firms, represents an important stream of emerging literature that largely adopts an empirical quantitative and archival approach. Velte's literature review synthesises 52 studies to evaluate governance, financial and sustainability-related drivers of assurance provider selection, questioning whether professional accountants or alternative external parties are more suitable providers of sustainability assurance, and whether the choice of provider affects financial or sustainability outcomes. Similarly, within the greenhouse gas context, Ekasingh *et al.* (2025) found that integrated teams, where auditors and technical experts collaborate throughout the engagement, deliver higher quality assurance, particularly in identifying complex technical issues. As emerging research advances, it remains crucial to understand how MATs are structured and operate. Key gaps include how teams are selected, what drives provider choice and how lessons from past engagements inform future work. The internal dynamics of MATs, including how expertise is integrated, how roles are understood and how communication is managed, remain underexplored despite their perceived importance to assurance quality.

This study responds to the above gaps by shifting the focus from provider-level determinants to the internal functioning of MATs. It responds to calls for deeper empirical insight from the field into how teams collaborate, integrate expertise, and resolve tensions during assurance engagements (Ekasingh *et al.*, 2019, 2025; Zhou *et al.*, 2025; Velte, 2025; Channuntapipat *et al.*, 2019; Boiral *et al.*, 2020; Che and Svanström, 2019). While assurance standards such as ISA 620 acknowledge the role of experts throughout various stages of an assurance engagement, they offer limited operational guidance on inter-professional collaboration of diverse experts within the same assurance team, for the duration of the assurance engagement. The global ISSA 5000 assurance standard represents progress by explicitly recognising the need for diverse expertise and opening assurance to non-accountants within the same MATs. However, as Velte (2025) notes, ISSA 5000 remains principles-based and silent on the operational mechanisms through which effective MATs are built and maintained. This is especially problematic in technically complex domains such as biodiversity and NRM, where subject matter knowledge is both localised and deeply specialised (van Brenk *et al.*, 2020). Cordery and Hay's (2025) study demonstrates that audit quality in public sector contexts depends on purposeful team coordination, where diverse skillsets are not only present but deliberately integrated. Questions such as how teams are assembled, what skills and experiences are prioritised, how members come to understand each other's roles, or how communication issues and trust are navigated, are critical to improving assurance quality yet remain under-theorised in current research.

The case study of VERDA, a public audit organisation mandated to assure NRM (ANAO, 2023), provides a rare opportunity to explore how MATs function in practice under real-world constraints. In contrast to the literature-based approaches of Velte (2025) and Venter and

Krasodomska (2024), this study uses a qualitative design, drawing on field interview data to explore how expertise is assembled, roles negotiated, and collaboration enabled or constrained in practice.

While Velte (2025) explores provider-level selection as a voluntary management decision, the VERDA setting involves mandatory assurance of natural resources. The case illuminates the operational realities of sustainability assurance in a context where provider choice is constrained, and the success of the engagement depends heavily on team functioning. This distinction is crucial for understanding how the effectiveness of assurance depends not only on who delivers it, but on how multidisciplinary collaboration is fostered throughout the assurance engagement. In high stakes, technically complex audits, the quality of assurance hinges not just on the presence of experts, but on their ability to work together effectively (Sharma and Ray, 2025; Velte, 2025; Persellin *et al.*, 2015). This study also unpacks the mechanisms of collaboration, showing how trust, shared language and deliberate knowledge integration shaped NRM assurance.

## 2.2 Theoretical lens

We explore issues in the context of MATs to understand how audit (accounting) experts and subject matter experts work together in the field. The use of resource diversity theory (Fiedler, 1986) can shed light on how differences in knowledge, expertise and perspectives promote higher quality, and more innovative outcomes (van Knippenberg and Schippers, 2007). RDT provides a framework for the way in which diverse disciplines (such as accounting, science and law) with different frames of reference, language and interpretation of information can work together to solve problems (Murphy *et al.*, 1992; Fiedler and Garcia, 1987). This framework is particularly relevant in sustainability assurance, where collaboration among professionals from distinct disciplinary and functional backgrounds, such as accounting, science and law is deemed essential. However, such diversity introduces practical challenges, including misaligned frames of reference, disciplinary language barriers, and divergent interpretive logics (van Ginkel and van Knippenberg, 2008; Ainsworth, 2006). Effective collaboration depends not only on diversity itself, but on the team's ability to manage it productively (Channunpipat *et al.*, 2019; van Ginkel and van Knippenberg, 2008; van Der Vegt and Bunderson, 2005; Cox, 1993).

RDT has been applied across various domains, and predominantly in healthcare research, where multidisciplinary teams combine specialised knowledge to develop patient treatment plans (Fay *et al.*, 2006). While healthcare MATs often share a common disciplinary (i.e. medical) foundation, the MATs in this study draw from functionally diverse fields, creating broader knowledge bases but also greater potential for coordination challenges. Our context aligns with Horwitz's (2005) findings that functional diversity can improve team performance and innovation, yet only when members effectively share, interpret and apply their expertise (Pieterse *et al.*, 2011).

Van Knippenberg and Schippers (2007) argue that the benefits of diversity are contingent upon a team's openness to different perspectives and its capacity for reflection and integration. These elements mirror the concept of "transdisciplinarity", in which members develop shared understanding and new knowledge. However, unlike transdisciplinary teams, multidisciplinary teams maintain disciplinary boundaries while working towards common goals (Burritt and Tingey-Holyoak, 2012). In applying such RDT concepts to analyse the interview data and case setting, we were also indirectly exploring whether team diversity contributed to assurance quality and what factors drive better collaboration.

## 3. The case background

NRM involves sustainable management of land, water, soil, flora and fauna, focusing on present and future well-being (Lockwood *et al.*, 2010). Its complexity arises from integrating

ecological, hydrological, climatic and geographical factors (Hajkowicz, 2009), alongside balancing diverse stakeholder interests, including landowners, governments, NGOs, and developers (Serrao-Neumann *et al.*, 2019). In Australia, the National Landcare Program coordinates federal NRM investments through 54 regional bodies, each guided by a community-informed NRM Plan. These regional efforts are governed by the Environment Protection and Biodiversity Conservation Act 1999 and monitored using the Monitoring, Evaluation, Reporting and Improvement (MERI) framework, which some suggest is challenging due to inconsistencies in NRM evidence evaluations and competing complex stakeholder priorities (Ford *et al.*, 2023; DCCEEW, 2022; Hallett *et al.*, 2016; Pearson, 2014).

The case study site VERDA, a state public sector organisation, was specifically set up by the Australian Government to independently audit regional NRM Plans to evaluate compliance with statewide standards and performance targets mandated by NRM legislation (NRM Regions Australia, 2025). The data collection period (2014–2017) aligns with VERDA's establishment and early implementation of mandated assurance for NRM programs, representing one of the first instances of legislated public sector sustainability assurance in Australia. This period is analytically significant because it captures the formative stage during which assurance practices, governance structures and team dynamics and the use of MATs were still emerging. Despite their legislative mandate, the specifics of conducting and reporting audits are not prescribed, prompting VERDA to develop its own *NRM Audit Standard* (see Section 4 below). This audit framework, informed by international and national assurance standards, operationalised VERDA's auditing role, which aimed to provide consistent guidance for conducting audits across regions (see Hecimovic and Martinov-Bennie, 2023; Martinov-Bennie and Hecimovic, 2010).

NRM assurance is evolving, with prior research focusing primarily on regional reporting, governance and adaptive learning (Vella *et al.*, 2015; Curtis and Lefroy, 2010). Current Australian auditing standards, ASAE 3000 and 3,500, guide auditors' responsibilities concerning material risks but offer limited practical guidance on collaborative practices within MATs. These standards are set to be replaced by ISSA/ASSA 5000 from January 2026, reflecting ongoing developments in sustainability assurance practice.

#### 4. Research method

This exploratory study (*Ethics Approval No.5201100574*) employs a single case study method focusing on VERDA, an independent public sector organisation in Australia tasked with delivering the first legislated audits of regional NRM performance. VERDA's team of 14 staff, including NRM analysts, environmental consultants, scientists, ex-financial auditors, engineers and administration staff, operates under the governance of the VERDA Board. The Board, comprising a CEO, chair and three directors, follows a unique collaborative approach, facilitating access to experts in financial auditing, agriculture, and environmental science. VERDA assesses both compliance with its own *Best Practice Standard* and performance against statewide *NRM targets*, using a dual audit model tailored to the regionally devolved and stakeholder-driven structure of Australian NRM.

Due to the lack of formal guidance on how to operationalise these first-time NRM audits (both compliance and performance aspects), VERDA created a bespoke *NRM Audit Standard*, drawing on relevant national and international assurance standards such as International Standard on Assurance Engagements (ISAE) 3,000/3,500. VERDA implemented an adaptive management approach, delivering audits in two phases. Phase 1 served as a live pilot to evaluate audit design and team functionality. Lessons from this phase informed refinements in Phase 2, including more strategic team composition, improved engagement protocols and enhanced documentation of insights. This iterative process was designed to ensure transparency, rigour and ongoing quality improvement, especially considering the Australian Government's annual funding of \$280 million into regional NRM projects (Commonwealth of Australia, 2023).

Data analysed in this study predominantly relates to semi-structured interviews conducted with 17 participants either in the field (e.g. NSW Hunter region) or in the case site offices (see [Table 1](#)), over a three-year period from 2014. The average duration of interviews was 36 min. While the sample includes 17 interviews (9 from the VERDA case site plus 8 outside experts/consultants), it is deemed appropriate for exploratory qualitative research aimed at depth over breadth ([Lodhia, 2019](#)). The sample was strategically selected to include key individuals involved in MAT formation, execution and oversight, and was complemented with data from internal audit working papers (AWP).

Interview questions were non-directional and posed in a climate of uncertainty, acknowledging that the case site was also learning in real time. Given the limited qualitative research on MATs in public sector NRM assurance, the study adopted an exploratory approach, as the researcher was provided the opportunity to go into the field, on audits, so the interview questions were loosely informed by existing sustainability assurance literature and then grouped into the core themes post interviews as summarised in [Table 2](#). These themes were subsequently utilised to frame the findings (see [Section 5](#)).

As part of its journey to conduct these NRM audits for the first time, VERDA adopted an adaptive management approach, that is, a structured iterative process of “*learning by doing*” to ensure audit quality while adding value to VERDA by “*extending its NRM knowledge*” (AWP). VERDA’s CEO championed the decision to conduct NRM audits in two phases, noting that: “*audit debriefs are a valuable way of celebrating our successes and learning from our mistakes*”. Consistent with its adaptive management philosophy, lessons from Phase 1 informed Phase 2 including: “*the importance of having detailed understanding of the auditees, need for a team of people with the right skillset to do the audits, documenting lessons formally and the benefits of a high performing team that knows the subject matter to create amazing insights and innovation in NRM thinking*” (CEO).

## 5. Findings

### 5.1 MAT design and resourcing

In responding to the challenge of assuring sustainability-related information in the complex domain of NRM, VERDA leadership recognised from the outset that traditional audit teams

**Table 1.** Coding of data

Data source	Abbreviation code	Legend	
<i>Interviewees/Meeting Discussions</i>	CEO	VERDA CEO	
	CHAIR	VERDA Chairperson	
	D1	VERDA Director 1	
	D2	VERDA Director 2	
	D3	VERDA Director 3	
	AE	Independent Audit Expert	
	PM1	VERDA Project Manager Phase 1	
	PM2	VERDA Project Manager Phase 2	
	TL1	Lead Audit Team Leader 1	
	TL2	Lead Audit Team Leader 2	
	TL3	Lead Audit Team Leader 3	
	TL4	Lead Audit Team Leader 4	
	TL5	Lead Audit Team Leader 5	
	ATM1	Audit Team Member 1	
	ATM2	Audit Team Member 2	
	Internal Document	A1	VERDA NRM Analyst 1
		A2	VERDA NRM Analyst 2
	AWP	Audit working paper	

**Table 2.** Interview questions

Themes	Interview questions
MAT design and resourcing	<i>How did you determine the required composition of MAT? What were the key criteria and processes used during tendering to select MAT members?</i>
Expertise and role integration	<i>What specific skills/expertise did each member bring to the MAT? How did team members understand and interpret each other’s roles within the assurance engagement?</i>
MAT management	<i>How were the MATs managed and coordinated throughout the audit process? What challenges arose in terms of team diversity, interpersonal trust or communication, both within and between teams?</i>
MAT learning and improvement	<i>What lessons were learned from Phase 1 of the audits? How were these lessons applied to Phase 2 audits?</i>

would not suffice. Both VERDA management and its Board were aware that NRM accountability (refers to the allocation and acceptance of responsibility for NRM decisions) required not only NRM knowledge but a broad range of complementary expertise to conduct its NRM audits, as illustrated by interviewee A1 “... *audit team requires members with clear understanding of how individual actions impact across all natural resources*”. Yet this awareness was accompanied by significant uncertainty: “*we did not know how we were going to do audits but we knew we needed number of experts from various disciplinary backgrounds to form the team structure* (A2). The CEO emphasised the stakes: ‘*if we are going to look credible, it’s an important function [audit] and we have to get the mix of skills and knowledge right within the audit team*’.”

Faced with limited internal audit capability, VERDA turned to external expertise, launching a formal tender process to ensure contracted audit providers’ MATs had a diverse range of expertise and could deliver the appropriate mix of knowledge and skills to assist with its NRM audits. VERDA designed specific NRM audit selection criteria for the tendering process (see Table 3). The selection criteria evolved across the two audit phases, initially focused on team experience and understanding of the task and NRM projects, and later refined to emphasise familiarity with the auditees and the audit regions. These changes reflected a shift from technical credentials alone to valuing contextual insight. For instance, strong tenders showcased a “*clear understanding of scope and capacity to meet VERDA expectations and timeframe, appreciation of technical difficulty, [with] NRM experts shown and explained on team proposal*” (PM1). In contrast, poorly rated bids failed to demonstrate NRM knowledge or an appreciation for VERDA’s collaborative model: “... *unclear if they have NRM experience ... audit team displayed pure ‘audit’ focus but no specific NRM specialists*” (PM1). The relatively high importance of the selection criteria focusing on “*experience of the*

**Table 3.** Multidisciplinary audit team selection criteria

Phase 1 NRM audits	Phase 2 NRM audits
1. Experience of individual team member	1. Experience of individual team member
2. Understanding of the audit task	2. Experience of the audit provider*
3. Experience of the audit provider*	2. Experience of working with auditee*
3. Experience working with auditee*	3. Understanding of the audit task
4. Working with VERDA	4. Working with VERDA
5. Availability	5. Availability
6. Cost (25%)	6. Cost (25%)

**Note(s):** \*same number reference denotes criteria with equal weighting rating

*audit team members*” aligns with the financial audit literature evidence that “*knowledge of the audit team*” is key for promoting assurance quality (Kilgore *et al.*, 2011, p. 255). The resourcing of MAT members with more NRM specialists was deemed post audits by PM2 as “*most valuable as they best demonstrated how NRM conditions change over time, how they should be assessed against the standard [VERDA’s NRM Standard]*”.

To undertake the initial audits, three contractors were selected and engaged. The three successful contractors selected for Phase 1 were responsible for assembling and ensuring the appropriate composition of their individual MATs. VERDA’s three MATs, comprised of significant diversity of expertise (see Table 4), including experience in project management (PM1/2), systems audit (TL2), financial audit (PM1, D3, A1), scientific/environmental audit (TL3), field-specific and local generalist NRM expertise (TL1) and government audits (A2). Whilst team literature indicates that a broader range of expertise fosters a positive relationship for actual work group performance (Horwitz, 2005; Jehn *et al.*, 1999), in our case, this was influenced by the specific mix of expertise within each of the three MATs, which varied (see Table 4). While each MAT varied in composition, all were led by a dedicated contractor appointed lead auditor and supported by a VERDA staff member with oversight responsibilities, while Teams 1 and 3 demonstrated particularly strong performance audit capabilities.

### 5.2 Expertise and role integration

Collaboration in MATs was not just about combining skills but about integrating fundamentally different ways of knowing. VERDA’s contracting model moved beyond the transactional to a model where shared responsibility and continuous interaction were central. As PM1 noted:

while assurance skills are being sought, it is the knowledge and understanding of natural resource management that is seen to be adding the real value . . . and this can only occur if we are teamed together . . . it’s a totally different contracting model to what we were used to in public sector audits.

**Table 4.** Multidisciplinary audit team composition and areas of expertise

Phase 1 NRM audit teams	Expertise	Phase 2 NRM audit teams	Expertise
VERDA Project Manager	Audit/accounting, environmental assurance, internal audit, project management	VERDA Project Manager	Risk management, project management, law
Lead Auditor Team 1	Project management, NRM evaluation, performance audits	Lead Auditor Team 4	Scientist, environmental assurance, project management, GHG assurance
Other Members Team 1 (6 members)	Systems audits, financial audits, NRM evaluation, corporate governance, performance audits	Other Members Team 4 (7 members)	Systems audits, NRM evaluation, scientist, GHG audits, accounting, IT specialist
Lead Auditor Team 2	Performance audits, law	Lead Auditor Team 5	NRM evaluation, ecologist
Other Members Team 2 (5 members)	Systems audits, water and government environmental audits, internal audits, accounting, NRM evaluation	Other Members Team 5 (6 members)	Systems audits, water audits, accounting, NRM evaluation
Lead Auditor Team 3	NRM evaluation, environmental scientist		
Other Members Team 3 (5 members)	Systems audits, NRM evaluation, law, performance audits		

Not surprisingly, MAT teams were composed of intentional diversity (see Table 4) including auditors, scientists, NRM evaluators, anthropologists, legal experts and IT specialists, each contributing to collective assurance outcomes. For instance, NRM projects (under evaluation) in one region, such as clearing vegetation from hillsides, and allowing stock direct access to creeks, can increase productivity, but they may also give rise to gully erosion, a judgment that TL5 noted was possible due to having MAT members with diverse NRM and scientific expertise.

The importance of utilising the diverse expertise each MAT member brings to the team, whilst trying to reach consensus in assessing the performance of NRM projects is further illustrated here. As D1 explained, *“commercial audit thinking and specialised skillsets are contracted in to form the audit teams [by VERDA] as we work towards a collaborative development between a mix of specialists in the audit team driving the audit process”*. This diversity enabled a rich exchange of ideas: *“... we would go round and round listening to everyone’s perspective from judgments on evidence to risk assessments on soil health”* (TL1). However, these same differences often posed challenges to integration and cooperation: *“given our different backgrounds there was always someone saying ‘Oh... you didn’t do it this way”* (TL1) and others such as ATM2 with internal audit experience were criticised for their *“preoccupation with providing NRM compliance advice to regions”* against the NRM Standard (AWP), rather than meeting VERDA’s legislative audit requirement (noted AE).

At times, methodological differences became apparent. The different frames of reference between various MAT members were also evident in VERDA’s audit debriefs: *“on one hand auditors from a financial background come in here and they are truly fixed on every word... everything is locked in”* (A1). By contrast, auditors with scientific training and a skill of bringing a hypothesis-driven, iterative approach to assurance work rather than the rule-based rigidity of financial auditors, stressed that their *“fundamental scientific process is to put your hypothesis up, check it, change it”* (ATM2) when examining evidence. Following Phase 1 audits, VERDA directors identified key lessons for Phase 2 audits including *“better communication channels between and within audit teams”*, more time dedicated to *“understanding the audit context”* and *“understanding the skillsets of the audit team”* (D1). These contrasts tested the capacity of MATs to operate as cohesive units, raising questions about the extent to which these teams resembled traditional audit teams. The hybrid structure prompted collaboration, but also demanded constant negotiation of roles, perspectives and evaluative approaches.

The MATs combined diverse disciplinary skills, drawing together financial auditors, NRM experts and VERDA staff with project management and governance expertise. This mix offered breadth of knowledge, but it also revealed differences in how members understood one another’s roles and contributions. In Phase 1, team composition deliberately paired assurance and NRM expertise. However, as one external contractor observed, this structure left gaps in contextual knowledge:

the external arrangement was to have an NRM expert and an audit/assurance expertise and what is missing in that is the audit expertise in the business of understanding the regions. You have got high level understanding but not necessarily business understanding. (TL1)

This mismatch underscored that formal disciplinary expertise alone was insufficient. Regional insight and familiarity with the practical realities of NRM were seen as equally critical to ensuring assurance quality. Interpretations of roles diverged further when disciplinary logics clashed. As one lead auditor noted, disputes frequently arose *“around what evidence meant”* and the *“level of sampling required”* (TL2, TL3). Another reflected on the difficulty of reconciling scientific passion and expertise with the procedural demands of audit:

... our problem with our NRM expert is that he is exactly the opposite of an auditor. He is in love with his subject, eminently qualified... But, to get a step-by-step logical assessment... is just impossible.

So, the big part of our challenge in the field is that NRM people just don't think in an audit type framework. (TL2)

These tensions illustrate how expertise shaped, and at times constrained, role integration. VERDA's own staff were positioned as project managers with responsibility for decision making, communication and consistency across audits. Yet even here, misunderstandings persisted. A lack of early socialisation meant that mutual awareness of skills and expectations was often absent: "... *the socialisation did not happen ... conversations about our own skillset, governance, issues with NRM complexity just did not happen.*" (CEO).

The recognised importance of diverse individual expertise within MATs in delivering assurance outcomes (e.g. audits, assessments of NRM performance and reports) was the aim in Phase 1 audits, but as noted by D1, the audits fell short on building knowledge and NRM assessment of performance innovations:

... large team greater disparity of skills ... [VERDA] integration and knowledge sharing did not necessarily work ... audit had rigour in terms of execution rather than rigour of knowledge building ... the transfer of the consultants' knowledge not only into the audit, but across the whole team may not have been achieved. (D1)

By Phase 2, VERDA attempted to realign roles, shifting their staff from active MAT members to project managers and observers, while contractors took the lead in assurance tasks. This was designed to create clearer role boundaries and reduce ambiguity. Overall, the data show that while MAT members brought deep and varied expertise, their interpretations of each other's roles often diverged. Without deliberate mechanisms for integration through trust building, early communication and acknowledgement of contextual knowledge and disciplinary differences translated into repeated challenges in interpreting evidence, allocating responsibilities and achieving genuine collaboration.

### 5.3 MAT management

In practice, managing MATs required more than assembling expertise; it required deliberate coordination, trust building and continuous communication. VERDA assumed responsibility for managing the audits by positioning its staff as project managers with oversight of decision-making and communication across contractors. In practice, this role was complex because the teams brought together members from different disciplinary backgrounds, including financial auditors, scientific experts, and NRM specialists who often approached assurance tasks with distinct logic and expectations. While project management structures were established, several stakeholders highlighted that management lacked sufficient direction and underestimated the importance of early socialisation and role clarification. As one director noted: "*[we need to] get better at managing auditors ... who you get to manage the auditors needs to be qualified*" (D2). The CEO similarly reflected that conversations around governance, skillsets and NRM complexity "*just did not happen,*" leaving a gap in shared understanding between VERDA staff and auditors.

In terms of challenges arising from team diversity, disparities in disciplinary expertise sometimes hindered consensus: "*there were some disagreements around some of those issues such as level of sampling, what evidence meant but probably a lot of those more difficult issues around expertise rather than team size and those sorts of things I think*" (TL2). Without established norms or shared language, debates were frequent: "*number of debates per month between the auditors ... disagreements around what evidence meant*" (TL3).

Trust also proved difficult to establish. Unlike cohesive audit teams with prior working relationships, MATs had to cultivate trust in real time. A lead auditor with a scientific background emphasised that "*there needed to be a certain level of trust between VERDA and the auditors*" and that managers needed to "*affiliate different approaches for different auditors*" (TL3). The absence of early socialisation further strained these dynamics and made

collaboration uneven across teams. Conflicts were particularly visible in the contrasting frames of reference between auditors and subject matter experts. One team leader explained:

... our problem with our NRM expert is that he is exactly the opposite of an auditor. He is in love with his subject, eminently qualified ... But, to get a step by step logical assessment ... is just impossible. So, the big part of our challenge in the field is that NRM people just don't think in an audit type framework (TL2).

These difficulties highlighted a broader issue: assumptions about what team members knew and how they interpreted evidence were often misplaced. As one external audit expert reflected, "... perhaps the assumptions that everyone had about the level of knowledge ... was not there ... we still have a lot to learn in the audit process" (AE). These findings indicate that managing MATs involves more than technical coordination. Success depended on deliberately fostering trust, strengthening communication and integrating disciplinary perspectives so that teams could function as cohesive units rather than parallel groups of experts.

#### 5.4 MAT learning and improvement

Recognising the challenges from Phase 1, VERDA adapted its approach in Phase 2. It revised the tender criteria to elevate the importance of working with auditees and understanding the regional context. This shift acknowledged that contextual insight was critical to interpreting complex NRM evidence. A key structural change was reconfiguring VERDA's role, from embedded team members to observers. This allowed contractors to conduct the audits while VERDA focused on project management:

... we see ourselves as having expertise in project management and project manage using expertise from others such as contractors ... we [VERDA] have clear responsibility for decision making, running the project and for communication [across teams] to promote clear and consistent messages across teams ... core project team members [VERDA staff] have access to technical expertise and specialists [contractors] on a needs basis. (PM1)

A lack of early socialisation meant that VERDA staff and contractors did not fully appreciate each other's skillsets or perspectives, resulting in fragmented collaboration. As one lead auditor reflected, "*we had good resources to do the audits ... and then we'd split off and go our different ways*" (PM1). These experiences highlighted three key lessons. First, contextual insight into regional NRM issues was critical for interpreting evidence and aligning judgments with the NRM Standard. Second, VERDA's dual role as both an assurance provider and a team participant blurred responsibilities, creating ambiguity in decision-making. Third, stronger communication channels and clearer role boundaries were needed to manage disciplinary differences and build trust. As one director conceded, "*the organisation had to 'rethink and re-do' its approach after the initial audits*" (D1).

In response, VERDA made several structural and procedural adjustments in Phase 2. Tendering criteria were revised to elevate the importance of contextual familiarity and experience of working with auditees, placing these on equal footing with formal audit expertise. This ensured that team members not only possessed technical skills but also understood the regional context in which assurance judgments had to be applied.

A second major shift was the reconfiguration of VERDA's role. Staff moved from active participants in MATs to observers and project managers, with contractors leading the audits. This repositioning aimed to draw more effectively on contractors' technical skills while allowing VERDA to focus on oversight, communication and consistency across teams. As one project manager explained: "*we see ourselves as having expertise in project management ... core project team members [VERDA staff] have access to technical expertise and specialists on a needs basis*" (PM1). Lead auditors also noted that clearer boundaries reduced conflict: "*there was never a problem ... as long as the lead auditor had control of the audit*" (TL2).

Although improvements were evident in Phase 2 audits, challenges persisted. Participants noted that the hybrid model risked privileging contractors and limiting VERDA's organisational learning: "*it leaves much more shared information for the contractors than VERDA*" (TL1), while others cautioned that staff "*would not benefit in the long run*" (A1). Collaboration remained uneven, and the aspiration of seamless knowledge integration was not always achieved. Nevertheless, by restructuring team roles, emphasising regional expertise and strengthening project management, VERDA enabled MATs to "*integrate audit and NRM knowledge*" more effectively (TL1). These changes highlight the potential of experiential learning, though fully leveraging MAT diversity remained a challenge.

## 6. Discussion

Exploring how MATs are resourced, how diverse expertise is integrated and managed, and the collaboration challenges arising from this diversity, this study focuses on the delivery of sustainability assurance in the Australian public sector context, with a particular emphasis on NRM audits. Using the RDT lens, the findings demonstrate that assurance quality relied on three interdependent factors: the composition of expertise, the mechanisms for coordination, and the quality of communication.

The evidence from [Section 5.1](#) illustrates VERDA's reliance on external tendering to access scarce skills. This aligns with RDT's core proposition that organisations acquire critical resources to reduce dependence and manage environmental uncertainty. The shift in Phase 2 tendering criteria from technical credentials to contextual familiarity reflects a more nuanced recognition of what constitutes "*critical resources*." Regional and auditee knowledge were valued alongside audit capability, echoing [Horwitz's \(2005\)](#) and [Jehn et al.'s \(1999\)](#) findings that diversity enhances performance when contextually relevant expertise is present.

Yet, as shown in [Section 5.2](#), acquiring diversity did not guarantee collaboration. Phase 1 audits revealed recurrent friction between auditors and NRM experts, stemming from contrasting logics of inquiry and divergent interpretations of evidence. Disciplinary divides between financial auditors and NRM specialists led to competing evidential logic and recurrent disputes over sampling and interpretation (TL2, TL3). In RDT terms, VERDA had secured critical resources but lacked the relational and cognitive infrastructure to transform diversity into collective performance. The absence of early "*socialisation*" and a "*transactive memory system*", meant team members lacked a shared map of "*who knows what*," constraining knowledge exchange and slowing consensus building. Where integration did occur, teams combined NRM and audit perspectives to judge complex, region-specific interventions more convincingly, underscoring that diversity's benefits are contingent on purposeful integration ([van Knippenberg and Schippers, 2007](#)).

With respect to [Section 5.3's](#) findings, the significance of management structures was highlighted. VERDA's repositioning of its staff from team participants to project managers in Phase 2 illustrates adaptive resource orchestration. Rather than embedding internal staff in technical tasks, VERDA sought to strengthen oversight, reduce ambiguity and stabilise communication. This represents a move from dependence on internal knowledge to a governance model that leverages external resources more systematically. However, persistent challenges in trust building and shared language suggest that structural clarity alone is insufficient; collaboration requires deliberate routines that cultivate mutual understanding.

Whilst the Phase 2 reforms described in [Section 5.4](#) show partial success in coupling audit and NRM knowledge in practice with stronger project management and revised tendering criteria helped MATs integrate expertise more effectively. Yet some warned that the hybrid model risked privileging contractors and constraining VERDA's organisational learning and warned VERDA "*would not benefit in the long run*" (A1). This points to a boundary condition of RDT: resource dependence can shift to external providers rather than resolve if integration and knowledge transfer mechanisms are absent. The lessons are clear. Diversity can enhance assurance quality when orchestrated through clear role boundaries, contextual expertise and

structured interaction, but without such practices, diversity risks entrenching dependence on external actors.

These findings are timely given the regulatory trajectory of sustainability assurance. The International Standard on Sustainability Assurance (ISSA 5000) and its Australian equivalent (ASSA 5000), effective from December 2026, promise to standardise practice and help address MAT tensions that arise from divergent professional norms, communication barriers, and unclear delineation of roles. Such guidance has the potential to reduce the very friction observed in this study, where different disciplinary logics and expectations undermined collaboration and created inefficiencies. By moving beyond the normative claim of a “*need for experts*” to show how multidisciplinary synergies are mobilised or constrained in practice, our findings reiterate calls for more robust assurance guidance that addresses integration as well as resourcing. Team effectiveness depends not on the presence of experts alone but on the organisational conditions that enable integration, particularly communication routines, trust building and role clarity.

The absence of guidance is not confined to sustainability assurance, as public sector performance audits, which are inherently multidisciplinary, have long been criticised for focusing on control and compliance rather than learning (Parker and Jacobs, 2015; Pearson, 2014; Parker *et al.*, 2008). Research on GHG assurance similarly shows that team effectiveness is shaped by composition, process quality, and educational diversity (Boritz *et al.*, 2020; Kim *et al.*, 2016; Zhou *et al.*, 2016). These insights resonate with VERDA’s reforms, where improvements in assurance quality stemmed less from altering the mix of disciplines and more from refining coordination processes and valuing contextual knowledge. Placing the VERDA case within this broader literature and regulatory context highlights that the critical issue is not whether MATs should be used, since they are now embedded in standards, but how they function in practice. Effective sustainability assurance requires moving beyond calls for more experts to focus on the organisational practices that allow experts from different disciplines to work together productively. In this way, the findings advance RDT by distinguishing between resource acquisition and resource integration, and by showing how dynamic resource orchestration through phased learning can enhance assurance quality in complex domains.

## 7. Concluding comments, limitations and future research

Sustainability assurance has gained renewed significance in the new era of mandatory sustainability reporting, as regulators and organisations respond to heightened expectations for credible and decision-useful disclosures supported by a phased-in assurance requirement. Yet, despite the centrality of assurance to the credibility of sustainability reporting, little is known about how MATs operate in practice to deliver such assurance (see Ekasingh *et al.*, 2025; Velte, 2025; KPMG, 2024; Venter and Krasodomska, 2024). This study contributes empirical insights into how MATs function within a public sector NRM context where assurance is already mandated. Examining this context provides valuable understanding of how multidisciplinary teams developed working relationships, established shared understanding, and navigated expertise boundaries before the introduction of global sustainability assurance standards ISSA/ASSA 5000. Although the empirics in this study predate the recent regulatory developments, the underlying organisational and relational mechanisms identified remain highly relevant to contemporary assurance practice, offering enduring lessons for designing and implementing effective sustainability assurance practice.

This study demonstrates that while functional diversity can enhance assurance quality by broadening the knowledge and perspectives within and between MATs, these benefits only materialise when organisations foster transactive memory, clear communication and shared understanding among diverse MAT members. It offers a practice-based understanding of how MATs operate in the field, how experts from different disciplines, including auditors, scientists and NRM specialists collaborate or fail to collaborate, and how their differing perspectives

shape the assurance process. Three main contributions to literature emerge. First, the VERDA experience shows that disciplinary diversity has the potential to enrich the audit process by introducing new perspectives and strengthening analytical depth, but this potential is realised only when supported by a learning culture, clear communication and careful team planning. VERDA's iterative audit, *rethink*, and *re-do* cycle highlights the importance of prior planning, awareness of team members' expertise and deliberate facilitation of knowledge sharing. Second, by extending RDT into the underexplored context of NRM assurance, the study shows that while forming a MAT introduces resource heterogeneity, without adequate communication, comprehension and leadership, diversity can hinder collaboration. Misalignment in language, interpretations of evidence and disciplinary worldviews can increase tension and constrain assurance quality. Third, the findings identify a critical boundary condition for MAT effectiveness, namely sufficient audit/assurance expertise and leadership to anchor the engagement within an assurance lens. Without this, teams risk drifting into evaluation or consultancy rather than assurance.

The findings have practical implications for assurance practitioners, regulators and standard setters. For practitioners, VERDA's experience highlights how careful tender design, role clarity and mechanisms for integrating expertise can strengthen team performance and knowledge transfer, particularly as professional service firms continue to expand beyond traditional audit expertise. For regulators and standard setters, the results emphasise the need for clearer guidance within ISSA/ASSA 5000 on team composition, expertise requirements and collaboration. With mandatory climate-related disclosures commencing in January 2025 in Australia and independent assurance being phased in, these insights are timely. They show that credible sustainability assurance depends not only on technical compliance but also on effective multidisciplinary collaboration. Lessons from VERDA's audits highlight the importance of improving communication within and across MATs, clarifying roles and capabilities from the outset, embedding NRM-relevant expertise, and positioning VERDA staff as project managers rather than active team participants. These insights may inform the development of best practice guidance as the Australian Government continues to invest heavily in NRM programs.

This study has several limitations. It draws from a single organisational case in the Australian public sector, which may limit generalisability. The focus here is on the supply side of assurance, examining providers and managers, without incorporating the perspectives of external stakeholders who rely on assurance outcomes. Another limitation of this study lies in the challenge of measuring inferred assurance quality with respect to MAT performance. Because assurance quality is not directly observable, it was inferred from interviewee perceptions, observed team behaviours, and documentary evidence rather than objectively measured outputs. This approach may not fully capture the nuances of how MAT composition, expertise integration and professional judgement collectively influence the quality of sustainability assurance.

Future research could address these limitations by employing multi-method designs that triangulate interview data with content analysis of sustainability assurance reports, review of engagement documentation or experimental simulations of MAT interactions. Examining MATs across multiple organisational and sectoral settings, including private sector sustainability assurance, would enable exploration of how disciplinary diversity is managed under varying institutional and regulatory pressures. Future comparative studies between traditional audit teams and MATs operating under ISSA/ASSA 5000 could further advance understanding of whether diverse team configurations consistently deliver higher quality outcomes and under what conditions. Capturing auditee and stakeholder perspectives would also provide a more comprehensive understanding of how MAT collaboration dynamics influence perceived assurance quality.

As mandated sustainability assurance evolves globally, the way MATs collaborate in practice will play a critical role in shaping both the quality and trustworthiness of sustainability information. This study highlights that diversity alone is not enough; rather, it is the strategic

management of diversity, communication and collaboration that determines whether MATs can deliver high-quality, credible sustainability assurance.

## References

- Ainsworth, S. (2006), "DeFT: a conceptual framework for considering learning with multiple representations", *Learning and Instruction*, Vol. 16 No. 3, pp. 183-198, doi: [10.1016/j.learninstruc.2006.03.001](https://doi.org/10.1016/j.learninstruc.2006.03.001).
- Amel-Zadeh, A. and Tang, Q. (2025), "Managing the shift from voluntary to mandatory climate disclosure: the role of carbon accounting", *The British Accounting Review*, Vol. 57 No. 2, 101594, doi: [10.1016/j.bar.2025.101594](https://doi.org/10.1016/j.bar.2025.101594).
- ANAO (2023), "Australian national audit office annual report annual report 2022-23", available at: <https://www.anao.gov.au/pubs/annual-reports> (accessed 1 October 2023).
- Boiral, O., Heras-Saizarbitoria, I. and Brotherton, M.C. (2020), "Professionalizing the assurance of sustainability reports: the auditors' perspective", *Accounting, Auditing and Accountability Journal*, Vol. 33 No. 2, pp. 309-334, doi: [10.1108/aaaj-03-2019-3918](https://doi.org/10.1108/aaaj-03-2019-3918).
- Burritt, R.L. and Tingey-Holyoak, J. (2012), "Forging cleaner production: the importance of academic-practitioner links for successful sustainability embedded carbon accounting", *Journal of Cleaner Production*, Vol. 36 No. 1, pp. 39-47, doi: [10.1016/j.jclepro.2012.02.001](https://doi.org/10.1016/j.jclepro.2012.02.001).
- Channuntapipat, C., Samsonova-Taddei, A. and Turley, S. (2019), "Exploring diversity in sustainability assurance practice: evidence from assurance providers in the UK", *Accounting, Auditing and Accountability Journal*, Vol. 32 No. 2, pp. 556-580, doi: [10.1108/aaaj-05-2017-2940](https://doi.org/10.1108/aaaj-05-2017-2940).
- Che, L. and Svanström, T. (2019), "Team composition and labor allocation in audit teams: a descriptive note", *Managerial Auditing Journal*, Vol. 34 No. 5, pp. 518-548, doi: [10.1108/maj-08-2018-1986](https://doi.org/10.1108/maj-08-2018-1986).
- Commonwealth of Australia (2023), "Assurance framework: panel of regional delivery partners and first nations project delivery partners", available at: [https://www.dcceew.gov.au/sites/default/files/documents/rdp-and-fnpdp-assurance\\_framework.docx](https://www.dcceew.gov.au/sites/default/files/documents/rdp-and-fnpdp-assurance_framework.docx) (accessed 1 October 2024).
- Cordery, C.J. and Hay, D. (2025), "Public sector audit: new public management influences and ecosystem driven reforms", *Journal of Public Budgeting, Accounting and Financial Management*, Vol. 37 No. 4, pp. 595-618, doi: [10.1108/JPBAFM-07-2023-0124](https://doi.org/10.1108/JPBAFM-07-2023-0124).
- Cox, T.H. (1993), *Cultural Diversity in Organizations: Theory, Research and Practice*, Barlett-Koehler, San Francisco, CA.
- Curtis, A.L. and Lefroy, E.C. (2010), "Beyond threat-and asset-based approaches to natural resource management in Australia", *Australasian Journal of Environmental Management*, Vol. 17 No. 3, pp. 134-141, doi: [10.1080/14486563.2010.9725260](https://doi.org/10.1080/14486563.2010.9725260).
- DCCEEW (2022), "Monitoring, evaluation, reporting and improvement (MERI) framework", *Assurance framework - DCCEEW*, available at: <https://www.agriculture.gov.au> (accessed 28 August 2023).
- Ekasingh, E., Simnett, R. and Green, W.J. (2019), "The effect of diversity and the mediating role of elaboration on multidisciplinary greenhouse gas assurance team effectiveness", *Behavioral Research in Accounting*, Vol. 31 No. 1, pp. 81-96, doi: [10.2308/bria-52285](https://doi.org/10.2308/bria-52285).
- Ekasingh, E., Hoang, H. and Trotman, K.T. (2025), "Effects of different team formats on the performance of multidisciplinary GHG assurance teams", *Auditing: A Journal of Practice and Theory*, Vol. 44 No. 4, pp. 1-18, doi: [10.2308/ajpt-2023-051](https://doi.org/10.2308/ajpt-2023-051).
- Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act), available at: <https://www.dcceew.gov.au/>
- Farooq, M.B., Azantouti, A.S.A. and Zaman, R. (2024), "Non-financial information assurance: a review of the literature and directions for future research", *Sustainability Accounting, Management and Policy Journal*, Vol. 15 No. 1, pp. 48-84, doi: [10.1108/sampj-03-2023-0166](https://doi.org/10.1108/sampj-03-2023-0166).
- Fay, D., Borrill, C., Amir, Z., Haward, R. and West, M.A. (2006), "Getting the most out of multidisciplinary teams: a multi-sample study of team innovation in health care", *Journal of*

---

*Occupational and Organizational Psychology*, Vol. 79 No. 4, pp. 553-567, doi: [10.1348/096317905x72128](https://doi.org/10.1348/096317905x72128).

- Fiedler, F.E. (1986), "The contribution of resources to leadership performance and leader behavior to organizational performance", *Journal of Applied Social Psychology*, Vol. 16 No. 6, pp. 532-548, doi: [10.1111/j.1559-1816.1986.tb01157.x](https://doi.org/10.1111/j.1559-1816.1986.tb01157.x).
- Fiedler, F.E. and Garcia, J.E. (1987), *New Approaches to Leadership: Resources and Organisational Performance*, Wiley, New York.
- Ford, Z., Jackson, S., Bino, G., Brandis, K. and Kingsford, R. (2023), "Scale, evidence, and community participation matter: lessons in effective and legitimate adaptive governance from decision making for Menindee Lakes in Australia's Murray-Darling Basin", *Ecology and Society*, Vol. 28 No. 1, pp. 1-32, doi: [10.5751/es-13594-280115](https://doi.org/10.5751/es-13594-280115).
- Hajkowicz, S. (2009), "The evolution of Australia's natural resource management programs: towards improved targeting and evaluation of investments", *Land Use Policy*, Vol. 26 No. 2, pp. 471-478, doi: [10.1016/j.landusepol.2008.06.004](https://doi.org/10.1016/j.landusepol.2008.06.004).
- Hallett, C.S., Valesini, F. and Elliott, M. (2016), "A review of Australian approaches for monitoring, assessing and reporting estuarine condition: III. Evaluation against international best practice and recommendations for the future", *Environmental Science and Policy*, Vol. 66 No. 1, pp. 282-291, doi: [10.1016/j.envsci.2016.07.015](https://doi.org/10.1016/j.envsci.2016.07.015).
- Hecimovic, A. and Martinov-Bennie, N. (2023), "Audit report construction: public sector organisation perspectives within a sustainability information context", *Journal of Public Budgeting, Accounting and Financial Management*, Vol. 35 No. 2, pp. 172-191, doi: [10.1108/jpbafm-09-2021-0135](https://doi.org/10.1108/jpbafm-09-2021-0135).
- Horwitz, S.K. (2005), "The compositional impact of team diversity on performance: theoretical considerations", *Human Resource Development Review*, Vol. 4 No. 2, pp. 219-245, doi: [10.1177/1534484305275847](https://doi.org/10.1177/1534484305275847).
- Hossain, S., Yazawa, K. and Monroe, G.S. (2017), "The relationship between audit team composition, audit fees, and quality", *Auditing: A Journal of Practice and Theory*, Vol. 36 No. 3, pp. 115-135, doi: [10.2308/ajpt-51682](https://doi.org/10.2308/ajpt-51682).
- Hummel, K., Schlick, C. and Fifka, M. (2019), "The role of sustainability performance and accounting assurers in sustainability assurance engagements", *Journal of Business Ethics*, Vol. 154 No. 1, pp. 733-757, doi: [10.1007/s10551-016-3410-5](https://doi.org/10.1007/s10551-016-3410-5).
- Jehn, K.A., Northcraft, G.B. and Neale, M.A. (1999), "Why differences make a difference: a field study of diversity, conflict and performance in workgroups", *Administrative Science Quarterly*, Vol. 44 No. 4, pp. 741-763, doi: [10.2307/2667054](https://doi.org/10.2307/2667054).
- Kilgore, A., Radich, R. and Harrison, G. (2011), "The relative importance of audit quality attributes", *Australian Accounting Review*, Vol. 21 No. 3, pp. 253-265, doi: [10.1111/j.1835-2561.2011.00141.x](https://doi.org/10.1111/j.1835-2561.2011.00141.x).
- Kim, S., Green, W. and Johnstone, K.M. (2016), "Biased evidence processing by multidisciplinary greenhouse gas assurance teams", *Auditing: A Journal of Practice and Theory*, Vol. 35 No. 3, pp. 119-139, doi: [10.2308/ajpt-51368](https://doi.org/10.2308/ajpt-51368).
- KPMG (2024), "The move to mandatory reporting, survey of sustainability reporting 2024", available at: <https://assets.kpmg.com/content/dam/kpmgsites/xx/pdf/2024/11/the-move-to-mandatory-reporting-web-copy.pdf.coredownload.inline.pdf> (accessed 23 January 2025).
- Krasodomska, J., Simnett, R. and Street, D.L. (2021), "Extended external reporting assurance: current practices and challenges", *Journal of International Financial Management and Accounting*, Vol. 32 No. 11, pp. 104-142, doi: [10.1111/jifm.12127](https://doi.org/10.1111/jifm.12127).
- Lockwood, M., Davidson, J., Curtis, A., Stratford, E. and Griffith, R. (2010), "Governance principles for natural resource management", *Society and Natural Resources*, Vol. 23 No. 10, pp. 986-1001, doi: [10.1080/08941920802178214](https://doi.org/10.1080/08941920802178214).
- Lodhia, S. (2019), "What about your qualitative cousins? Adapting the pitching template to qualitative research", *Accounting and Finance*, Vol. 59 No. 1, pp. 309-329, doi: [10.1111/acfi.12266](https://doi.org/10.1111/acfi.12266).

- Lu, M., Simnett, R. and Zhou, S. (2023), "Using the same provider for financial statement audit and assurance of extended external reports: choices and consequences", *Auditing: A Journal of Practice and Theory*, Vol. 42 No. 1, pp. 125-154, doi: [10.2308/ajpt-19-080](https://doi.org/10.2308/ajpt-19-080).
- Martinov-Bennie, N. and Hecimovic, A. (2010), "Assurance of Australian natural resource management", *Public Management Review*, Vol. 12 No. 4, pp. 549-565, doi: [10.1080/14719037.2010.496267](https://doi.org/10.1080/14719037.2010.496267).
- Murphy, S.E., Blyth, D. and Fiedler, F.E. (1992), "Resource theory and the utilization of the leader's and group members' technical competence", *The Leadership Quarterly*, Vol. 3 No. 3, pp. 237-255, doi: [10.1016/1048-9843\(92\)90014-7](https://doi.org/10.1016/1048-9843(92)90014-7).
- NRM Regions Australia (2025), available at: <https://nrmregionsaustralia.com.au/about-us/opportunities-for-federal-investment/> (accessed 20 January 2025).
- O'Dwyer, B., Owen, D. and Unerman, J. (2011), "Seeking legitimacy for new assurance forms: the case of assurance on sustainability reporting", *Accounting, Organisations and Society*, Vol. 36 No. 1, pp. 31-52.
- Parker, L. and Jacobs, K. (2015), "Public sector performance audit: a critical review of scope and practice in the contemporary Australian context", Melbourne Victoria, available at: <https://www.cpaaustralia.com.au/~media/corporate/allfiles/document/professional-resources/public-sector/public-sector-performance-audit.pdf> (accessed 23 June 2022).
- Parker, L. and Northcott, D. (2016), "Qualitative generalising in accounting research: concepts and strategies", *Accounting, Auditing and Accountability Journal*, Vol. 29 No. 6, pp. 1100-1131, doi: [10.1108/aaaj-04-2015-2026](https://doi.org/10.1108/aaaj-04-2015-2026).
- Parker, L., Broadbent, J. and Guthrie, J. (2008), "Public sector to public services: 20 years of 'contextual' accounting research", *Accounting, Auditing and Accountability Journal*, Vol. 21 No. 2, pp. 129-169, doi: [10.1108/09513570810854383](https://doi.org/10.1108/09513570810854383).
- Pearson, D. (2014), "Significant reforms in public sector audit - staying relevant in times of change and challenge", *Journal of Accounting and Organizational Change*, Vol. 10 No. 1, pp. 150-161, doi: [10.1108/jaoc-06-2013-0054](https://doi.org/10.1108/jaoc-06-2013-0054).
- Persellin, J., Schmidt, J.J. and Wilkins, M.S. (2015), "Auditor perceptions of audit workloads, audit quality, and the auditing profession", *Accounting Horizons*, Vol. 33 No. 4, pp. 95-117, doi: [10.2308/acch-52488](https://doi.org/10.2308/acch-52488).
- Pieterse, A.N., van Knippenberg, D. and van Ginkel, W.P. (2011), "Diversity in goal orientation, team reflexivity, and team performance", *Organizational Behavior and Human Decision Processes*, Vol. 114 No. 2, pp. 153-164.
- Serrao-Neumann, S., Cox, M. and Low Choy, D. (2019), "Bridging adaptive learning and desired natural resource management outcomes: insights from Australian planners", *Planning Practice and Research*, Vol. 34 No. 2, pp. 149-167, doi: [10.1080/02697459.2018.1549188](https://doi.org/10.1080/02697459.2018.1549188).
- Sharma, A. and Ray, A.K. (2025), "Collaborative expertise in sustainability reporting and assurance: harnessing multidisciplinary synergies for enhanced outcomes", in *Navigating Trust in Sustainability Reporting and Assurance*, IGI Global Scientific Publishing, pp. 31-62.
- Simnett, R., Vanstraelen, A. and Chua, W.F. (2009), "Assurance on sustainability reports: an international comparison", *The Accounting Review*, Vol. 84 No. 3, pp. 937-967, doi: [10.2308/accr.2009.84.3.937](https://doi.org/10.2308/accr.2009.84.3.937).
- Simnett, R., Zhou, S. and Hoang, H. (2022), "The history and future of sustainability assurance", in *Handbook of Accounting and Sustainability*, Edward Elgar Publishing, pp. 241-259.
- van Brenk, H., Renes, R. and Trompeter, G.M. (2020), "Auditing in the public interest: reforming the profession by building on the strengths of the existing accounting firms", *Critical Perspectives on Accounting*, Vol. 83 No. 1, pp. 1-19, doi: [10.1016/j.cpa.2020.102184](https://doi.org/10.1016/j.cpa.2020.102184).
- van Der Vegt, G.S. and Bunderson, J.S. (2005), "Learning and performance in multidisciplinary teams: the importance of collective team identification", *Academy of Management Journal*, Vol. 48 No. 3, pp. 532-549, doi: [10.5465/amj.2005.17407918](https://doi.org/10.5465/amj.2005.17407918).

- van Ginkel, W.P. and van Knippenberg, D. (2008), "Group information elaboration and group decision making: the role of shared task representations", *Organizational Behavior and Human Decision Processes*, Vol. 105 No. 1, pp. 82-97, doi: [10.1016/j.obhdp.2007.08.005](https://doi.org/10.1016/j.obhdp.2007.08.005).
- van Knippenberg, D. and Schippers, M.C. (2007), "Work group diversity", *Annual Review of Psychology*, Vol. 58 No. 1, pp. 515-541, doi: [10.1146/annurev.psych.58.110405.085546](https://doi.org/10.1146/annurev.psych.58.110405.085546).
- van Knippenberg, D., De Dreu, C.K.W. and Homan, A.C. (2004), "Work group diversity and group performance: an integrative model and research agenda", *Journal of Applied Psychology*, Vol. 89 No. 6, pp. 1008-1022, doi: [10.1037/0021-9010.89.6.1008](https://doi.org/10.1037/0021-9010.89.6.1008).
- Vella, K., Sipe, N., Dale, A. and Taylor, B. (2015), "Not learning from the past: adaptive governance challenges for Australian natural resource management", *Geographical Research*, Vol. 53 No. 4, pp. 379-392, doi: [10.1111/1745-5871.12115](https://doi.org/10.1111/1745-5871.12115).
- Velte, P. (2025), "Determinants of the selection of sustainability assurance providers and consequences for firm value: a review of empirical research", *Meditari Accountancy Research*, Vols ahead-of-print Nos ahead-of-print, pp. 443-465, doi: [10.1108/MEDAR-07-2024-2575](https://doi.org/10.1108/MEDAR-07-2024-2575).
- Venter, E. and Krasodomska, J. (2024), "Research on extended external reporting assurance: an update on recent developments", *Journal of International Financial Management and Accounting*, Vol. 35 No. 2, pp. 390-428, doi: [10.1111/jifm.12200](https://doi.org/10.1111/jifm.12200).
- Venter, E.R. and van Eck, L. (2021), "Research on extended external reporting assurance: trends, themes, and opportunities", *Journal of International Financial Management and Accounting*, Vol. 32 No. 1, pp. 63-103, doi: [10.1111/jifm.12125](https://doi.org/10.1111/jifm.12125).
- Zhou, S., Simnett, R. and Green, W.J. (2016), "Assuring a new market: the interplay between country-level and company-level factors on the demand for greenhouse gas (GHG) information assurance and the choice of assurance provider", *Auditing: A Journal of Practice and Theory*, Vol. 35 No. 3, pp. 141-168, doi: [10.2308/ajpt-51414](https://doi.org/10.2308/ajpt-51414).
- Zhou, S., Simnett, R., Waters, A. and Michaelides, M. (2025), "USYD - DEdeakin AUauasbUsustainabilitySassuranceEresearchOworkshopsummaries of research projects to inform the AUASB's work programme", AUASB Research Report No. 13, available at: [https://auasb.gov.au/media/eoobwth/auasb\\_rr13\\_sustainabilityworkshop\\_04-25.pdf](https://auasb.gov.au/media/eoobwth/auasb_rr13_sustainabilityworkshop_04-25.pdf) (accessed 20 June 2025).

### Further reading

- Bouten, L. and Hoozée, S. (2025), "How sustainability assurance work gets done: assurors' sensemaking, socialization and interactions with clients", *Accounting, Auditing and Accountability Journal*, Vol. 38 No. 1, pp. 143-173, doi: [10.1108/aaaj-08-2022-5973](https://doi.org/10.1108/aaaj-08-2022-5973).

### Corresponding author

Angela Hecimovic can be contacted at: [angela.hecimovic@sydney.edu.au](mailto:angela.hecimovic@sydney.edu.au)