Revisiting the circular economy: a case study of waste governance in Northern Australia

Abstract

Purpose: The management of commercial and domestic waste is a social and environmental priority. In recent years, circular economy (CE) perspectives have emerged, underpinned by an expectation of monetising waste to incentivise the recovery and reuse of valuable materials. Accordingly, a role for accountants is anticipated to support effective waste and resource management strategies. Yet it remains unclear how the transition to a CE can be realised in practice, particularly for populations located outside of urban centres.

Design/methodology/approach: This study examines the challenges of measurement, reporting, and accounting for waste in remote Australia. We conducted the fieldwork for this study with a municipal council in the Northern Territory to evaluate their waste management practices. The five sites, two landlocked communities, two islands and one coastal community, experience low population density, logistical challenges, and financial constraints due to their remote location. We draw on Foucauldian concepts of governmentality, technologies, and rationalities of governance, to analyse the case and its implications for waste policy, accounting, and accountability.

Findings: Our study reveals that in remote regions, the lack of accounting technologies for waste measurement, reporting, and costing severely limits accountability and progress toward CE goals. The findings challenge assumptions about the universal applicability of CE models and call for the development of accounting practices that are both contextually grounded and socially responsive. In doing so, the paper emphasises the need for new calculative tools and public accountability mechanisms that reflect the complex realities of waste governance beyond urban centres.

Originality: The contributions of this study to public sector, social and environmental accounting research include highlighting the opportunities for accountants to bring social and environmental cost calculations into mainstream waste reporting practice and develop workable, context-specific models for charging for waste at source. Our findings call for new models of public sector waste reporting and management that encourage multi-stakeholder collaboration and fully account for the external impacts of waste.

Practical implications: We find that novel approaches to waste management are necessary for remote contexts to focus on reducing the creation of waste by shifting costs to those responsible for bringing materials to remote places – such as store owners and construction companies – rather than delivering an ‘end of life’ waste removal strategy.

1 Introduction

Accounting practices are thought to have disciplinary power when they enable calculation and control at distant sites (Armstrong, 1994). The practices and processes of accounting have been used to support the enactment of state authority 'at a distance' by rendering individual and organisational actions governable (Mihret & Grant, 2017). Hence studies of accounting in the public sector have explored the dynamic relationship between calculation, quantification and the enforcement of government policy ambitions in a range of contexts (Lapsley & Miller, 2019). Many policy makers are currently concerned with the unsustainable consumption of non-renewable resources associated with global capitalism (Larrinaga & Garcia-Torea, 2022; Nadeem *et al*., 2018). One proposed solution is the circular economy (CE); an economic model which "aims to minimise natural resource extraction while maximising the utilisation of each resource and the well-being of humans in the production, usage and disposition phases of any good or service" (Arjaliès *et al*., 2023, p. 499). In this study, we examine the complex reality of translating the policy aspiration of a CE transition into political action, focused on a remote setting in Australia's Northern Territory.

A CE transition requires a transformation of economic thinking from a linear 'take, make, dispose' model, to maximise the use of resources and eliminate waste from processes of production and consumption (Jørgensen *et al*., 2023). Committed engagement and collaboration across government, industry and society is a further requirement to bring into effect global systemic change (Aureli *et al*., 2023; Halari & Baric, 2023). A critical role is envisaged for national and state governments, given their responsibilities for the introduction and enforcement of waste policy, regulation of industrial production standards, management of resource recovery processes, and influence over domestic waste disposal practices (Nadeem *et al*., 2018). Yet despite global ambitions to address climate change by transitioning away from a linear economic model, progress against global targets such as the United Nations Sustainable Development Goals (SDGs) is limited (Monash University, 2020; United Nations, 2023). It remains unclear how governments, particularly at the local or municipal level, can support the CE transition, and the processes through which national level waste policy is enacted and enforced in practice.

Consequently, this research aims to address two research questions. First, what is the role of local government in supporting the transition to the CE, particularly in regional and remote contexts? Second, what is the role for public sector accounting and accountability in the CE transition? We draw on Michel Foucault's theory of governmentality , which conceptualises how governments exert power 'at a distance' through interconnected systems of discourse, surveillance, and technologies (Armstrong, 1994; Law, 1984 In this study, we explore the limits of governmentality by examining how

these mechanisms break down or are resisted in remote contexts, where state authority and policy ambitions encounter logistical, financial, and cultural constraints.

Our research setting is a remote region of Australia's Northern Territory, known as West Arnhem. The region encompasses coastal and outback landscapes, including the Kakadu national park, with a population density of less than eight people per km^2. The region's inhabitants, the majority of whom are Aboriginal and Torres Strait Islander peoples, include the Bininj/Mungguy Aboriginal people and the Maung people of the Goulburn Islands (RDA Northern Territory, 2023). The municipal council, West Arnhem Regional Council (WARC), provides public services including road and airstrip maintenance, waste management, parks and recreation facilities for the region. The region provides a suitable setting for a case study of waste governance, given its isolation and distance from seats of government power, and the pressure to address waste issues in an area of unspoiled natural beauty. Through interviews with council staff and key stakeholders in the waste management sector, alongside observations at five community landfill sites, a picture has emerged of a region undergoing a transition in its approach to waste governance. Historically, waste management in the region has been dominated by disposal, with policy discourses and technologies designed to support the removal of mixed waste to be burned or buried at the community landfills. Yet in more recent years, council workers and community residents have begun to resist these approaches, out of frustration with the lack of resource recovery in the region. While national waste discourse increasingly favours CE narratives, for this remote region, the possibility of a transition to a CE model has been impeded by conflicting economic and ecological priorities, including within the Northern Territory government's own procurement policies, and the lack of technology and resources available to transform waste management practices.

This study makes several important contributions to the public sector accounting and accountability literature. Our interpretation of findings from a governmentality perspective highlights the complexities and tensions in the enactment of policy at distant sites. Specifically, we uncover the conflicting rationalities between economic and ecological discourses that constrain progress towards sustainability objectives and restrict the roll out of required technologies to implement policy ambitions. These conflicting rationalities occur within and between different levels of government, with economic objectives typically overruling other policy objectives. We extend previous studies of public sector accounting by finding that an absence of formal systems of accounting for waste limit public sector accountability where data is missing to track progress, inform decision-making or justify investment in CE technologies. We further consider the surveillance implications of policy making, and the potential for surveillance to have unintended consequences for community relationships. These findings thus extend the application of governmentality to studies of public policy making and

accountability to untangle the complex and contested interactions of power between different levels of government.

The empirical fieldwork conducted for this study also delivers important insights for policy makers and stakeholders in the waste industry. Our findings highlight the importance of CE partnerships to address waste governance at an early stage in the production life cycle so that municipal authorities are not left at the end of the waste value chain. Of priority is to align government procurement policies with their own CE narrative, to avoid conflicting economic and ecological priorities. There is a potential role for accounting measures in the public sector to support more holistic approaches to evaluating competitive contracting and address the imbalance between financial and environmental outcomes. Our findings also identify the challenge of remoteness for rolling out manageable, reliable, culturally-grounded and consistent waste reporting systems. Here too, we identify an opportunity for social and environmental accounting to develop control systems appropriate for a remote context that may support the CE transition.

Our evaluation of waste management in the remote Northern Territory proceeds as follows. Section 2 explores the conceptual underpinnings of the CE and perceived role of public sector accounting in support of a CE transition. Section 3 introduces the theoretical framings of this study, drawing on Foucauldian theories of governmentality and disciplinary control to interpret government policy making 'at a distance'. We present our methodology and describe the setting of our case study in sections 4 and 5, before analysing our findings in section 6. The paper closes with a concluding discussion and avenues for future research.

2 Waste management and circular economy transitions

2.1 The circular economy

The prevailing models of industrial production and mass consumption that define global capitalism have largely assumed a linear approach to resource use, characterised by extraction, production, use and disposal (Larrinaga & Garcia-Torea, 2022; Nadeem *et al*., 2018), or "take, make, dispose" (Jørgensen *et al*., 2023, p. 553). Yet these linear economic models and global increases in consumption and production have resulted in the depletion of natural resources at alarming rates, and current resource usage is at least 30% above the earth's rate of replenishment (Nadeem *et al*., 2018). Alternative economic models are required to displace this linear model that "still dominates and continues to consume natural resources and generate waste at an unsustainable rate" (Halari & Baric, 2023, p. 425). In response to this global sustainability problem, industry, practitioner, and academic

audiences are increasingly adopting circular economy (CE) principles (Aureli *et al*., 2023; Jørgensen *et al*., 2023).

At an international level, the United Nations has prioritised efforts to transition to a CE model of consumption and production within its Sustainable Development Goal (SDG) 12 "Responsible Consumption and Production" (United Nations, 2019). The goal encourages actions to address the global ecological footprint by reducing or eliminating unsustainable resource usage. Examples of such actions might include extended producer responsibility legislation and improved materials conservation by the private sector (Paddock, 2023). Progress towards Goal 12 is mixed, with persistently high and growing material footprints per capita across high-income countries (United Nations, 2023). One area of progress was in the reporting of corporate sustainability actions, including disclosures relating to carbon emissions, and water and energy policies, in addition to inter-governmental agreements relating to plastic pollution and climate action (United Nations, 2023).

Two distinct features of the CE approach are of note. First, is that a transition to a CE requires a significant transformation of economic thinking coupled with the reorientation of production and consumption processes (Aureli *et al*., 2023; Halari & Baric, 2023). A systematic shift in business perspectives is required, redefining value to recognise the worth of discarded items, with a renewed emphasis on partnership in place of competition (Arjaliès *et al*., 2023). This transformation is required because "the capitalist system maintains itself by stimulating consumers to buy more and faster while blatantly externalising socio-environmental costs" (Arjaliès *et al*., 2023, p. 510). Such transformational change must include a fundamental shift of business models away from a purely financial motivation (Aureli *et al*., 2023; Larrinaga & Garcia-Torea, 2022). Instead, production processes and supply chains are reoriented to maximise the use of resources by designing out waste and pollution, to keep materials and products in use for as long as possible (Aureli *et al*., 2023; Nadeem *et al*., 2018).

Second, such a transition will require committed engagement across multiple actors via networking and collaboration (Aureli *et al*., 2023; Halari & Baric, 2023). For example, by establishing collaborative mechanisms involving end-users, government agencies, regulatory authorities and waste managers can learn from one another and redesign whole of life processes to retain value (Aureli *et al*., 2023). A pivotal role for government institutions is envisaged to initiate technological advancement, public participation, and private sector engagement (Nadeem *et al*., 2018). This coordinating role at government level is required to mount effective resistance to the dominant capitalist mindset and influence consumer reluctance to pay more for sustainably produced goods (Arjaliès *et al*., 2023).

In Australia, the country of focus for the present study, the 2018 National Waste Policy (NWP) framework was introduced to harmonise federal and state level waste efforts in accordance with CE principles (Commonwealth of Australia, 2018, 2019). According to the NWP, individuals, industry, and all levels of government are expected to take responsibility for reducing the generation of waste and increasing resource recovery rates. These policy priorities have been further enshrined in the Recycling and Waste Reduction Act 2020 (the 'RDR Act') that sets out federal legislation designed to support a circular economy and maximise the use of products and materials over their life cycle (Commonwealth of Australia, 2020). Yet despite this policy framework and associated targets, as a nation Australia is not on track to meet either its environmental commitments under the Paris Agreement or its 2030 targets for SDG 12 (Monash University, 2020).

The disappointing progress towards CE targets may be associated with a lack of commitment to CE objectives. Larrinaga and Garcia-Torea (2022) caution that CE narratives are a reframing of existing policy and institutions, allowing government and corporate entities to adopt sustainability rhetoric while continuing existing behaviours such as strategies for planned obsolescence. Bekier and Parisi (2023) describe CE as an 'empty signifier' with ambiguous vision and objectives, unsuitable for the public sector due to the diversity of stakeholder interests.

The inadequacy of CE rhetoric is particularly evident from waste management efforts in remote regions. Studies of CE adoption in remote parts of North America and Europe highlight challenges including high transportation costs, poor economies of scale, seasonal weather conditions, challenges with operation and maintenance of waste management infrastructure, in addition to complex socioeconomic issues which mean conventional waste management solutions are often not successful (Burns *et al*., 2021). Yet these remote locations frequently experience rapidly changing environmental and climatic conditions with consequences for releasing toxic gases and chemicals into soils and waterways (Burns *et al*., 2021). For example, in response to expanding landfill footprints and inappropriate waste infrastructure, communities in Finnish Lapland and northern Canada frequently burn mixed waste (Bharadwaj *et al*., 2008; Oyegunle & Thompson, 2018; Sustainable Development Working Group [SDWG], 2019), yet these practices may increase the risk of forest fire and toxic emissions (Oyegunle & Thompson, 2018; SDWG, 2019). While diverse approaches to the challenges of waste management have been found to be successful in different contexts, a common finding is that program designs consistent with local beliefs and goals were more likely to achieve successful outcomes than top-down solutions (Keske *et al*., 2018; SDWG, 2019).

This alignment of waste policy with local beliefs is most important in Indigenous communities where attitudes to waste may be different from western equivalents. Siragusa and Arzyutov (2020) argue that

western notions of waste are different from Indigenous ontologies. They claim that whereas in the 'West' "waste is based on attempts to forget (by getting rid of it), indigenous ontologies are about remembering and sustaining, which means either making use of the surplus or leaving it to others" (Siragusa & Arzyutov, 2020). This notion is further explored by Bell (2019) who explains that "the very notion of 'waste' is problematic since it is premised upon a human/non-human, person/place divide that is rooted in Western modernism and Enlightenment rationality. Only by rooting concepts and theories of waste within these radically different contexts can we gain a deeper understanding of the relationship between humans and the waste they generate, repurpose and reimagine" (Bell, 2019 p. 117).

Hence CE ideals are becoming more widely adopted within waste management discourse, but require a significant systematic shift in consumption and production behaviours, and positioning within local cultural contexts, to be effective. Previous studies indicate a critical role for municipal waste management infrastructure to facilitate material reuse and recycling, while CE adoption can be more challenging in remote locations beset by complexities associated with climate and distance.

2.2 Accounting for the CE

Scholarly examinations of the CE have emerged in the accounting literature in recent years. *Accounting Forum*, for example, published a special issue on the CE in 2023, and a small number of articles have appeared in other interdisciplinary journals. These studies interrogate the role of accountants and accounting practices in supporting the transition to circular business models and reach varying conclusions. For instance, it is acknowledged that accounting systems based on linear models of resource use may be inadequate for the CE, and new forms of accounting are required to align business with sustainability objectives (Aureli *et al*., 2023). There has been a sense of optimism within the social and environmental accounting literature that new techniques for lifecycle costing and material flow accounting to value recycled materials might place accountants at the centre of CE transitions (Halari and Baric, 2023). Accordingly, Jørgensen *et al*. (2023) focused on the role of accounting in measuring, reporting, and managing performance against CE aspirations with a case study of a waste management initiative in Norway. They found that accounting tools and practices were successfully introduced by managers to collect, analyse, and report on resource use and promote recycling (Jørgensen *et al*., 2023). A study by Heikkilä (2023) in a Finnish industrial setting further identified the role of vernacular accountings, defined as accounting practices "self-generated by actors in their local task environment" (p. 615) in supporting the implementation of novel managerial work and management control systems, such as the adoption of CE practices.

By contrast, several studies have found a disconnect between the role for accountants in theory and in practice related to CE priorities. In a study of the Italian packaging sector, Aureli *et al.* (2023) identified the exclusion of accounting personnel from CE strategic decision making as they are perceived not to have the necessary experience or expertise to capture the value of CE propositions. These findings are supported by Halari and Baric (2023) who identified that the stereotypical view of accountants as 'number crunchers' created a distance between CE and accounting practice. The perception of accountants as having a conservative, linear mindset focused on financial performance is not considered helpful to the CE transition (Arjaliès *et al*., 2023). Accountants themselves may be hesitant to engage with CE goals and principles due to the complexity, technical skill requirements and reputational risks from engaging with these new areas (Halari & Baric, 2023). This lack of engagement may be compounded by a perception that CE strategies represent symbolic rather than substantive commitments to economic and ecological alternatives (Bekier & Parisi, 2023). The limited contribution of accountants to the CE transition was further noted by Nadeem *et al*. (2018), who identified a lack of accounting measures related to emerging obligations of firms, such as extended producer responsibility or take-back programmes. Multiple studies, including Aureli *et al*. (2023) and Du Rietz (2023), identified the emergence of informal calculative practices by non-accountant decision makers at firm and individual levels in place of anticipated, formalised accounting systems.

We note that much of this extant work on the CE within the accounting literature has focused on the motivations of firms or individuals to engage with circular strategies, while the role of government at a local or regional level remains relatively unknown.[1] In part, this focus on the private sector reflects the privatisation of waste management in many European countries, where much of the extant literature originates (Bekier & Parisi, 2023; Quinn & Feeney, 2020). Yet in Australia, the country of focus for this study, municipal waste authorities continue to play an integral role in the process of diverting resources from landfill for reuse or recycling (Qian & Burritt, 2007), hence are a key stakeholder in the CE transition. Moreover, the measurement and reporting practices of local waste authorities can be useful for identifying resources streams and influencing household behaviour (Jørgensen *et al*., 2023). Accordingly, Arjaliès *et al*. (2023) has encouraged further work on the governance mechanisms that can support collective action towards the CE and the consequences of CE initiatives on marginalised communities. We aim in this research to contribute deeper insights into the role of municipal authorities in supporting the CE transition, by addressing two research questions. First, what is the role

[1] We note that Jørgensen *et al*.'s (2023) study of a municipality-owned waste management company in Norway provides CE insights in an urban setting.

of local government in supporting the transition to the CE, particularly in regional and remote contexts? Second, what is the role for public sector accounting and accountability in the CE transition?

For our examination of the public sector's role in the CE, we draw on Foucault's related concepts of governmentality and the technologies and rationalities of governance. These ideas are explored further in the next section.

3 Governmentality

Critical accounting scholars with an interest in how power is exerted in modern capitalist societies first adopted the ideas of Michel Foucault in the mid-1980s (Armstrong, 1994; Bowden & Stevenson-Clarke, 2021; Lapsley & Miller, 2019). Within the realm of public sector accounting, scholars have applied Foucauldian theories to a range of public sector audit, accounting and accountability functions ranging from public health care settings to universities (see Lapsley and Miller, 2019 for a review of this literature). In particular, Foucault's concept of governmentality appealed to academics concerned by the emergence of neo-liberalism and the associated adoption of new public management (NPM) (Armstrong, 1994; Lapsley & Miller, 2019). Foucault describes governmentality as "the tactics of government which make possible the continual definition and redefinition of what is within the competence of the state and what is not, the public versus the private" (Foucault, 1991, p. 103). This concept appeared relevant for interpreting the "retreat of the state" connected with NPM ideologies (Mckinlay & Pezet, 2010, p.489). That is, how could the size of the state be reduced but without diminishing its control over the population?

Michel Foucault developed the concept of governmentality in his philosophical writings on 'the art of government', drawn from his genealogical histories of European state power from the late eighteenth century and emergence of the state's responsibility for social welfare (Armstrong, 1994; Foucault, 1991; Mckinlay & Pezet, 2010). The ways in which state power is exercised is understood to have changed over time, yet underlying the visible traces of authority are the rationalities and boundaries of governance. According to Foucault's analysis, governments have employed changing techniques to influence and control individual behaviours (Foucault, 1991, 1995; Gordon, 1991). Increasingly, the disciplinary regimes of contemporary liberal democracies are associated with aligning individual behaviours with desirable social outcomes; simultaneously individualising conduct and totalising outcomes (Gordon, 1991). The ability of the state to influence social behaviours further explains the exercise of state power and control 'at a distance' (Armstrong, 1994; Law, 1984; Mihret & Grant, 2017).

Governmentality, then, is not about direct instruments of power, but "refers to the way in which behaviours are oriented: 'la conduite des conduites', the guidance, not control, of how people conduct

or orient, perhaps manage, themselves" (Mckinlay & Pezet, 2010, p. 487). Political rationalities define the objects of governance and nature of government by making visible what is to be governed (Mihret & Grant, 2017). Government is assumed to be pragmatic and uses these 'rationalities' to enlist external others in the pursuit of its ambitions (Miller & Rose, 1990). Studies of accounting and governmentality have highlighted how indirect forms of control such as financial accounting render individual and organisational actions governable (Mihret & Grant, 2017). Specifically, in the age of NPM, governmentality is thought a fruitful framework for theorising public sector accountability by understanding the role of accounting calculations to measure public sector performance (Lapsley & Miller, 2019). By extension, Foucault's conceptualisations have been further used to interpret the mobilisation of accounting tools in resistance to public sector reforms (Spanò *et al*., 2022) and examine private sector settings in which management control systems similarly exercise influence over governed subjects such as employees (Armstrong, 1994; Seger *et al*., 2023).

Foucault further describes the components of governmentality to include "the institutions, procedures, analyses and reflections, the calculations and tactics, that allow the exercise of this very specific albeit complex form of power" (Foucault, 2007, p. 108). Two features of governmentality are of relevance to the present study: translation (discursive and pragmatic) and surveillance. First, 'translation', which refers to the enactment of statements and practices from one context into another (Armstrong, 1994). Translation takes place via the discourse and technologies of the state. The discursive aspect of translation relates to "the role of language, vocabularies, education and expertise in the reconstitution […] of regimes of control and calculation in distant sites" (Armstrong, 1994, p. 42). The discursive framing of policy is important for articulating the ends and means of government, that is the 'political rationalities' adopted by those in power to define the domains of government (Miller & Rose, 1990). The language used by the state may be considered a mechanism of translation from the general to the particular (Miller & Rose, 1990). For example, accounting practices might be expected to enable this translation via quantification to reduce ambiguity (Mihret & Grant, 2017).

Further, certain technologies are required to translate policy into action. These 'technologies of translation' are mechanisms used to normalise the conduct, thought and decisions of governed subjects to achieve desired outcomes (Miller & Rose, 1990). Accounting inscriptions are one example of a 'technology of translation' enlisted to create governable/controllable actions and thus translate the government's intentions (Mihret & Grant, 2017). Bulkeley *et al*. (2005) and Bulkeley *et al*. (2007) connected these concepts of discourse and technology to the governance of UK waste. The authors outlined the distinct discourses (policies and procedures) and technologies (regulations, instruments and infrastructure) of waste governance in the UK over a 30-year period. We adopt a similar

governmentality framework to interpret northern Australia's waste policy in the present study. Hence, via these processes of translation (discursive, and pragmatic), state power can be diffused to discipline distant populations (Miller & Rose, 1990).

The second feature of governmentality and state control is surveillance. Foucault outlines how disciplinary societies rely on hierarchical observation to embed the belief that individuals may be observed at any time (Foucault, 1995). The example of the Panopticon is offered in *Discipline and Punish* as an idealised system of efficient observation in which individuals assume they are under constant surveillance and so conform to desired modes of behaviour (Foucault, 1995; Mihret & Grant, 2017; Spence & Rinaldi, 2014). Within a contemporary liberal democracy, the state may impose "a form of surveillance and control as attentive as that of the head of a family over his household and his goods" (Foucault, 1991, p. 92). Ultimately, this form of surveillance can include self-governance when individuals internalise desirable forms of behaviour and so act in accordance with the desires of the state (Mihret & Grant, 2017). This idealised form of state influence over individual and social behaviours may thus be understood as a form of self-governance, or 'technologies of the self' (Foucault, 1988) such that individuals internalise desirable forms of behaviour (Burchell, 1996; Miller & Rose, 1990). Systems of accounting and performance measurement might similarly extend the 'disciplinary gaze' of those in power to evoke compliant behaviour among their subjects (Armstrong, 1994). That is, individuals feel compelled to behave according to the wishes of the state or organisation because they are aware that their performance will be measured and reported (Armstrong, 1994).

These features of governmentality, translation and surveillance, combine to establish the state's influence over its subjects. Governmentality thus describes state power at both a conceptual and pragmatic level wherein political rationalities and technologies of government combine, defining who is to be governed and how. In this study we explore the translation of waste management aspirations into practice in a distant part of the Northern Territory. We interpret the discursive framing of the 'Circular Economy' as an empty signifier (Bekier & Parisi, 2023), to which meaning has been attached and translated across spatial boundaries. Our interest is in the role of the municipal council in the process of translation as an agent of government at a local level. By examining the discourse, technologies and surveillance present to enable waste governance, we can explore the role of public sector accounting and accountability practices connected to the CE transition. Our methodology and data collection methods are described in further detail below.

4 Methodology

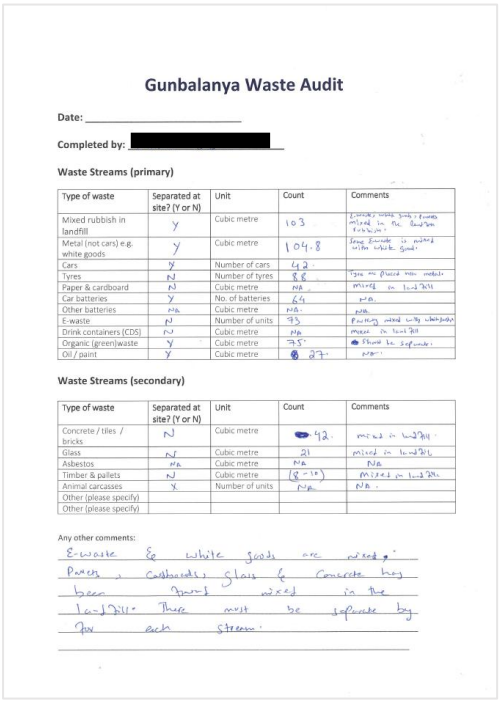
> "To study processes of governmentalisation requires us to attend not just to the programmes of the powerful but to their operation and to the manifold ways that individuals, groups and populations absorb, comply and resist these projects." (Mckinlay & Pezet, 2010, p. 494)

Our exploration of waste governance required deep immersion in the field of study and engagement with diverse individuals and groups engaged in northern Australia's waste industry. Accordingly, and in line with our research objective to evaluate the role for local government accounting and accountability practices in supporting the CE transition, we adopted an interpretive mode of inquiry, focused on a single case study setting. We considered a case study approach to be most appropriate to provide rich insights into the phenomenon of study (Patton, 2015) and allow for the exploration of multiple or differentiated realities (Llewellyn, 2007). Case studies in accounting offer unique opportunities to learn about groups and organisations in their natural environments and for researchers to immerse themselves in a particular context (de Villiers *et al*., 2019; Kaczynski *et al*., 2013). In accordance with the case study methodology outlined by Stake (2005) and Yin (2009), our study included multiple field work approaches, including waste data collection, semi-structured interviews, unstructured interviews, site visits, and documentary analysis. The motivation for collecting data via multiple methods was to offer triangulated perspectives on the governance of waste in our chosen setting, allowing a detailed evaluation of the council's accounting and accountability practices in connection with waste and the CE transition.

Access to the case site was negotiated as part of a consultancy project conducted for WARC by the research team, to review strategic waste options for the council. WARC in turn agreed to the creation of academic outputs to share their experiences with wider audiences. Initial conversations with WARC's Chief Operations Officer indicated that the council did not have weighbridges to measure waste quantities at its community waste facilities and did not keep records of quantities of salvageable or hazardous materials stored on site. WARC therefore conducted an internal waste audit using a template provided by the authors to quantify volumes of waste stored at each waste facility. The audit was conducted in consultation with the research team to provide direction for categorising and measuring waste volumes in a consistent manner across all sites. To address concerns of measurement inconsistency, WARC arranged for the same employee to visit each of the five waste facilities and conduct the waste audit in the same manner. Figure 1 gives an example of the data recorded at the Gunbalanya waste facility.

Figure 1: Gunbalanya waste audit data record

Source: Authors, WARC



Gunbalanya Waste Audit

Date: _____

Completed by: [redacted]

Waste Streams (primary)

Type of waste	Separated at site? (Y or N)	Unit	Count	Comments
Mixed rubbish in landfill	Y	Cubic metre	103	[illegible] mixed in the bottom
Metal (not cars) e.g. white goods	Y	Cubic metre	104.8	Some fridges is mixed with white goods
Cars	Y	Number of cars	42	
Tyres	N	Number of tyres	88	Tyre are placed with metals
Paper & cardboard	N	Cubic metre	NA	mixed in landfill
Car batteries	Y	No. of batteries	64	
Other batteries	NA	Cubic metre	NA	NA
E-waste	N	Number of units	93	Putting mixed with whitegoods
Drink containers (CDS)	N	Cubic metre	NA	mixed in landfill
Organic (green)waste	Y	Cubic metre	75	Stored in separate
Oil / paint	Y	Cubic metre	0.27	

Waste Streams (secondary)

Type of waste	Separated at site? (Y or N)	Unit	Count	Comments
Concrete / tiles / bricks	N	Cubic metre	42	mixed in landfill
Glass	N	Cubic metre	21	mixed in landfill
Asbestos	NA	Cubic metre	NA	NA
Timber & pallets	N	Cubic metre	(8-10)	Mixed in landfill
Animal carcasses	X	Number of units	NA	NA
Other (please specify)				
Other (please specify)				

Any other comments:

E-waste & white goods are mixed. Papers, cardboard, glass & concrete they been burnt mixed in the landfill. There must be separate bay for each stream.

On completion of a desktop review of the waste data and relevant academic and policy literature, we arranged site visits to each of the five communities in the region, allowing for up to one day in each location. Prior to travel, we obtained university HREC approval for research involving Aboriginal and Torres Strait Islander participants and Northern Land Council permission to travel to Aboriginal communities for research purposes. These processes were lengthy but ensured that our research design was developed in consultation with WARC and Northern Land Council, as appointed representatives of the communities we were visiting. During these community site visits, we spent time with staff at the council office, visited each of the community waste facilities and other sites of interest (such as the barge unloading area, arts centre or community store), and were given a tour of the community by the Council Services Manager. We kept a voice recorder running during most of our time in the community to capture our informal conversations with council staff (with their permission) and in addition conducted semi-structured interviews with several key waste management staff. These interviews were also recorded and transcribed in full, with each participant's permission. A full list of interview participants and durations is given in Table 2.

We further updated the waste data collected during the audit with waste flow data by asking waste management staff to outline the frequency of municipal and domestic waste collections and number of times the waste trucks would fill up each day. This information gave us an approximate measure of

the annual waste being generated in each community, in the absence of a more formal waste measurement system. We conducted additional interviews with key stakeholders in the waste management sector such as transport companies and recycling/resource recovery companies to provide a more complete picture of strategic waste management options in the region. Following these community visits, we wrote extensive field notes to capture our reactions and observations at each site. This process of 'writing the field' (Baxter & Chua, 2008), combined with lengthy conversations as we travelled between field sites, formed the start of our interpretive analysis. We completed our data collection with a careful review of WARC's annual reports and strategic plans from 2018–2023 in addition to the Northern Territory government's regional waste strategy documents 2015–2022 and 2022–2027.

Table II: Anonymised list of interview participants

Interviewee reference	**Job title / description**
CSM1	Council Services Manager, Community 1
LO1	Landfill Officer, Community 1
LO2	Landfill Officer, Community 1
CSM2	Council Services Manager, Community 2
LO3	Landfill Officer, Community 2
CSM3	Council Services Manager, Community 3
CSM4, DCSM1, WMO1	Council Services Manager, Deputy Council Services Manager, Waste Management Officer , Community 4
CSM5	Council Services Manager, Community 5
Stakeholder 1	Sustainability Manager, neighbouring municipal council
Recycler 1	Regional Manager
Recycler 2	Northern Territory Manager
Recyclers 3 and 4	Business Development Manager, Managing Director
Transporters 1 and 2	CEO, General Manager
Transporter 3	Branch Manager

Our combined data set was analysed abductively and iteratively by both researchers to interpret our findings in the context of the Foucauldian concepts of governmentality, and the discourse and technologies of governance. Following Charmaz (2014), we used qualitative research software NVivo to manually code interview transcripts and documents initially into first-order codes, before reorganising and re-classifying codes into coherent themes that reflected the salient sentiments identified through our field work. We present these overarching themes from our analysis in section 6. Next, we introduce the setting of our case in further detail.

5 Case background

The setting for this study is the remote West Arnhem region of Australia's Northern Territory. The municipal council, West Arnhem Regional Council (WARC), is responsible for public services including road and airstrip maintenance, waste collection, parks and recreation facilities, for a 50,000 km^2 region

and with a population of approximately 6,300 people, of whom 77% are Aboriginal peoples, including the Bininj/Mungguy people and the Maung people of the Goulburn Islands (WARC, 2023): a population density of less than eight people per km^2. This remote region encompasses coastal and outback landscapes, with much of the population residing in one of five main townships (known locally as 'communities'): Jabiru, Gunbalanya, Maningrida, Minjilang and Warruwi. These communities were formally established during the twentieth century, although evidence of human settlement in the Arnhem region dates back 60,000–65,000 years ago based on findings at the rock art site of Madjedbebe (Clarkson *et al*., 2017). Today, these communities can be accessed from Darwin by road during the dry season but may be inaccessible for up to six months during the wet season. The two islands and the coastal community of Maningrida are accessible year-round by sea or by air. Economic activity in this remote region is typically limited to one or two grocery stores, a fuel station, school, clinic, and arts centre in each community. Jabiru is an exception as a centre of tourism for the Kakadu national park, attracting 212,000 visitors annually (NT government, 2019), and is the closest community to the recently decommissioned Ranger uranium mine.

WARC is governed by a board of 12 elected Councillors and was established in 2007 as a local government institution and municipal service provider. The region has a small population of ratepayers, hence WARC's \$6m[2] annual budget for municipal services is primarily funded by Northern Territory and Commonwealth government grants, which represent on average 48% of the council's income[3], while 22% of WARC's income is generated by annual rates and charges, and 30% is other income including user charges and fees. This compares with the nearby city of Darwin where 69% of city council income comes from ratepayers and just 7% from grants[4]. WARC's relative reliance on grant funding may result in less flexibility in its spending decisions and a requirement to align strategically with state and federal government priorities. Indeed, this reliance on intergovernmental funding may indicate an unsustainable approach to financing municipal services and infrastructure (Dollery & Grant, 2011).

According to the annual report, WARC's expenditure on 'environmental protection', including recycling, solid waste management, wastewater management, feral animal control, and reduction of environmental damage "by erosion, pollution, weed and vegetation growth" (WARC, 2023 p. 118) averages \$1.4m annually, or 5% of annual income. This represents one of the smallest budget areas for WARC and covers the salaries of municipal staff in addition to operating costs for council-owned

[2] All figures are in Australian Dollars (AUD)
[3] Based on the average for the 5-year period 2019–2023. Source: WARC annual reports
[4] Based on the average for the 5-year period 2019–2023. Source: City of Darwin annual reports

equipment and machinery to maintain the waste management facilities in five communities. The 2023 carrying value of WARC's waste infrastructure was $14.1m (WARC, 2023).

WARC operates a landfill at each of the five communities in the region to process waste collected on a weekly basis from domestic and commercial wheelie bins. Each landfill site follows similar processes of burying, burning, and 'capping' waste (i.e. dispersing a layer of clay soil on top of the waste material to prevent wind-blown waste and vermin). Some, but not all, of the landfill sites were protected by a fence and many had sorting bays designed to encourage the separation of waste at the landfill. We observed there was no weighbridge at any of the landfills, and at only one site (Jabiru) a system of charging for waste was in place, based on the estimated cubic meterage of waste volumes brough to the landfill. No records were kept of waste volumes (except Jabiru where charging was in place for certain waste streams), and there was no standardised reporting mechanism between the communities and the central council on landfill processes. We reflect further on the landfill operations and waste control efforts in the context of the region's waste strategy and governance processes in the next section.

6 Findings

The fieldwork for this study focused on exploring waste governance in the West Arnhem region, and the implications of these observations for public sector accounting and accountability. We organise our findings according to the governmentalities of discourse, technologies and surveillance. Our findings indicated that waste management discourses at the local and state levels have changed from linear disposal to CE in line with Australia's national waste strategy, albeit with a stronger CE narrative at state compared with local government level. Yet our findings indicate that the technologies required to enact this changing discourse are missing, and there may be a conflict between the rationality of waste diversion and the objective of economic returns. This conflict has resulted in a significant mismatch between political discourse and action at a local level. We identified a breakdown in the state government's ability to control this area of policy from a distance for several reasons, such as a failure to influence individual behaviours, including those of the regional government procurement departments, and misgivings over enforcing waste strategies that may conflict with cultural norms. We explore the features of waste governance in the region in the following sections.

6.1 Waste discourse: shifting rationalities from linear to circular

Our review of waste policy documents and strategies, including the strategic plans of WARC and the Northern Territory Government, revealed a significant shift in the discourse connected to waste management over the past decade. We note, for example, that whereas WARC's waste management

strategy has only recently begun to move away from a linear disposal approach, discontent among community members and council staff at the lack of recycling and resource recovery has been building for some time. We consider these changing perspectives and competing narratives in the following paragraphs.

Historically WARC's waste management strategy was dominated by a linear mindset, aligned with its strategic definition of waste management as "[t]he provision of domestic waste collection services in each community, and the management and maintenance of landfill sites" (WARC, 2021 p. 33). When reporting against the strategic objective to collect commercial and domestic waste, WARC's report narratives regarding waste focused on the collection of waste from communal areas and removal out of sight to landfills, and the success of waste management initiatives "giving a much more pleasing aspect to the community" (WARC 2018, p.64). The council's waste strategy further connected a narrative of 'beauty' with 'freedom from litter', such as featuring a photograph with the caption "A beautiful Warruwi free of litter" (WARC 2019, p. 57). Several reports announce the receipt of 'Tidy Town' awards (for example, in 2019 all five WARC communities received awards), while the aspiration to win Tidy Town awards was further articulated as a performance measure in the WARC strategic plan for the years 2023–24 and 2024–25.

The efficacy of the council was thus measured on the visual impression of towns being litter free, and by prioritising the collection and removal of domestic and commercial waste to landfill for burning and burying. This approach to waste governance was accompanied by behavioural incentives within WARC such as the achievement of awards to encourage compliance with desired waste disposal. There were no targets during this period to reduce or divert waste volumes and no systems in place to measure or record waste volumes. Furthermore, there was limited scope to apply accounting practices to this disposal mode since the recording and reporting of landfill volumes might counter narratives around waste disposal and the invisibility of waste. That is, where the strategic intention is waste collection and removal to landfill, there is no clear motivation for the local council to measure or report on waste volumes.

Yet, community residents were unhappy with the environmental impacts of the landfill sites. As one Council Services Manager explained, "the people that live here with it don't like it either. They're disgusted by it. They have every right to be". Further, the discourse of a linear waste strategy conflicted with community values:

> "We've got, you know, a culture that's 60,000 years old, we've got land that's never been touched, virgin soil that we're digging and putting stuff into a hole […] Whatever comes in should go out. If we're bringing rubbish in, we should be bringing rubbish out." (CSM2)

Expectations at a global and national level regarding the diversion of recyclable materials away from landfill have also shifted in recent years. These expectations were expressed, for example, in the Waste Management Strategy for the Northern Territory 2015–2022 (Northern Teritory Environmental Protection Act [NTEPA], 2015). The most recent waste strategy of the Northern Territory Government (NTG) redefines waste as a resource and aligns with shifts at national and supranational levels to adopt CE narratives in the management of waste (NTG, 2022). The strategy describes the economic motivation for a CE transition as a potential contributor to the government's "ambition to boost the population beyond 300,000, create 35,000 more jobs and achieve a $40 billion economy by 2030" (NTG, 2022, p. 2). A CE approach is expected to "play a key role in building the Territory's economy" (NTG, 2022, p. 2), and for its potential to "enhance resource efficiency, reducing the extraction of new material for industrial and household use and preventing waste" (NTG, 2022, p. 3). This CE transition is further being prioritised in line with Australia's 2018 National Waste Policy (Commonwealth of Australia, 2018; NTG, 2022).

We observed a discursive shift in WARC's approach to waste governance starting with its strategic plan for 2022–23. The new strategic plan included 'Pillar 5: Sustainability and Climate Action', according to which WARC would "[d]evelop recycling and waste initiatives which protect and preserve community natural resources and the local environment" (WARC 2021, p. 39). This inclusion of sustainability targets had the stated support of "Mayor Ryan, Elected Members, Local Authorities and staff [who] provided clear and unified voices on this first for Council" (WARC 2021, p. 13). WARC does not appear to have fully endorsed a CE strategy but has moved towards resource recovery aspirations. Waste management falls under the strategic objectives of 'Sustainability and Climate Action' in which, WARC states:

> "Leading by example, we commit to developing a culture of sustainable practice. We recognise and champion the importance of safeguarding our environment for future generations by working collectively with community, private enterprises and all tiers of government." (WARC 2024, p. 35).

In line with these shifting discursive framings of waste policy, we observed evolving technologies in the region designed to enact emerging political aspirations.

6.2 The technologies of waste governance

A lasting impression from our fieldwork was the historical dominance of a linear disposal model in the region. Historically, virtually all waste across the region had been taken to one of the five landfills, where it was burnt or buried. For these communities, all manner of waste items including construction waste, scrap metals, cardboard and packaging, hazardous materials, and household putrescible waste, were transported to the landfill site. Household waste streams were compacted and burned periodically, while hard rubbish and hazardous materials were stockpiled.

> "Nothing has ever been taken off the island. Everything that has ever been here is still here. Nothing has ever been taken off." (CSM3)

Investment in waste technologies as evidenced in WARC's annual reports for the years 2017–2022 feature developments in waste infrastructure to facilitate waste disposal, such as household wheelie bins, new compactor trucks, and fencing to prevent wind-blown litter escaping the landfill sites. For example, the 2018 report described the investment in 550 wheelie bin stands:

> "Addressing the problem of bins being knocked over by animals in the community, the welded bin stands are stable and secure so there is now less rubbish on the ground" (WARC 2018, p.64)

The 2021 report documented a new initiative to introduce skip bins, placed "at strategic locations" in the Maningrida community to reduce waste in public areas (WARC, 2021).

The 2022-23 strategic plan announced a new sustainability focus, but with few specific details of waste technologies in support of this aspiration. However, our observations during field work in late 2021 indicated that work towards the diversion of waste materials from landfill had already begun. Indeed, it was our perception that staff were driving these initiatives in many instances as they were unhappy with the volumes of waste going to landfill. Several of the landfills we visited were running out of space following years of burning and burying mixed wastes in a series of landfill trenches. WARC staff at each community had implemented waste separation strategies to divert certain materials from landfill and stockpile according to material type. These strategies included new signage and infrastructure upgrades to introduce sorting bays at the entrance to several landfill sites. The intention of the bays and signage was to encourage landfill users to sort their waste into material types (such as cardboard, recyclable containers, gas bottles, waste oils) and then dispose of sorted waste streams in the allocated bay.

A similar process was repeated inside the landfill sites, with stockpiles of sorted waste streams organised next to hand-made signs identifying the appropriate waste for that area – scrap metal, car tyres, white goods, for example. These efforts created a sense of order at the landfill sites and a hope that at some future time, the sorted waste piles might be removed for recycling. When we visited one community, three road trains had transported more than 200 tonnes of scrap metal waste 300 km to Darwin for recycling for the first time.

> "We've just had tonnes and tonnes of scrap taken away that we stockpiled and then those recyclers come in and we load them, load their road trains, take it out. I think there's been three road trains of metal taken out in the last couple of weeks." (CSM1)

In Jabiru, the closest community in the WARC region to Darwin and the only community accessible via a sealed road, a recycling program had successfully resulted in the removal of 420 tonnes of scrap metal including approximately 100 car bodies in the previous 12 months. An arrangement was in place with a scrap metal dealer to collect scrap metal in quantities of 200 tonnes at a time:

> "We've been working with [a scrap metal dealer] and it's been, their sort of magic number is around 200 tonne that should be on the ground for them to warrant to come out and obviously dry season as well to come out, crush, bale, and they will take it back to their facility and they will recycle it." (CSM2)

Certain hazardous waste streams including paints, oils and car batteries were routinely removed from Jabiru and taken for appropriate disposal in Darwin.

WARC's new strategic focus on waste diversion was also motivated by environmental and regulatory concerns. Several of WARC's landfills were running out of space, compounded by expanding populations and increased volumes of construction and demolition waste and packaging materials being brought into communities. At several sites, records of the location of previous pits had not been kept, causing uncertainty among staff over where future pits could be dug. Furthermore, two of WARC's landfills were operating without licences due to issues securing leases over the landfill sites, according to a 2021 report by the Local Government Authority of the Northern Territory (LGANT, 2021).

Despite the efforts to divert waste from the landfill sites, limited progress had been made to remove recyclable materials from the communities for several reasons. First, the community waste management teams lacked appropriate technology and infrastructure such as grabbers, crushers, excavators, loaders, and containers for transportation of hazardous wastes. This equipment was not consistently available across the five communities and would require a significant investment to equip

each community appropriately. Those communities more geographically isolated from Darwin (where WARC's maintenance managers are located) appeared to have relatively less influence over WARC's allocation of resources and had less suitable equipment as a result. One CSM noted, "they're sitting in Darwin, they don't live here with it. We do."

Second, WARC did not have formalised back-loading arrangements in place with the transportation companies (such as the barge companies and road hauliers) who regularly serviced the community to bring goods in. These companies appeared to be reluctant in some cases to back-load waste materials to Darwin. In the absence of back-loading arrangements, it is prohibitively expensive to remove the sorted wastes from the communities. One consequence of this inertia in material removal for Jabiru, for example, is that the recyclable materials collected from households were taken to landfill and stockpiled:

> "And where do you take [the household recycling], does that go to the same [landfill] or would you tip it out elsewhere?" (DM)
>
> "It goes to landfill." (CSM2)

Third, WARC did not have in place a consistent system for measuring and reporting on waste volumes. Bulkeley *et al*. (2007) acknowledge the importance of performance measurement systems for progressing from disposal to waste diversion and CE strategies. For example, an accounting or recording system might be used to measure waste stream volumes to support strategies that address the most significant waste streams. WARC had no such system in place due to a lack of resources required for such a system to function, such as staff capacity and cellular connectivity.

A final cause of limited progress towards removing sorted waste streams from the communities was financial. A CE-focused strategy might be feasible under conditions where the value of resources recovered would exceed the costs of transporting recyclable materials to their destination. Yet in the WARC region, the financial gains from material recovery were insufficient to meet the cost to transport materials to Darwin for processing. As noted by one member of WARC staff, from the perspective of the recycling companies, "they're not making any money so it would have to be only out of good spirits that you want to clean communities up". For example, an extensive program in Maningrida to remove scrap metal from the community was halted at the last minute when the steel price fell, making the program financially unviable for the metal dealer. The removal of other waste streams, such as hazardous waste streams and construction and demolition waste, also appeared untenable without available funding from WARC. Certain of these waste streams posed an environmental risk to those living in the communities, such as fire risks or leachate pollution from the landfill sites, but not of

sufficient magnitude to prompt a budget allocation to remove the waste from the communities. Hence the objective of waste diversion appeared to be in conflict with the council's objective to deliver financially profitable services. Our investigations indicated that upgrading current landfill sites to waste transfer stations would cost $7m–$8m with associated annual operating costs of $1m per site. Yet the estimated value of recoverable materials in the region was negligible. Whereas a 'user pays' model has had some success in other jurisdictions (Jørgensen *et al*., 2023; Quinn & Feeney, 2020), WARC staff were concerned that introducing landfill charges would lead to increases in illegal dumping. Hence, the economic case for resource recovery in the region appears untenable.

Other CE strategies such as extended producer responsibility and container deposit schemes were not found to be economically viable in the WARC region. Product stewardship schemes, in which manufacturers have an obligation to recover waste materials such as tyres, mattresses, and e-waste, were not in operation for these remote communities, and could not be enforced. Even plastic drink bottles and aluminium cans included in the NT's 'container deposit scheme' were not being routinely collected, aside from in Jabiru. As one Council Services Manager explained, "There's no recycling whatsoever here. We've asked about it and everyone says it's not practical". Yet elsewhere such recovery schemes have enjoyed high take-up rates, including in the Northern Territory's urban centres of Darwin, Katherine, Tennant Creek, and Alice Springs (NTEPA, 2023). These findings underscore the high barrier to resource recovery due to the remote location of the communities under study.

Hence, we identified a discursive shift towards waste diversion and CE strategies in the region, driven by national and global narratives, and at a local level by council staff working to divert waste from landfill. Yet the strategy had been only partially implemented, without sufficient investment in necessary technologies such as waste infrastructure or systems for recording and reporting waste volumes, and without the necessary logistical relationships in place to achieve diversion objectives. A further element of WARC's progress towards a CE transition relates to surveillance.

6.3 Surveillance and governance of the self

Our findings indicated strong support amongst WARC employees for waste management efforts to move beyond disposal and diversion to find long-term, sustainable strategies to remove waste from the communities and connect with recycling firms. Participants in this study appeared to be supportive of diversion and CE waste strategies, motivated by a concern that the landfill sites were running out of space and unable to cope with increasing waste volumes. WARC staff were also conscious of the sacred nature of Aboriginal land and the desire among community members for waste disposal practices to change. Council staff also noted that local residents had generally been supportive of efforts to divert

and stockpile recyclable materials, and were sorting their items as directed at the landfill. One landfill officer commented “It’s going awesome. Just a few of the contractors that are coming up […] they didn’t know there was a pit down there so everything was going in this section. So I had a word to them the other day and I’ve seen them going down there every time.”

Yet council staff were having mixed success with encouraging responsible commercial waste disposal when landfill staff were not onsite, and direct surveillance activities were not widely used. Two landfill sites had a CCTV system in place, although opinions were divided over the efficacy of the system. The technology had not been introduced to other landfill locations due to lack of power or cellular connectivity. In one location, the cameras were used to identify those responsible for illegal dumping at the landfill site, providing an effective deterrent from illegal dumping. In the other, the positioning of the camera meant that it did not fully capture the landfill area and the camera would start recording any time there was a slight movement at the sight, recording hours of unnecessary footage:

> “They're useless because they blow in the wind, once that pile starts shaking, it starts recording. It records the clouds on the ground and the shadows. Anything, flies at night too […] so yeah, it’s stupid. It records any little movement. Even at night too, you see all the buffalo walking around.” (DCSM 1)

As a result, the camera footage was not used by the council staff to influence waste behaviours. Some council staff were also concerned that attempts to control behaviours at the landfill sites would have unintended consequences and lead to increased illegal dumping:

> “[Restricting access to the landfill], would create more dumping in the town area because it is still quite a distance away, we have quite a lot of dumping in the town area. So it’s really difficult for us, if we close it, it creates more issues for us.” (DCSM1)

Yet in many communities, council staff acknowledged that they could recognise who was likely responsible for dumping at the landfill gates based on the items thrown away:

> “I can read the rubbish. Sodexo, I know the boxes, the canteen area. I know who it is” (LO2)

At other times, however, it could be more difficult to identify who was dumping waste, particularly construction workers who are not community residents but are known to dump waste by the roadside from their trucks:

> “We don’t know who they are. They're all fly in, fly out. Most of the guys are here for a week on, week off. When we say oh hey, something fell out of your car, oh no, that wasn’t me.” (DCSM 1)

Furthermore, in our analysis of commercial waste behaviours, we identified inconsistencies in the the NTG’s own approach to waste governance. One of the major sources of waste for the region is construction companies who are principally engaged directly by the government for community housing and infrastructure services. These companies are supposed to include in their quotations a cost for disposing of construction and demolition (C&D) waste appropriately. However, the NTG typically selects the lowest cost option, which tends to encourage the construction companies to dispose of the waste in the landfill site as a lower cost option than removing it from the community altogether. In practice, the construction companies would often dump their waste at the landfill without paying the council:

> “So during their tender process, [the construction companies] actually apply for the amount that is going to go through the landfill. More often than not, we actually don’t have any notification from any contractor that they're going to be dumping stuff. There’s all this, you know, government money that’s supposed to be coming and filling into the community through the landfill process but it’s not because there’s no one to make them liable.” (WMO1)

The council service managers attributed this situation in part to WARC management, who would authorise contractors to leave C&D waste at the community landfill sites, even where the contracts stated that all waste should be removed:

> “[The contract] states that all contractor’s waste that they bring in and don’t use has to be taken out and all building waste from extensions and whatever all has to be taken out, okay, so that’s what it says on our rules. I talked to our people in Darwin that do all this, that send the contractors in and I say to them what’s going on with the waste, they're supposed to take it out. Oh no they don’t, it’s going to the dump. They’ll just leave it out the front, you fellows take it to the dump.” (CSM3)

This confusion over the responsibilities for C&D waste between WARC’s landfill staff and NTG contractors resulted in significant waste volumes going to the community landfills, missing an opportunity for the government to directly influence local waste management. Contractors could be encouraged to take greater accountability for waste disposal by building in a requirement to show receipts from the waste disposal facility. Yet current practices appear to contradict WARC’s stated

ambition for “working collectively with community, private enterprises and all tiers of government” (WARC, 2024, p. 35) in relation to C&D waste.

A more complex issue related to individual waste disposal practices, with council staff expressing a reluctance to try to change certain household behaviours. The reasons for this are complex and relate in part to a respect for different cultural attitudes to waste. For example, in Maningrida, there is a tradition following a person’s death to dispose of their belongings in the sea to be cleansed by the saltwater. Yet this practice has become problematic in contemporary times given the increased volume of personal possessions made of non-biodegradable materials. Various suggestions had been put forward to address the problem, such as containing possessions in a net or cage to prevent ocean pollution, but to limited effect. One interviewee explained their reluctance to attempt to influence these practices, as they were a ‘visitor’ from a different Aboriginal culture, while at the same time acknowledging that certain practices were untenable in contemporary times:

> “We’re in a place that doesn’t belong to us, we’re all visitors essentially. Even I’m a visitor, my family is two hours away from here but I wouldn’t classify myself as from being here because it’s completely different. [W]e need to be culturally appropriate but at the same time […] back in those days, you know, it would’ve been biodegradable stuff that people wore, almost no clothes, those kinds of things. Now that we have clothes and we have belongings and things that are not biodegradable, how do we educate in that sector to be able to make it culturally appropriate to be able to dump that stuff?”

Previous studies have identified a grassroots commitment to waste initiatives as a critical component of changing individual waste practices and hence strategic waste management success (Arjaliès *et al*., 2023). Yet in the case of WARC, council staff seemed unsure whether waste diversion approaches aligned with the cultural values of the local communities and were reluctant to try to influence certain waste behaviours.

6.4 Progress towards a CE transition

Our findings suggest that disposal has predominated waste policy in the WARC region, with local government waste efforts focused on clearing away waste from public areas to the community landfill sites. This may not be surprising given the connections between waste disposal practices and public health (Hamer, 2003). Narratives in the WARC annual reports constructed a discourse of ‘litter free’ communities with success measured in terms of waste (in)visibility. WARC had invested in various technologies to support this mode, including wheelie bin stands and garbage trucks. Yet WARC staff

and community members were concerned by the volumes of waste being created and lack of progress towards waste reduction initiatives.

In recent years, a new mode has emerged, connected with a waste diversion discourse, to reduce waste disposal and recover reusable materials from landfills. But while diversion has occurred in terms of reducing the volume of waste burned or buried in landfill, in practice the diversion mode has failed to translate to CE achievements since resource recovery is still not occurring. The highest volumes of waste were generated by the community stores and construction companies, yet there appeared to be no strategic initiatives in place to encourage waste reduction. Nor were there clear directives from the federal or NT government to encourage those responsible for generating waste to remove it from the community. WARC also refrained from including waste reduction in its own strategic waste aspirations. While the NT government has attempted to adopt federal government aspirations for a CE in its waste strategy, it has failed to offer suitable technologies of governance to embed the CE rationality in practice. We observed a stated ambition at a policy level to transition to a circular economy, but without the regulatory or financial backing to make this happen.

A CE mode of waste governance requires financial investment, collaborative mindsets, and product redesign to succeed (Aureli *et al*., 2023; Halari & Baric, 2023). Those engaged with a CE strategy are expected to apply sustained effort and total commitment to their objective (Arjaliès *et al*., 2023). Yet for WARC, it was unclear whether these foundational capabilities exist or if WARC is sufficiently powerful to influence the supply chains that bring waste to the communities. Our findings also highlight a contradiction between the NT Government's strategic CE narratives and its waste practices, and the failure of surveillance technologies to align behaviours with desired waste outcomes.

Hence, CE ambitions appear incompatible with financial realities in sparsely populated regions where transportation costs outweigh the value of materials recovered and where local complexities of culture and community relationships may create diverse attitudes to waste. The CE aspiration assumes that 'the market' will reach an efficient equilibrium in which the value of resources will motivate private sector partners to recover reusable materials. Yet, as we have seen, this market-based perspective overlooks the social and environmental costs of waste, causing an over-production of waste. Furthermore, the regional government has insufficient funds to correct this market failure and address the external effects of waste. Indeed, the Northern Territory Government's own attitude to waste appears dominated by the lowest cost, rather than the environmentally optimal, solution. It may be an unintended consequence of the CE model that its 'waste as a resource' discourse distracts attention away from waste reduction initiatives.

7 Concluding discussion

Modern governments in liberal democracies such as Australia employ diverse tactics to align individual behaviours with their broader agenda for social outcomes (Foucault, 1991, 1995; Gordon, 1991). When it comes to climate change, these efforts require cross-sector collaboration to reduce the extraction of non-renewable resources so that we may live within planetary boundaries (Halari & Baric, 2023; Nadeem *et al*., 2018). A transition to a new way of producing and consuming by creating a 'circular economy' has been proposed in response. This CE discourse has been adopted at a global level by the United Nations (2019), with many national governments similarly introducing CE ambitions in their own national waste strategies, for example, Commonwealth of Australia (2018). In this study, we have explored the "manifold ways that individuals, groups and populations absorb, comply and resist" CE initiatives (Mckinlay & Pezet, 2010, p. 494). Our analysis has examined the multiple levels through which 'the state' enacts its waste policy, at national, state, and municipal government levels. Through a case study of a regional council located in remote northern Australia, we have evaluated the ways in which governments can act 'at a distance' to influence individual behaviours. We have further considered the implications of this study for public sector accounting and accountability in the CE transition. In this final section, we discuss our findings in the context of waste governance and governmentality, and conclude with avenues for future research.

Foucault (2007, p. 108) describes the ability of governments to influence social behaviours via a "complex form of power" that includes tactics such as surveillance, technologies, and discourse. This study has identified the deployment of these tactics with varying degrees of success. From a governmentality perspective, the influence of the CE as waste discourse is evident at an international, national, territory, and local government level. Australia's national waste policy framework, introduced in 2018, adopts a CE narrative in alignment with international rhetoric that has evolved at a supranational level via institutions such as the United Nations. These CE narratives in turn have influenced both the Northern Territory government and WARC's waste governance strategies (NTG, 2022; WARC, 2024). Yet despite this discursive construction of CE principles in regional and local government policy strategies, this study has identified an incomplete process of translation into action. We observed that WARC's boundaries of waste governance are drawn at the level of the community landfill and in public areas; council staff consider this to be the extent of their domain of influence over waste behaviours. WARC does not, for example, appear willing or able to influence waste generation by commercial entities such as the community store, contractors, or households. Indeed, we uncovered an inconsistency in the Northern Territory government's own approach to waste management, prioritising cost over environmental impact in its contracting process. One reason for

this incomplete translation of CE expectations may be a lack of specific waste volume targets either at the territory or regional level. And without such incentives to change waste behaviours, there is limited scope for a region to transition towards a CE.

By extension, our study also identified a lack of resource allocation to establish appropriate technologies for resource reuse and recycling. The technologies adopted to influence and control waste generation and disposal were limited to landfill signage and wheelie bins for residential and commercial waste disposal. There was an evident lack of technology in place to measure, record and report waste, enforce landfill charges (except for Jabiru), or incentivise waste reduction or diversion. While certain waste streams are now being diverted from landfill, the costs and complexities associated with removing hazardous or recyclable materials from these remote locations has made resource recovery untenable. WARC does not have the fiscal capacity to meet such expenses from its rates income, nor do the waste streams have sufficient value to make their recovery viable. Available technologies for charging at waste disposal sites appear inadequate for remote locations, and risk creating unintended consequences such as illegal dumping. Hence the objective to extract economic value from waste, as articulated in the Northern Territory government's CE narrative that resource recovery can contribute towards "building the Territory's economic recovery" (NTG, 2022, p. 2), appears to conflict with the economic realities in this remote region. The inconsistency between the CE discourse and economic objectives was noted also in the Northern Territory government's own procurement behaviours that prioritise lowest cost in construction contracts over environmental objectives, encouraging contractors to leave excess materials and waste in the community rather than covering the cost of removal.

The inadequacy of technologies to support a CE transition extended also to surveillance and oversight. We identified a tension between desirable waste behaviours and the government's ability to oversee and enforce these actions. Council staff were concerned that controls such as fencing and CCTV cameras to enforce landfill charges might have unintended consequences such as encouraging illegal dumping or disrupting community relationships. We also discovered that the product stewardship regime was not effectively enforced by government, and that companies were not held to account for the waste they created in remote communities. It is evident from these findings that the state has diminished authority to exert an influence from a distance in very remote places such as the setting of our case study, with implications for local populations who have limited power to influence the behaviours of the producers and suppliers most responsible for waste creation. Indeed, in the case of WARC, we found that the local community members and council workers were supportive of a CE transition, and wanted the government to do more to support and enforce waste reduction.

Hence, a governmentality perspective has highlighted the competing discourses and complexities of policy making and behavioural change connected with CE transitions. Previous studies of CE strategies have further noted the requirement to transform economic thinking, to design out waste and pollution from our supply chains (Aureli *et al*., 2023; Halari & Baric, 2023). Yet we found limited evidence of this happening in Australia's Northern Territory. The CE strategy adopted by the NT government reflects a 'waste as a resource' mindset, open to a potential (mis)interpretation that waste generation can create positive economic outcomes. We have seen from the case of WARC that the priority waste strategy ought to remain one of waste reduction and prioritisation of waste removal from remote areas with fragile ecosystems. A further feature of a CE approach is establishing collaborative networks across the private and public sectors to address waste generation and cultivate zero waste material flows (Arjaliès *et al*., 2023; Aureli *et al*., 2023). Government entities are expected to hold a central coordinating role in these networks (Bulkeley *et al*., 2007; Bulkeley *et al*., 2005). Yet the findings from this study indicated that public sector bodies play multiple, complex, and even conflicting, roles in the waste cycle.

Previous studies have identified the potential role for accountants and accounting controls in the transition to a CE, in support of efforts to control, measure, report and monetise waste (Arjaliès *et al*., 2023). Yet in many cases, this role has not been implemented successfully. Our study of WARC identified additional challenges in the measurement and reporting of waste in remote locations, for example, in finding workable systems to record waste volumes in places without power or cellular connectivity. The complexities of charging for waste identified in this study also offer novel perspectives on waste management in remote contexts. Diverse attitudes to waste based on cultural practices, a lack of controls to prevent illegal dumping, and a need to maintain positive community relationships can make a user-pays approach to waste impracticable. These experiences underscore the importance of waste management approaches that are suited to particular contexts, rather than top-down or 'one size fits all' models (Keske *et al*., 2018; SDWG, 2019). Indeed, WARC's experience underscores the tension that exists between the CE discourses adopted at national and international levels, designed for densely populated urban areas, with the reality of waste operations in more remote areas. The waste governance structures devised in these urban contexts are unlikely to offer suitable solutions in other contexts. We consider that these challenges facing WARC present an opportunity for accountants to bring social and environmental cost calculations into mainstream waste reporting practice and develop workable models for charging for waste at source.

Two research questions were identified at the outset of this research. In response to the first question regarding the role of local government in supporting the transition to the CE, it is suggested that governments can play a key role in coordinating the multi-stakeholder efforts required to transform

resource management practices (Bulkeley *et al*., 2007; Qian & Burritt, 2007), and incentivise desirable disposal behaviours (Jørgensen *et al*., 2023; Quinn & Feeney, 2020). Indeed, at a rhetorical level, the discursive translation of global aspirations for a CE has taken place at a local level via the WARC (2022) waste strategy. Yet, our findings indicate that this rhetoric has not been successfully embedded within the rationalities or technologies of local government to translate it into a change in waste practices. Indeed, we identified a drawing of waste governance boundaries that appear to exclude attempts to influence those responsible for generating waste in the region. In part this may be due to the importance of positive community relationships and reluctance to introduce unpopular landfill levies or attempt to influence cultural practices connected to waste. By extension, the reluctance to address the issue of Northern Territory contractor behaviour might be related to a desire to maintain good relations with a major source of funding. For these reasons, the local government at the centre of this study appeared relatively powerless to influence the CE transition; a finding that contrasts with CE principles.

For the second question, we considered the role for public sector accounting and accountability in the CE transition. If we consider public sector accounting a mechanism to support accountability in the sense of the state's expected pursuit of socially desirable objectives (Carnegie & West, 2005), the present case highlights that a lack of appropriate systems for the measurement, control, recording, and reporting of waste has limited the local government's ability to improve social and environmental wellbeing via CE waste strategies. We attribute this finding to two causes: a lack of performance incentives or targets set in connection with materials recovery by either WARC or the Northern Territory government, and a lack of available resourcing to implement such waste management The present case also highlights accountability gaps between tiers of government, with NTG's own procurement policies undermining CE ambitions by prioritising lowest-cost contracts, and lack of accountability mechanisms to hold the government and private contractors responsible for their waste behaviours. These findings indicate a missed opportunity for accounting in the public sector to implement systems of record-keeping and control that could reinforce or incentivise CE-aligned behaviours.

We acknowledge that this research, as a single-entity case study, is subject to corresponding limitations, and that our findings may not represent every remote part of Australia or elsewhere. Nevertheless, we do believe that our extensive field research and engagement with the waste management sector in the Northern Territory have afforded us rich insights into the challenges and opportunities facing local governments that are likely to resonate with the experiences of other jurisdictions.

We consider the CE transition to remain a fruitful area of future accounting research. Our study has drawn into focus the disconnect between CE rhetoric and observed waste management practices, including the potentially misleading connection between resource recovery and economic opportunity. We encourage further research in this area, and continued explorations of the technologies and discursive rationalities being adopted in corporate and public sector discourses connected to waste.

For WARC, we believe that further progress to move beyond the disposal and diversion modes of governance requires significant investment of time and resources to build stakeholder relationships, reduce waste volumes, and establish viable logistical arrangements to recover resources from the region. It is clear from our study that national and local governments cannot rely on the 'economy' aspect of the CE to provide the necessary resources. Adequate funding and sustained commitment are a first priority.

References

Arjaliès, D.-L., Rodrigue, M., & Romi, A. M. (2023). "Come play with us!" A grassroots research agenda for accounting and the circular economy. *Accounting Forum, 47*(4), 497-524.

Armstrong, P. (1994). The Influence of Michel Foucault on Accounting Research. *Critical Perspectives on Accounting, 5*(1), 25-55.

Aureli, S., Foschi, E., & Paletta, A. (2023). Management accounting for a circular economy: current limits and avenue for a dialogic approach. *Accounting, Auditing & Accountability Journal, ahead-of-print*(ahead-of-print).

Baxter, J., & Chua, W. F. (2008). The field researcher as author-writer. *Qualitative Research in Accounting & Management, 5*(2), 101-121. https://doi.org/10.1108/11766090810888917

Bekier, J., & Parisi, C. (2023). Co-construction of performance indicators for a circular city and its relation to a local action net. *Accounting, Auditing & Accountability Journal, ahead-of-print*(ahead-of-print).

Bell, L. (2019). Place, people and processes in waste theory: a global South critique. *Cultural Studies, 33*(1), 98-121.

Bharadwaj, L., Judd-Henrey, I., Parenteau, L., Tournier, C., & Watson, D. (2008). Solid waste incineration in a Saskatchewan First Nation community. *Pimatisiwin: A Journal of Aboriginal & Indigenous Community Health, 6*(1).

Bowden, B., & Stevenson-Clarke, P. (2021). Accounting, Foucault and debates about management and organizations. *Journal of Management History, 27*(1), 99-120.

Bulkeley, H., Watson, M., & Hudson, R. (2007). Modes of Governing Municipal Waste. *Environment and Planning A: Economy and Space, 39*(11), 2733-2753. https://doi.org/10.1068/a38269

Bulkeley, H., Watson, M., Hudson, R., & Weaver, P. (2005). Governing municipal waste: Towards a new analytical framework. *Journal of Environmental Policy & Planning, 7*(1), 1-23.

Burchell, G. (1996). Liberal government and techniques of the self. In A. Barry, T. Osborne, & N. S. Rose (Eds.), *Foucault and political reason: liberalism, neo-liberalism, and rationalities of government* (pp. 19-36). University of Chicago Press.

Burns, C., Orttung, R. W., Shaiman, M., Silinsky, L., & Zhang, E. (2021). Solid waste management in the Arctic. *Waste Management, 126*, 340-350.

Carnegie, G. D., & West, B. P. (2005). Making accounting accountable in the public sector. *Critical Perspectives on Accounting, 16*(7), 905-928.

Charmaz, K. (2014). *Constructing grounded theory* (2nd ed. ed.). Sage.

Clarkson, C., Jacobs, Z., Marwick, B., Fullagar, R., Wallis, L., Smith, M., Roberts, R. G., Hayes, E., Lowe, K., Carah, X., Florin, S. A., Mcneil, J., Cox, D., Arnold, L. J., Hua, Q., Huntley, J., Brand, H. E. A., Manne, T., Fairbairn, A., Shulmeister, J., Lyle, L., Salinas, M., Page, M., Connell, K., Park, G.,

Norman, K., Murphy, T., & Pardoe, C. (2017). Human occupation of northern Australia by 65,000 years ago. *Nature, 547*(7663), 306-310.

Commonwealth of Australia. (2018). *National Waste Policy: less waste more resources*.

Commonwealth of Australia. (2019). *National Waste Policy Action Plan*.

Commonwealth of Australia. (2020). *Recycling and Waste Reduction Act 2020*.

de Villiers, C., Dumay, J., & Maroun, W. (2019). Qualitative accounting research: dispelling myths and developing a new research agenda. *Accounting and finance (Parkville), 59*(3), 1459-1487.

Dollery, B., & Grant, B. (2011). Financial Sustainability and Financial Viability in Australian Local Government. *Public Finance and Management, 11*(1), 28-47.

Du Rietz, S. (2023). Making up circular consumers: young adults' personal accounting and counter earmarking within a circular deposit-refund scheme. *Accounting Forum, 47*(4), 525-552.

Foucault, M. (1988). *Technologies of the Self*. Tavistock.

Foucault, M. (1991). Governmentality. In G. Burchell, C. Gordon, & P. P. D. Miller (Eds.), *The Foucault effect: studies in governmentality* (pp. 87-104). University of Chicago Press.

Foucault, M. (1995). *Discipline and punish: the birth of the prison* (2nd Vintage books ed. ed.). Vintage Books.

Foucault, M. (2007). *Security, territory, population: lectures at the Collège de France, 1977-78*. Springer.

Gordon, C. (1991). Governmental Rationality: an introduction. In G. Burchell, C. Gordon, & P. P. D. Miller (Eds.), *The Foucault effect: studies in governmentality* (pp. 1-52). University of Chicago Press.

Halari, A., & Baric, M. (2023). Exploring accountant's involvement in circular economy: experiences and perspectives of practitioners. *Qualitative Research in Accounting & Management, 20*(4), 421-446.

Hamer, G. (2003). Solid waste treatment and disposal: effects on public health and environmental safety. *Biotechnology Advances, 22*(1), 71-79.

Heikkilä, T. (2023). The heart and soil of value-based business: emerging circular business network and vernacular accountings. *Accounting Forum, 47*(4), 614-645.

Jørgensen, S., Pedersen, L. J. T., & Skard, S. (2023). Resource accounting for a circular economy: evidence from a digitalised waste management system. *Accounting Forum, 47*(4), 553-582.

Kaczynski, D., Salmona, M., & Smith, T. (2013). Qualitative research in finance. *Australian Journal of Management, 39*(1), 127-135.

Keske, C. M., Mills, M., Godfrey, T., Tanguay, L., & Dicker, J. (2018). Waste management in remote rural communities across the Canadian North: Challenges and opportunities. *Detritus, 2*(1), 63.

Lapsley, I., & Miller, P. (2019). Transforming the public sector: 1998–2018. *Accounting, Auditing & Accountability Journal, 32*(8), 2211-2252.

Larrinaga, C., & Garcia-Torea, N. (2022). An ecological critique of accounting: The circular economy and COVID-19. *Critical Perspectives on Accounting, 82*, 102320.

Law, J. (1984). On the methods of long-distance control: vessels, navigation and the Portuguese route to India. *The Sociological Review, 32*(1), 234-263.

LGANT. (2021). *Waste Management Strategy 2021-2026 For West Arnhem Regional Council*.

Llewellyn, S. (2007). Case studies and differentiated realities. *Qualitative Research in Accounting & Management, 4*(1), 53-68.

Mckinlay, A., & Pezet, E. (2010). Accounting for Foucault. *Critical Perspectives on Accounting, 21*(6), 486-495.

Mihret, D. G., & Grant, B. (2017). The role of internal auditing in corporate governance: a Foucauldian analysis. *Accounting, Auditing & Accountability Journal, 30*(3), 699-719.

Miller, P., & Rose, N. (1990). Governing economic life. *Economy and society, 19*(1), 1-31.

Monash University. (2020). *Transforming Australia SDG Progress Report. 2020 Update*. https://www.monash.edu/__data/assets/pdf_file/0006/3705072/MSDI_TA2020_Summary.pdf

Nadeem, S. P., Garza-Reyes, J. A., & Glanville, D. (2018). The Challenges of the Circular Economy. In E. Conway & D. Byrne (Eds.), *Contemporary Issues in Accounting: The Current Developments in Accounting Beyond the Numbers* (pp. 37-60). Springer International Publishing.

Northern Territory Environmental Protection Authority. (2023). *Environmental Protection (Beverage Containers and Plastic Bags) Act 2011 Annual Report 2023*. https://ntepa.nt.gov.au/__data/assets/pdf_file/0008/1285523/annual-report-2023-environment-protection-act-2011.PDF

Northern Territory Government. (2022). *Northern Territory Circular Economy Strategy 2022-2027*.

NTEPA. (2015). *Waste Management Strategy For The Northern Territory 2015–2022*.

Oyegunle, A., & Thompson, S. (2018). Wasting indigenous communities: a case study with garden hill and Wasagamack First Nations in Northern Manitoba, Canada. *The Journal of Solid Waste Technology and Management, 44*(3), 232-247.

Paddock, L. (2023). SDG 12: Responsible Consumption and Production. *Environmental Law Reporter, 53*(2), 10133-10142.

Patton, M. Q. (2015). *Qualitative research & evaluation methods : integrating theory and practice* (Fourth edition.. ed.). Thousand Oaks, Calif. : SAGE.

Qian, W., & Burritt, R. (2007). Environmental accounting for waste management: A study of local governments in Australia. *The Environmentalist, 27*(1), 143-154.

Quinn, M., & Feeney, O. (2020). Domestic waste policy in Ireland – economization and the role of accounting. *Accounting, Auditing & Accountability Journal, 33*(8), 2111-2138.

RDA Northern Territory. (2023). *West Arnhem Regional Council LGA Community Profile*. Retrieved 13 December 2024 from https://profile.id.com.au/rda-northern-territory/about?WebID=250#:~:text=Indigenous%20background,the%20Bininj/Mungguy%20Aboriginal%20people

Seger, K., Englund, H., & Härström, M. (2023). Researchers' hate-love relationship to performance measurement systems in academia – a Foucauldian perspective. *Qualitative Research in Accounting & Management, 20*(1), 38-71.

Siragusa, L., & Arzyutov, D. (2020). Nothing goes to waste: Sustainable practices of re-use among indigenous groups in the Russian North. *Current Opinion in Environmental Sustainability, 43*, 41-48.

Spanò, R., Tomo, A., & Parker, L. D. (2022). Shifting identities in the public sector: portraying the "new" public manager in the Italian setting. *Qualitative Research in Accounting & Management, 19*(1), 45-76.

Spence, L. J., & Rinaldi, L. (2014). Governmentality in accounting and accountability: A case study of embedding sustainability in a supply chain. *Accounting, Organizations and Society, 39*(6), 433-452.

Stake, R. E. (2005). Qualitative Case Studies. In N. K. Denzin & Y. S. Lincoln (Eds.), *The SAGE handbook of qualitative research* (3rd ed.. ed., pp. 443-466). Thousand Oaks : Sage Publications.

Sustainable Development Working Group. (2019). Best Waste Management Practices for Small and Remote Communities. *Interim Project Report*. https://oaarchive.arctic-council.org/server/api/core/bitstreams/c8ab0251-edc1-4e35-bfc8-7e0d4464619c/content

United Nations. (2019). *Sustainable Development Goals: 17 Goals to Transform Our World*. Retrieved from https://www.un.org/sustainabledevelopment/

United Nations. (2023). *The Sustainable Development Goals Report*.

West Arnhem Regional Council. (2018). *2017–18 Annual Report.*

West Arnhem Regional Council. (2019). *2018–19 Annual Report.*

West Arnhem Regional Council. (2021). *Regional Plan & Budget 2021-2022*.

West Arnhem Regional Council. (2023). *2022–23 Annual Report.*

West Arnhem Regional Council. (2024). *Regional Plan & Budget 20242025*.

Yin, R. K. (2009). How to do better case studies. In B. Leonard & J. R. Debra (Eds.), *The SAGE Handbook of Applied Social Research Methods* (2nd ed. ed., pp. 254-282). US: Sage Publications Inc.