From Waste to Value: Advancing Circular Economy - Driven Decision Making in Domestic Waste Management in the Sydney Basin.

A content analysis of CE- related local government documents

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ABSTRACT

Local governments are facing unprecedented changes that require innovative solutions and proactive leadership to build resilient communities. Moreover, effective leaders cultivate environments that encourages a sound decision-making, which enhances organisation health and success. This paper explores how local councils in the Sydney Basin can improve their internal decision-making in Domestic Waste Management (DWM) by applying circular economy principles, aiming to develop a sustainable and efficient service delivery models. Central to this study is the research question examining the extent to which the CE - related public documents from local governments in the Sydney Basin reflect the principles of Public Interest Theory (PIT), which prioritises transparency, equity and community welfare and determine how much they exhibit characteristics associated with regulatory capture, where the strategies and reports may be influenced by industry interests. The findings reveal that the integration of Circular Economy principles varies among local governments. While some councils are making progress in incorporating CE principles into their reporting and aligning

it with the principles of Public Interest Theory, the majority demonstrate only partial of minimal integration and alignment. This suggests a need for more inclusive, transparent and integrated approach to the Circular Economy planning and reporting, which would enhance CE - driven internal decision making in domestic waste management.

Key Words: Circular Economy, Local Government, Councils, Domestic Waste Management, Sustainability, Integrated Approach, Public Interest Theory, Regulatory Capture, Community-Centred Approach, Decision Making, Content Analysis.

1 INTRODUCTION

The circular economy (CE) represents a transformative change from the traditional 'take-make-dispose' model to a system designed to minimise waste, circulate resources and regenerate natural systems (Ellen MacArthur Foundation, n.d.). The core principles of eliminating waste and pollution, keeping products and materials in use through reuse and recycling and regenerating natural systems aim to establish a sustainable economic model that supports environmental restoration (Ellen MacArthur Foundation).

Furthermore, this approach has gained significant global momentum in recent years, driven by its alignment with Environmental, Social and Governance (ESG) frameworks, along with its proven benefits for sustainable waste management. In New South Wales, Australia, the Local Government Act 1993 reinforces the CE principles by mandating councils to prioritise sound financial management, invest in sustainable infrastructure, comply with ecologically sustainability principles and uphold social justice (LGNSW, Sections 8A, 8B, & 8C).

Building on these frameworks and principles, this paper further draws insights from the Circular Economy in Procurement: 2024 Discussion Paper on Key Actions for Councils (Vandchali, 2024) and Australia's Circular Economy Framework (Department of Climate

Change, Energy, the Environment and Water [DCCEEW], 2024). It specifically explores how local governments in the Sydney Basin can improve their internal decision-making in Domestic Waste Management by integrating circular economy principles into their reporting and planning, with aim of developing a sustainable and efficient service delivery models.

The paper begins with an introduction to the circular economy (CE) and is followed by an analysis and examination of the CE – related documents from 12 selected councils in the Sydney Basin. The main findings are then discussed. The paper concludes with recommendations for local governments on how circular economy principles can be applied to Local government leading to strengthening their CE- driven internal decision-making in Domestic Waste Management. This approach can subsequently support the enhancement of the delivery of domestic waste services in the Sydney Basin, delivering benefits to communities.

2 LITERATURE REVIEW

2.1 Circular Economy Principles in Domestic Waste Management

2.1.1 Definition and Key Concepts of the Circular Economy

The circular economy (CE) emerged in response to the limitations of the linear economic model (Murray, Skene & Haynes, 2015), driven by increasing evidence of finite resources depletion (WWF, 2012) and unsustainable consumption pace (Meadows et al., 1992). Additionally, these environmental pressures are compounded by climate change, which intensifies extreme weather events and disproportionately affects vulnerable populations lacking adequate resources and infrastructure for recovery and adaptation (Stott et al., 2010). Consequently, these interconnected challenges emphasise the urgent need for alternative economic models that not only address resource depletion and environmental degradation but also enhance the resilience of communities facing escalating climate risks.

In response to these challenges, the literature present CE as a transformative shift of moving away from the traditional 'take-make-dispose' model toward a regenerative system. This approach minimises waste, maximises resource efficiency and restores ecosystems (Ellen MacArthur Foundation, n.d.). The CE principles are rooted in three core goals that are eliminating waste and pollution from the beginning, circulating materials to extend their lifecycle and regenerating natural systems to restore ecological balance (Ellen MacArthur Foundation, 2019). By applying these principles, the CE aims not only addresses immediate resource challenges (OECD, 2016) but also creates opportunities for innovation and economic growth while safeguarding natural capital for future generations. Figure 1 below shows the shift from Linear to Circular Economy.

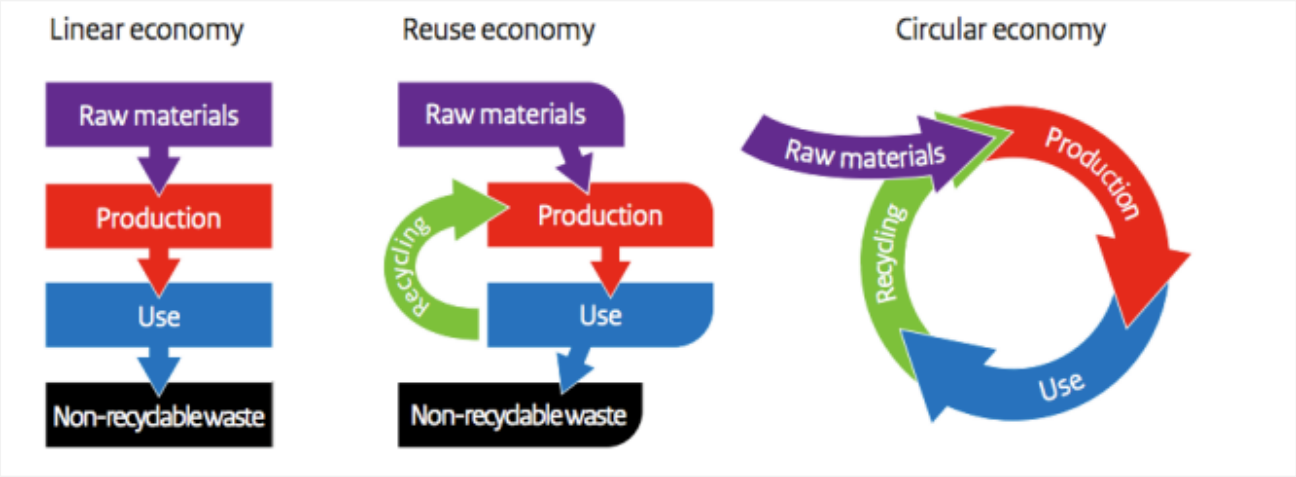


Figure 1: (Government of the Netherlands Ministry of Infrastructure and the Environment and the Ministry of Economic Affairs, 2016, p. 1., as cited in Rico, 2019).

2.1.2 Benefits of Applying Circular Economy Principles to Domestic Waste Management

In the context of domestic waste management, the adoption of CE principles becomes increasingly significant because by reconceptualising waste as a valuable resource, CE fundamentally alters the role of materials and products within the economy. Waste that used to

be discarded in landfills can be revalued as a source of raw materials for new products, reducing the demand for limited planet resources and lowering environmental impact (Ellen MacArthur Foundation, 2013). Through strategies such as recycling, composting and upcycling, CE ensures that products and materials are continuously cycled back into use, thus reducing the strain on the environment (Ghisellini, Cialani, & Ulgiati, 2016). Moreover, the transition to CE in domestic waste management can stimulate local economic development by promoting industries focused on resource recovery, recycling technologies and sustainable manufacturing practices (UNDP, n.d., GHD, n.d.). Subsequently, this paradigm not only contributes to the reduction of environmental harm but also fosters the creation of economic opportunities and employment within communities, thereby reinforcing the concept that environmental sustainability and economic growth can be pursued simultaneously.

2.2 Introduction to Local Government Decision-Making

2.2.1 The Role of Local Councils in Service Delivery

Local councils, also known as local governments, emerge as vital institutions in community services delivery, with responsibility for delivering a wide range of services, including waste management, housing, transportation, education and health (OECD, 2020; Geissdoerfer et al., 2017). Among these responsibilities, domestic waste management is a critical area, as councils implement policies on recycling, waste diversion and sustainable waste management practices and therefore directly impacting environmental sustainability and resource conservation (Murray, Skene & Haynes, 2015). Having this responsibility place them in the unique position at the local community level, enabling them to develop targeted approaches that consider local demographics, geographic constraints and specific waste management challenges. Additionally, as the primary link between residents and government services, local government

foster engagement through consultations, forums and participatory decision - making to ensure policies align with community needs.

2.2.2 Importance of Internal Decision-Making Processes

The effectiveness of domestic waste management is critically shaped by internal decision-making processes, which include structured procedures, policies and practices that guide organisational decisions (Mintzberg, Raisinghani, & Théorêt, 1976). However, local councils face significant challenges in implementing internal decision-making for domestic waste management, particularly in balancing immediate operational needs with long-term sustainability objectives (Greer, von Wirth, & Loorbach, 2023). Research suggests that successful domestic waste management decision-making requires integrated approaches that account for diverse stakeholder perspectives, technical feasibility and environmental impacts (Wilson, Rodic, & Velis, 2015).

While existing literature acknowledges the significance of integrating multiple decision criteria, a substantial knowledge gap persists in understanding the practical synthesis of these often competing factors within local government contexts. Although scholarly work has examined life - cycle assessments, cost - benefit analyses and multi-criteria decision-making approaches as discrete methodologies ((Torkayesh, Rajaeifar, Rostom, Malmir, Yazdani, Suh, & Heidrich, 2022; Wilson et al., 2015), limited research explores the CE integration in real-world scenarios where councils must simultaneously optimise economic constraints, environmental imperatives and social considerations.

A critical limitation of current frameworks lies in their tendency to focus on isolated decision points, such as recycling rates or waste collection frequencies without adequately addressing the complex interdependencies between the decision-making factors. Therefore, it is essential

to examine how local governments CE- related documents reflect the principles of Public Interest Theory and the extent to which their planning and reporting may be influence by industry interest, known as regulatory capture. The analysis from this study aims to deepen the understanding of how local government can enhance their CE – driven internal making in domestic waste management, which will ultimately benefit the communities.

2.2.3 Challenges in Domestic Waste Management (DWM) at the Local Level

Scholars report that domestic waste management presents significant challenges for local governments, particularly in urban areas (UN-Habitat, 2018; Abarca-Guerrero et al., 2022). Local governments must manage large volumes of diverse waste, with high population densities straining infrastructure and many councils face budget constraints that limit investment in necessary waste management technologies and infrastructure (Guerrero, Maas & Hogland, 2013; Wilson et al., 2015). Waste management practices such as landfilling contribute to pollution and climate change (Geissdoerfer et al., 2017), while social challenges arise from engaging communities in waste reduction initiatives (Greer et al., 2021). Furthermore, fragmented governance structures and technological limitations hinder the effective adoption of sustainable waste management practices (Vandchali, 2024; Murray et al., 2015). These challenges necessitate innovative policy approaches and strategic decision-making that advances sustainable and efficient waste management systems. This study therefore examines the extent to which publicly available strategies and reports from local governments in the Sydney Basin reflect the principles of Public Interest Theory and how much they exhibit characteristics associated with regulatory capture. The findings not only advance the theoretical understanding of CE driven internal decision making in domestic waste management but also provide practical insights on how to improve the efficiency and

effectiveness of service delivery within local government context by applying the circular economy principles.

2.2.4 The Role of Policy and Regulation in Shaping Waste Management Practices

Within this context, policy and regulation also play a pivotal role in shaping how local councils adopt and implement circular economy principles within domestic waste management. Strong policy frameworks are essential for driving the necessary changes in waste production and consumption practices at the local government level with councils being the key enforcers of policies related to waste reduction, sorting and recycling programs, all of which are crucial for aligning waste management practices with CE principles (Allwood et al., 2011; Merli et al., 2018).

The establishment of clear regulations, such as waste diversion targets, landfill reduction goals and recycling mandates, can also provide local governments with the authority and incentives needed to drive change (Murray et al., 2015). These regulations are particularly important in addressing the systemic challenges posed by waste management in urban settings, where population density and consumer consumption patterns result in high levels of waste generation. Policy driven initiatives, such as promoting composting or incentivising circular supply chains within the community, can facilitate a more sustainable waste management system while also benefiting local economies through job creation in recycling industries and green technologies (Geissdoerfer et al., 2017; Bocken et al., 2016).

Furthermore, effective policy requires active stakeholder engagement, including collaboration with businesses, consumers and waste management organisations. Therefore, local governments can act as mediators to ensure that all stakeholders work toward a common goal

of reducing waste and promoting resource efficiency. Through the establishment of supportive regulations and the cultivation of collaborative frameworks, councils can create an environment where CE principles are embraced at every level of waste management, from production to disposal. Moreover, through the strategic alignment of internal decision-making with policy mechanisms, local governments can overcome systemic waste management challenges, enhance sustainability outcomes and establish themselves as leaders in the transition toward a circular economy. Therefore, integrating Circular Economy (CE) principles into internal decision-making processes is crucial for improving the sustainability, efficiency and effectiveness of domestic waste management in local governments.

2.3 The Context & Research Gap

The successful application of a circular economy (CE) within local government frameworks depends on the key mechanisms identified by Allwood et al. (2011), including business opportunities, governmental interventions and consumer drivers. Thus, local councils are strategically positioned to leverage these mechanisms to foster the adoption of sustainable waste management practices. However, as argued by Merli et al. (2018), achieving this transition requires not only technological innovations but also profound social and institutional changes, which are central for rethinking waste production and consumption processes.

Given these contexts and challenges, this study addresses a critical gap by examining how local councils in the Sydney Basin can advance their CE-driven internal decision-making in domestic waste management (DWM) through the application of CE principles. Additionally, it will contribute to the development of sustainability frameworks, enabling councils to balance immediate operational needs with long term sustainability objectives.

The findings from this study are intended to offer practical applications for local councils located in the Sydney Basin seeking to strengthen their waste management practices. By incorporating the principles of circular economy into local government planning and reporting in alignment with the PIT framework, this approach aims to improve the effectiveness of service delivery while promoting sustainability goals. Furthermore, focusing on CE driven decision-making processes in domestic waste management, the study explores a crucial yet often understudied aspect of circular economy implementation within local government operations. Consequently, this research is particularly timely as councils are facing increasing pressure to demonstrate leadership in environmental sustainability while managing growing operational challenges in waste management (Murray, Skene & Haynes, 2015).

3 THEORETICAL FRAMEWORK

The theoretical framework for this study is grounded in Public Interest Theory (PIT) and Regulatory Capture. These two theories serve as lenses to examine how Local Government Areas (LGAs) plan and report on circular economy (CE) practices. They provide insights into the motivations, behaviours and potential biases that influence public policy, strategic planning and reporting. Consequently, these insights can lead to improvements in their CE driven internal decision making in domestic waste management and advancing a sustainability goals at the local level.

The Public Interest Theory (PIT) suggests that government actions are motivated by the public interest, aiming to improve societal welfare and address market failures (Pigou, 1932; Marshall, 1920). Therefore, in the context of LGAs and CE, the PIT would predict that local governments are planning and reporting on circular economy practices with the intention of benefiting the community such as promoting sustainability, reducing waste or enhancing local resilience. Subsequently, under PIT the LGAs should ideally be transparent and honest in their strategic

planning and reporting, reflecting their efforts to promote circular economy initiatives that align with the public's interest. Additionally, LGAs are expected to adopt practices that improve environmental outcomes, such as waste reduction, resource efficiency and sustainable procurement and report them to show accountability to their residents. Thus, strategic planning and reporting should emphasise the positive impact of circular economy strategies on both the local environment and economy. This approach helps build trust and show commitment to principles that serve to public interest.

The second theory underpinning this study is the Regulatory Capture, which on the other hand, argues that regulatory bodies and government institutions may be influenced or 'captured' by special interest groups (e.g., businesses, lobbyists or industries) whose interests do not necessarily align with the public's welfare (Etzioni, 2009, Wilson, 1989). In the case of LGAs, this could mean that local governments may be influenced by industry players or business interests that benefit from certain planning and reporting practices or outcomes. In relation to CE planning and reporting, the Capture could lead to biased or incomplete planning and reporting on circular economy initiatives, particularly if businesses or other stakeholders with vested interests in specific sectors such as waste management or recycling industries exert influence on how results are presented. LGAs might underreport challenges related to the implementation of circular economy strategies or overstate successes, particularly if business interests are involved in the provision of services or infrastructure tied to CE practices. Reports may appear more favourable to private interests, potentially overlooking certain challenges or miss the opportunity to openly discuss the difficulties involved in transitioning faced in transitioning to circular practices.

Therefore, the tension between PIT and Capture Theory lies in whether LGAs are primary acting in the public's best interest or whether their reporting reflects the influence of powerful

external parties. If local governments are effectively 'captured' by industries, their CE planning and reporting may deviate from public interest ideals, showing a more positive picture than reality or focusing on benefits of CE adoption without delving into its complexities and challenges. Figure 2 below shows the theoretical framework underpinning this study.

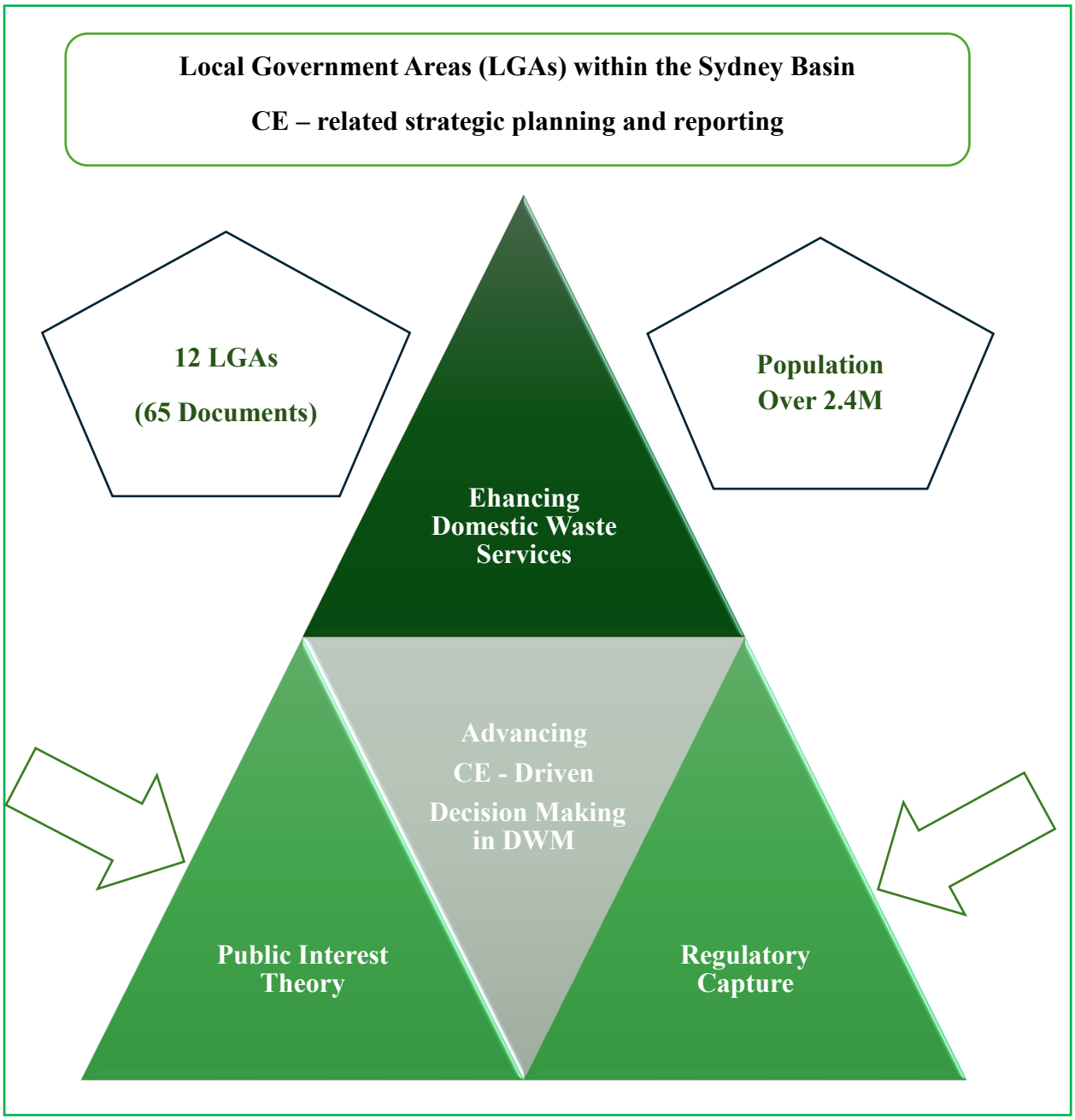


Figure 2. The theoretical framework underpinning this study

4 RESEARCH DESIGN & METHODOLOGY

The study examines the extent to which circular economy related public documents from local governments in the Sydney Basin reflect the principles of Public Interest Theory and how much they exhibit characteristics associated with regulatory capture. For this study, we have adopted a qualitative content analysis, utilising primary data collected from publicly available sources across 12 councils located in the Sydney Basin. The analysis involved a textual examination of the 65 of the circular economy related strategic planning and reporting documents from the selected councils that were current in 2024/25 Financial Year for strategies and 2022/23 and 2023/24 financial year for reports.

Local government in New South Wales (NSW) is characterised by significant diversity and complexity in its population, demographics, services deliveries and other local characteristics. Therefore, this paper focused specifically on 12 Councils within the Greater Sydney region, which consist of a total of 33 Councils. This sample provides manageable and thorough basis for the analysis, allowing for the observation of patterns and variations across different councils, while enabling detailed qualitative content analysis of their circular economy (CE) - related documents. Although this study focuses on the Sydney Basin, which is limited to a specific geographic area, the findings can offer insights applicable to other regions, especially in understanding how local governments can align circular economy initiatives with public interest objectives.

The Greater Sydney region has a population approximately 4.7 million people, projected to growth by additional 1.7 million residents, making it one the ten fastest growing regions in the Western Word (Greater Sydney Commission, 2018). This region encompasses a variety of councils that differs in population size, demographics, economic activities and sustainability challenges. Therefore, this diversity allows for a thorough analysis of how various councils

interpret and apply Public Interest Theory in contrast to Regulatory Capture in relation to CE practices. Subsequently, a sample of 12 Councils was purposely selected from this region to examine the extent to which the circular economy related public documents from local governments reflect the principles of Public Interest Theory and how much they exhibit characteristics associated with regulatory capture. This selection enables a nuanced examination of how local government incorporate Public Interest Theory principles into circular economy initiatives. This study aims to deepen understanding of the interplay between theoretical framework and practical CE implementation at local government level. From the practical perspective, the findings may assist Councils in aligning their sustainability goals more effectively, thereby enhancing CE driven internal decision making in domestic waste management.

Moreover, the CE - related public documents of the selected Councils were chosen purposely because they cover local government strategic visioning (Community Strategic Plan, Economic development, Circular Economy, Sustainability and Waste Management related Strategies), tactical planning (Delivery Programs) and historical reporting (two sets of Annual Reports for reporting period 2022/23 and 2023/24).

The Figure 3 on the next page shows a visual representation of the process followed to complete this study. It illustrates how the researchers designed the examination of the do circular economy related public documents from local governments in the Sydney Basin, along with various types of data collection method applied.

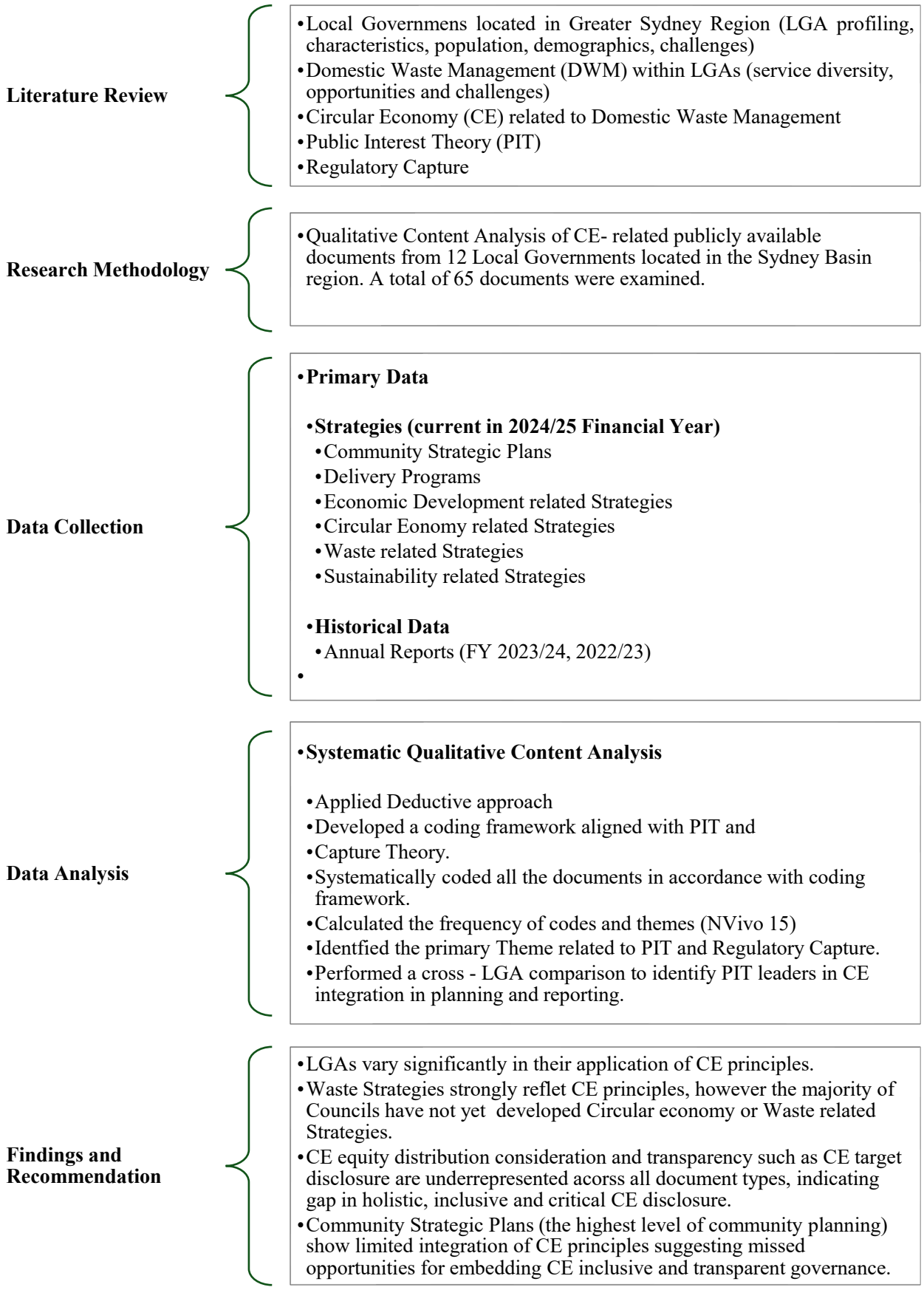


Figure 3: Research Design Process

We have chosen a qualitative content analysis to conduct a comprehensive and comparative examination of circular economy-related publicly available documents (strategies and reports) from local governments in the Sydney Basin with the aim to determine how well these documents reflect the principles of Public Interest Theory and to what extent they exhibit characteristics associated with regulatory capture.

This research design is sufficiently robust to support the results and recommendations we provide in this paper. The analysis was completed across twelve local governments in the Sydney Basin and this sample was deemed satisfying because it offers several methodological advantages such as:

- Comparative Depth: By examining multiple councils, this study can identify both unique local characteristics and broader systemic patterns in CE integration across various LGA (Stake, 2006; Yin, 2014).
- Contextual Richness: The approach allows for a detailed examination of CE application within their specific organisational and geographical contexts (Merriam & Tisdell, 2015).
- Analytical Complexity: Multiple LGAs enable a more robust analysis by facilitating cross-case comparisons and pattern identification (Miles et al., 2014).

Furthermore, this qualitative study examines how local councils in the Sydney Basin can improve their CE-driven internal decision-making in Domestic Waste Management (DWM) by applying circular economy principles, aiming to develop a sustainable and efficient service delivery models.

In contrast to quantitative approaches, a qualitative approach is designed to explain why and how issues connect to particular situations. The use of qualitative method has previously

appeared in various local government and accounting studies investing accounting changes in organisation (Salle, 2020; Feng, Cummings, & Tweedie, 2017).

This study gained data from three type of documents, namely local government strategic visioning plans (Community Strategic Plans, Economic Development, Circular Economy, Sustainability and Waste Management related Strategies), tactical plans (Delivery Programs) and historical reporting (Annual Reports). There were 65 publicly available documents utilised in the study. The strategies and reports belong to 12 selected local governments published in reporting years 2024/25 for strategies and issued in financial year of 2022 /23 and 2023/24 for Annual Reports.

In order to collect and analyse the data from the strategies and reports, the study built up on the selection criteria applying to Councils and documents, such as:

- Diversity in urban characteristics (Patton, 2015)
- Variation in waste management approaches (Flyvbjerg, 2006)
- Potential for circular economy principles implementation (Murray et al., 2015)

The selection of these councils was guided by a purposive sampling approach, focusing on Councils that represent diverse urban characteristics and distinct waste management strategies. This diversity provided a rich context for examining the extent to which the circular economy related public documents from local governments in the Sydney Basin reflect the principles of Public Interest Theory and how much they exhibit characteristics associated with regulatory capture. Additionally, the selection criteria covered four key dimensions, which are shown in the figure 5 on the next page and discussed further in this section:

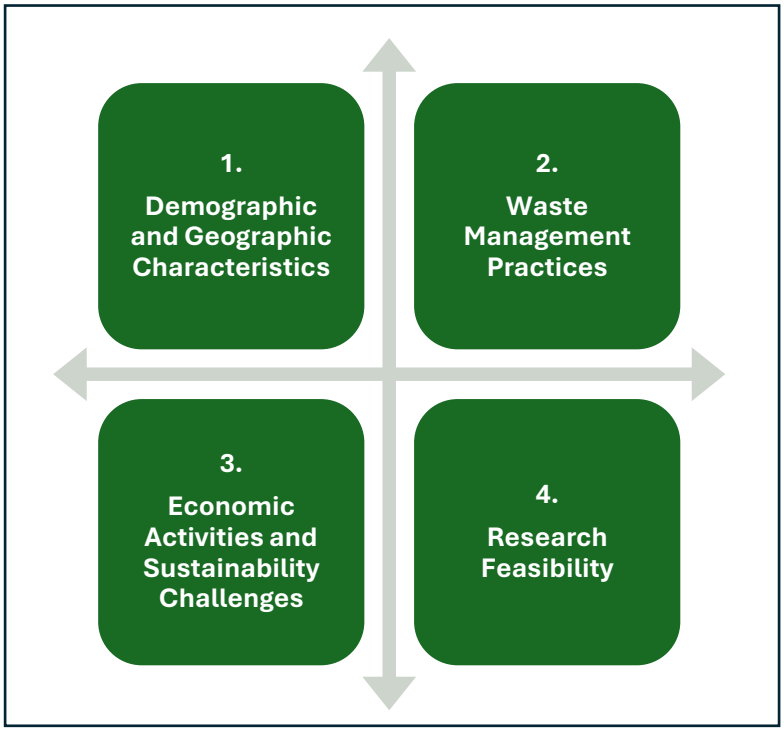


Figure 5: The core dimension underpinning the selection criteria applying to Councils.

1 Demographic and Geographic Characteristics

- Diversity in population growth rates and rapid urbanisation, presenting significant infrastructure scaling challenges.
- Demographically diverse communities requiring differentiated waste management approaches.
- Complex urban landscapes comprising both established neighbourhoods and emerging development areas.

2 Waste Management Practices

- Diverse operational approaches ranging from traditional waste management to innovative technological solutions.
- Varied infrastructure capabilities and service delivery models.
- Various stages in the adoption of circular economy principles.

3 Economic activities and sustainability challenges.

- Distinct approaches to waste policy development and implementation.
- Various models of environmental initiative integration.
- Different structures for community engagement and stakeholder management.
- Diverse resource allocation strategies and budgeting approaches.

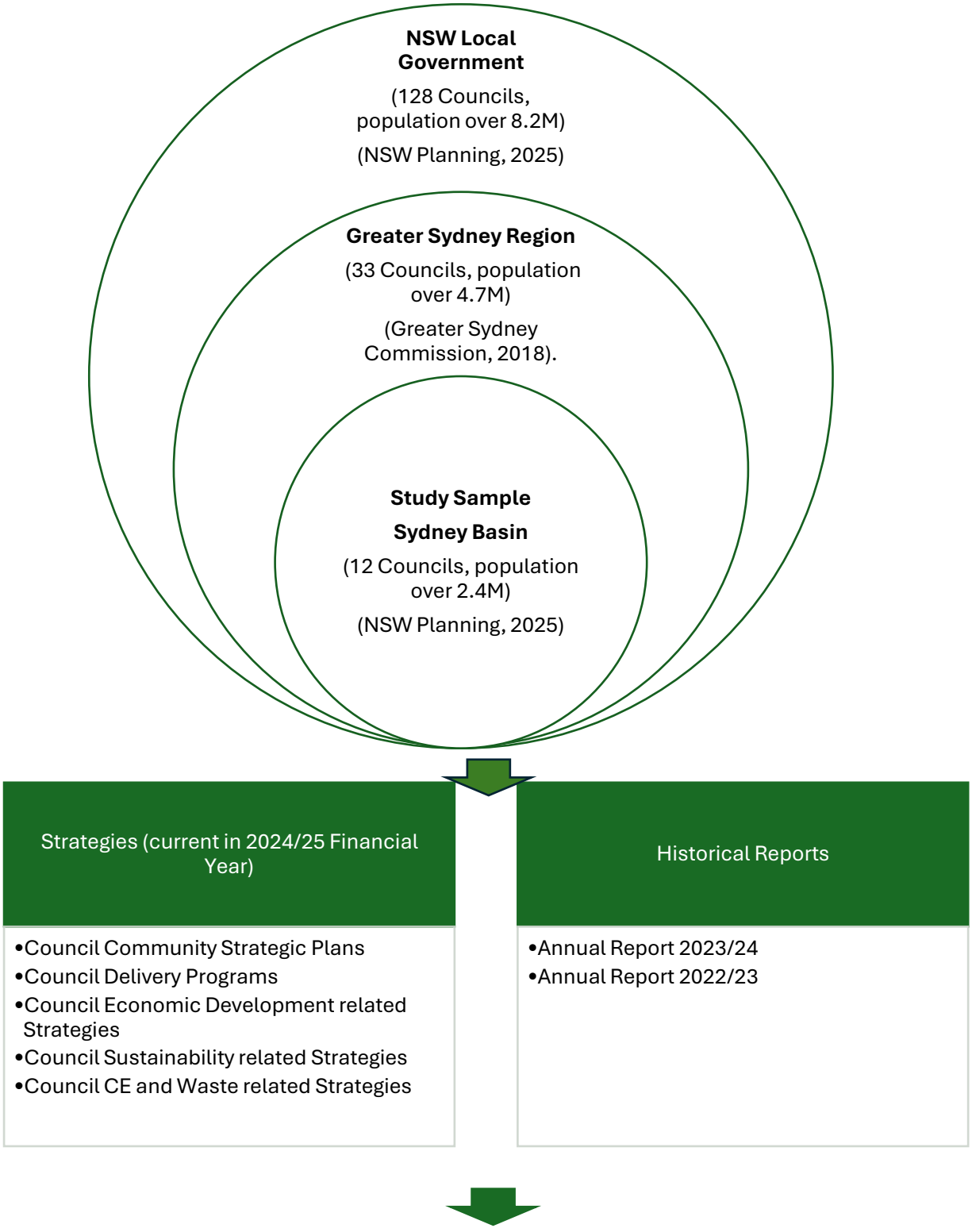
4 Research Feasibility

- Geographic accessibility enabling comprehensive data collection.
- Access to relevant documentation and historical data.

This sampling strategy enabled a comparative analysis of how different organisational contexts influence the examination of public documents relation to the circular economy from local governments in the Sydney Basin.

Data analysis was conducted by using NVivo 15 software for qualitative content analysis, involving deductive reasoning. NVivo 15, a computer-assisted qualitative data analysis software (CAQDAS), was used to manage and interpret unstructured qualitative data, such as textual documents. Its application in qualitative research has been demonstrated in studies like (Leech & Onwuegbuzie, 2011) those by who utilised NVivo to efficiently manage and code large datasets. A manual approach was combined with NVivo's computational capabilities, allowing for a thorough and nuanced analysis of the data. This methodological strategy helped minimise potential researchers bias by providing a structured, transparent and reproducible coding process. The analysis process included carefully comparing coded segments across various texts, synthesising insights and creating a narrative that captured the complexity of the research data. By integrating software - assisted and manual coding methods, the research ensured a thorough and credible qualitative analysis that balanced technological efficiency with

interpretative depth. The method for selecting samples and the approach for analysis are depicted in Figure 6 below.



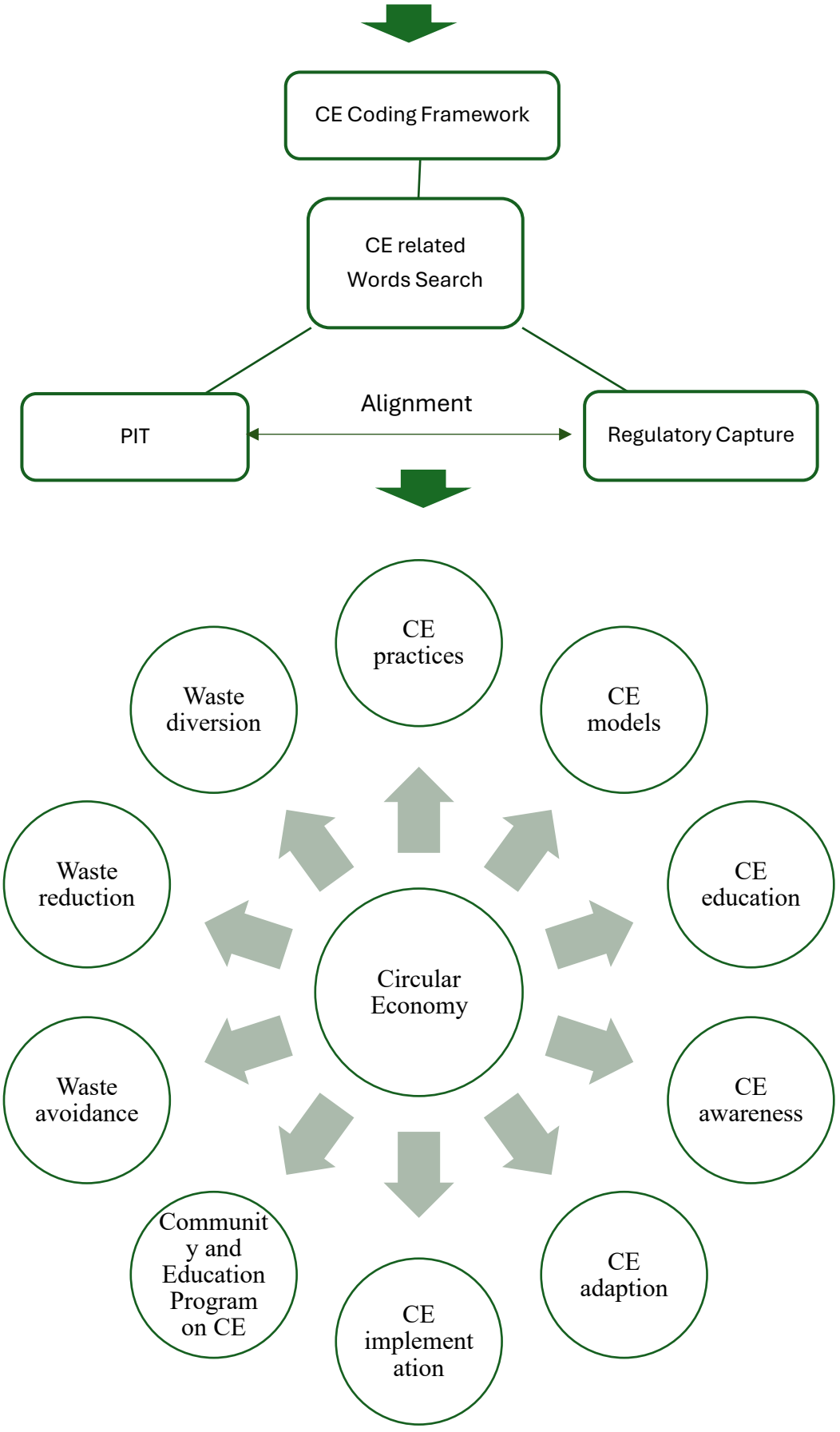


Figure 6: The method used for selecting samples and the approach for analysis.

5 RESULTS AND RECOMMENDATIONS

The qualitative content analysis was conducted on 65 different local government documents related to circular economy (CE), which included strategies and reports from 12 LGAs in the Sydney Basin. The analysis was focused on how six thematic categories (shown in the Figure 7 below) of the circular economy are represented across various strategic planning documents within the selected councils.

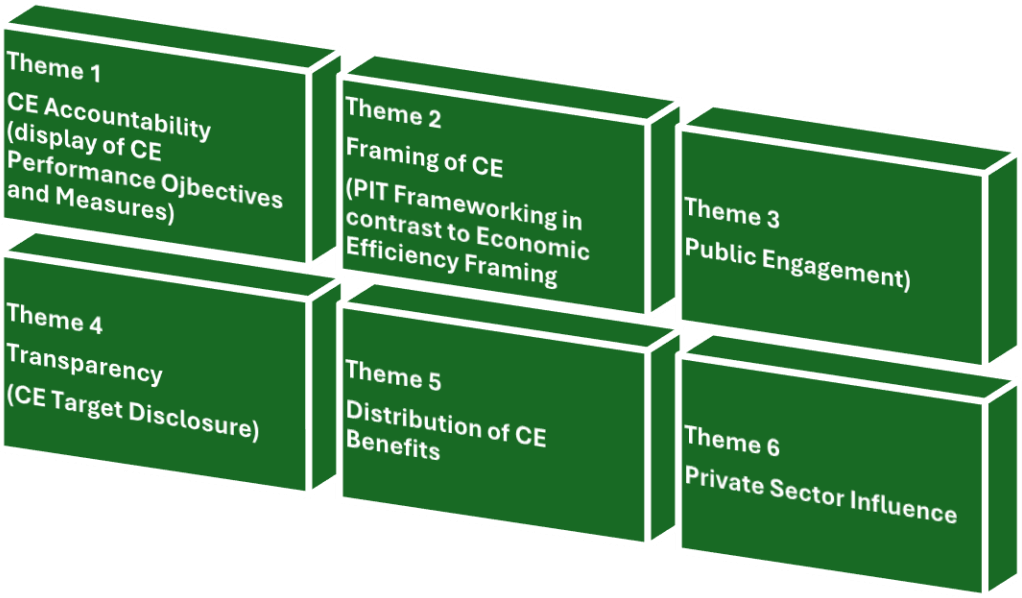
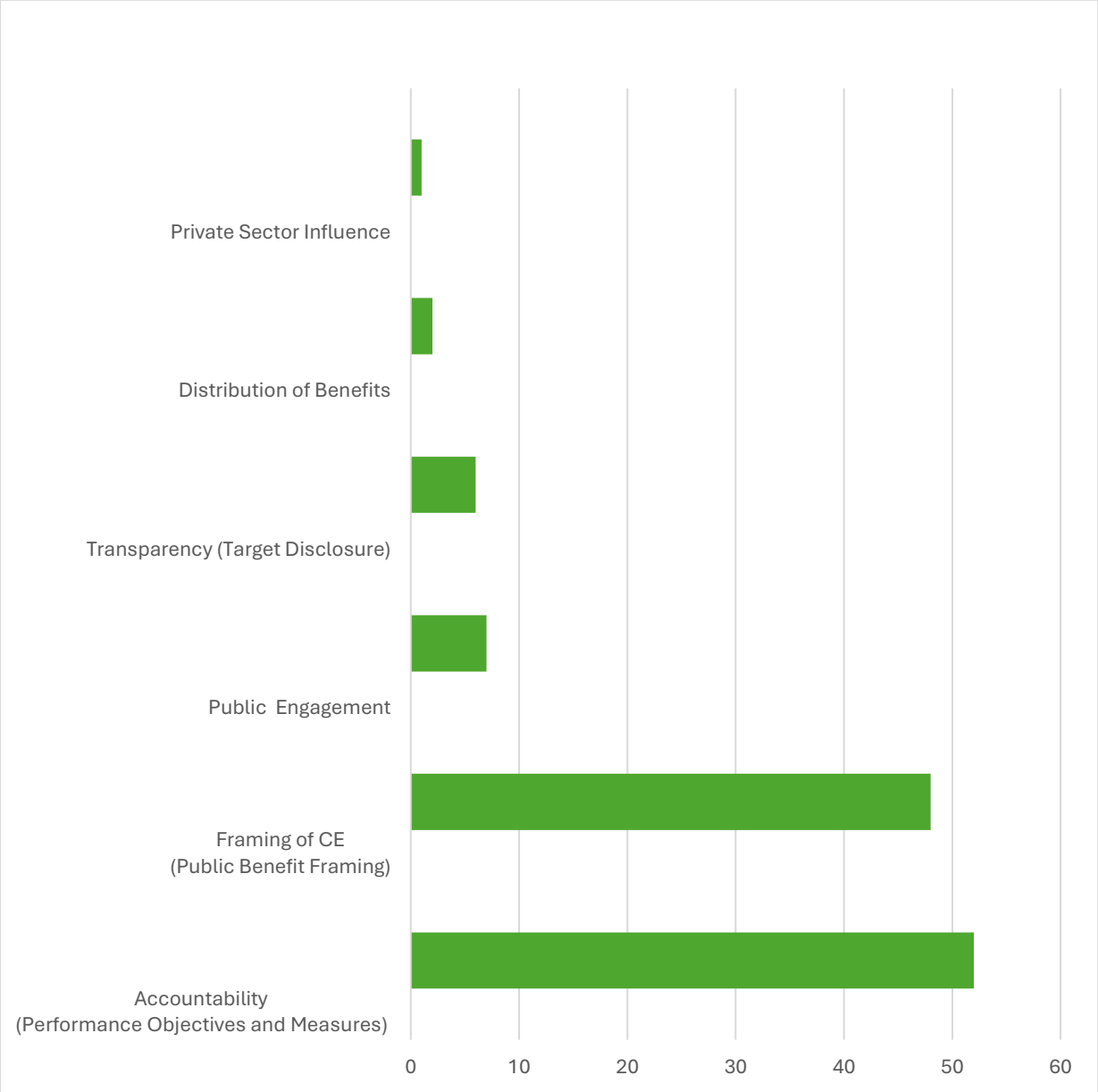


Figure 7: Thematic CE categories used to assess of the circular economy representation across various strategic planning and reporting documents within the selected councils

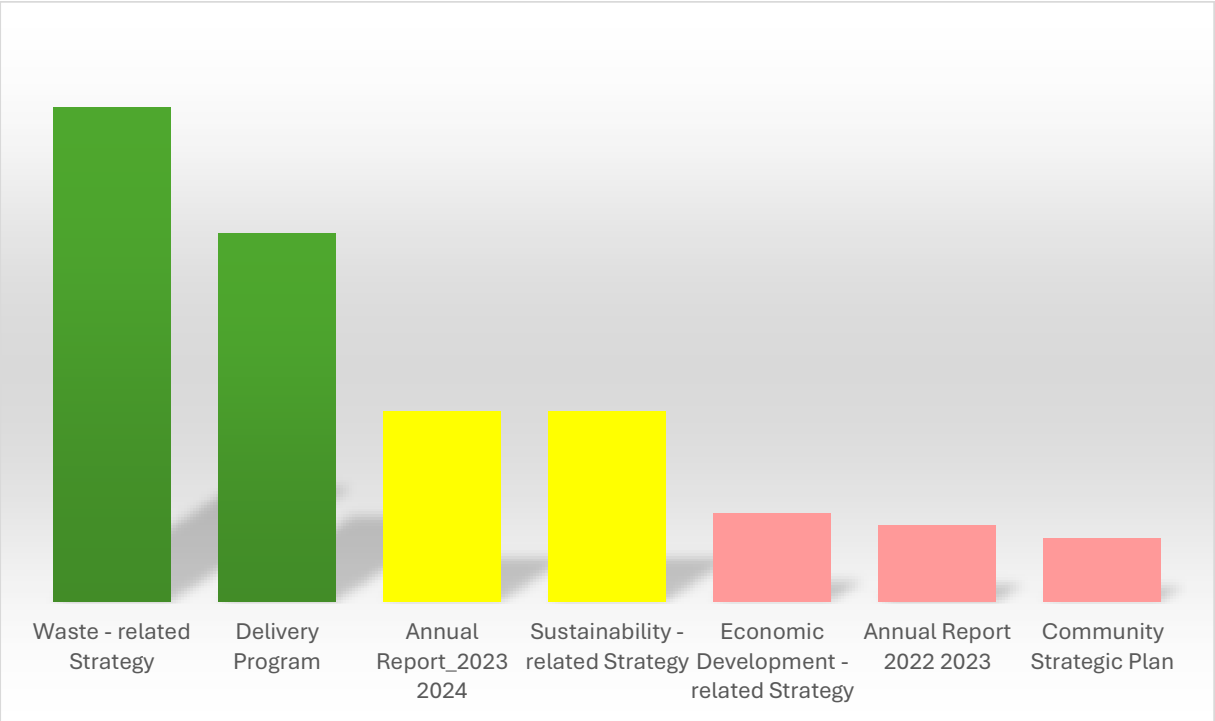
By analysing documents in this systematic perspective, the researchers were able to investigate the extent to which CE - related public documents from local governments in the Sydney Basin reflect the principles of Public Interest Theory (PIT). This Theory prioritise transparency, equity and community wellbeing, whilst also be able to assess how much they show characteristics associated with regulatory capture, where the strategies and reports may be influence by industry interests.

The findings indicate strong alignment with PIT, however, the representation across the thematic coding categories varies and is further discussed in this section. Graph 1 and 2 below and on the next page present analytical summary based on document type and PIT and Regulatory Capture Dimensions in Councils Strategies and Reports.

Graph 1 : Summary Analysis of PIT and Regulatory Capture Dimensions in Council Strategies and Reports related to Circular Economy



Graph 2 : Summary Analysis of CE representation in in Council Strategies and Reports



Theme 1: CE Accountability (reference to CE Performance Objectives and Measures)

Accountability, particularly in respect to strategic reporting on CE objectives is mostly represented in Waste-related Strategies (19 references) and Delivery Programs (15 references), while it is least emphasised in the Annual Report for 2022 – 23. This signals that strategic planning documents such as waste strategies, delivery programs reflect accountability in form of CE objectives more strongly than high level strategic plans such as Community Strategic Plans and historical LGA reports. Conversely, there appeared be limited representation of CE related performance measures, which provides opportunities for Councils to develop further performance metrics for their CE related initiatives.

Theme 2: CE Framing of CE

The Public benefit framing of Circular Economy is most prominently featured in the Waste related Strategy (13 references) and the Annual Reports (9 and 4 references). This suggest that

CE is most frequently contextualised within Waste Management, whereas other strategies, such as economic and sustainability initiatives underutilise CE principles. Equally, the majority of the councils (7 out of 12) have not yet developed their waste management strategies for financial year 2024/25 and beyond. Therefore, this gap highlights the need for action and the study recommends that the Councils may choose to prioritise the development of waste management strategies that integrated Circular Economy (CE) principles in alignment with the Principles of PIT to enhance sustainable service delivery.

Theme 3: Public Engagement

Public engagement is represented in low overall references, with only 7 references, indicating that while community engagement is mentioned, it is not a central theme across the documents. Thus, this study recommends that council's planning and reporting documents outline how CE initiatives were co-design with local communities. Providing evidence of community consultation could enhance the council's transparency and better align with broader public interests.

Theme 4: Transparency (CE Target Disclosure)

Transparency is references six times, mostly within Delivery Programs and Waste related strategies. The low number of references indicates that transparency is weakly embedded, as most documents do not clearly outline community processes or outcomes. Thus, it is recommended that the consideration is given to disclosure of targets

Theme 5: Equity Consideration (Distribution of CE Benefits)

Equity considerations in relation to the distribution of CE Benefits are only referenced twice, both found withing Waste - related Strategy. This highlights that the distribution of CE benefits is underrepresented across all the documents. Thus, this study recommends that council's

documents clearly outline how the outcomes of CE initiatives such as cost savings, improved waste services are shared across different community groups. This could support Councils in demonstrating how their sustainability efforts are equitable and aligned with broader public interests.

Theme 6: Private Interest Influence

The private influence is only referenced once, which indicates that the primary focus of the documents is alignment with Public Interest Theory.

Moreover, the analysis reveals that local government documents in the Sydney Basin vary significantly in their application of CE principles. Waste - related strategies and Delivery Program strongly reflect CE objectives and CE public benefit framing. However, CE equity consideration (CE benefit Distribution) and transparency (disclosure of CE targets) are underrepresented across all document types, suggesting gaps in holistic, inclusive and critical CE disclosure. Additionally, although some public engagement references appear in Annual Reports, higher level strategies like Community Strategic Plans show limited integration of CE principles suggesting missed opportunities for embedding inclusive and transparent governance

To offer more deeper insight, this study has undertaken comparative analysis between 12 selected local Government Areas (LGAs), serving population over 2.4 million. The findings from this cross - comparative analysis are presented on the next page, highlighting the unique opportunities for enhancement of CE driven decision making in Domestic Waste Management in the Sydney Basin. The Graph 3 and Table 3 & 4 on the next page shows Summary Analysis of PIT and Regulatory Capture Dimensions in Council Strategies and Reports related to Circular Economy.

Graph 3: Summary Analysis of PIT and Regulatory Capture Dimensions in Council Strategies and Reports related to Circular Economy

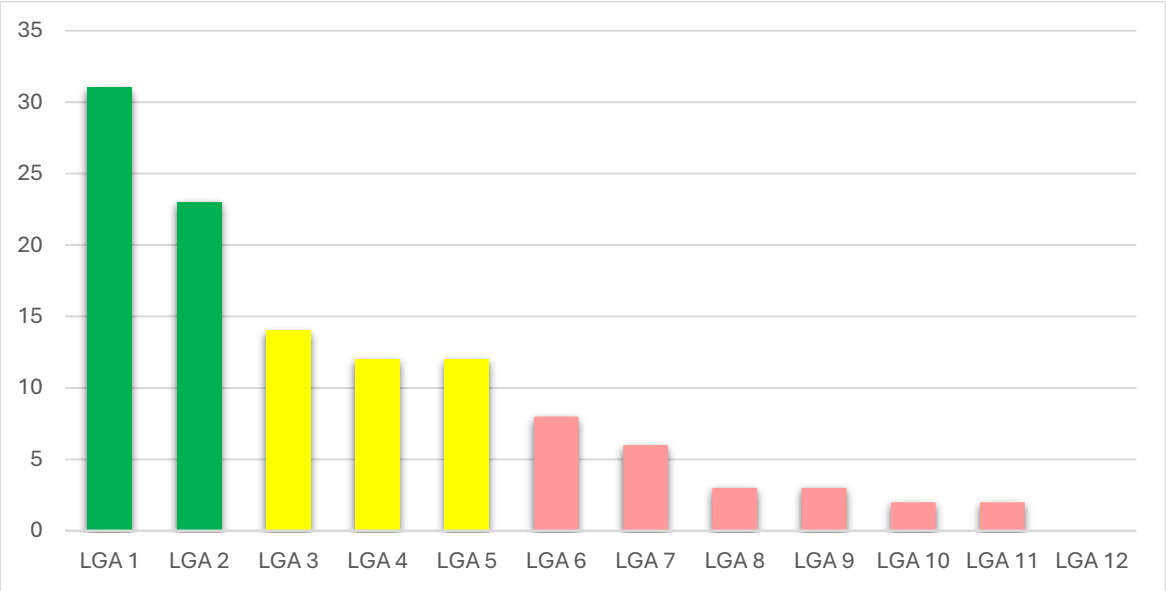


Table 3: Summary Analysis of PIT and Regulatory Capture Dimensions by each Council

LGA ID	Accountability (Performance Objectives and Measures)	Framing of CE (Public Benefit Framing)	Public Engagement	Transparency (CE Target Disclosure)	Distribution of CE Benefits	Private Sector Influence
LGA 1	Moderate	Moderate	Low	Low	Low	Low
LGA 2	Moderate	Moderate	Low	Low	Low	Low
LGA 3	Moderate	Low	Low	Low	Low	Low
LGA 4	Low	Moderate	Low	Low	Low	Low
LGA 5	Low	Low	Low	Low	Low	Low
LGA 6	Low	Low	Low	Low	Low	Low
LGA 7	Low	Low	Low	Low	Low	Low
LGA 8	Low	Low	Low	Low	Low	Low
LGA 9	Low	Low	Low	Low	Low	Low
LGA 10	Low	Low	Low	Low	Low	Low
LGA 11	Low	Low	Low	Low	Low	Low
LGA 12	Low	Low	Low	Low	Low	Low

Based on the total scoring the LGA were categorised into three different groups, discussed below.

LGA Leaders (LGA with references higher than 20)

LGA 1 (31 references) and LGA 2 (23 references) are at the forefront of integrating Circular Economy (CE) principles into their strategic planning and historical reporting, aligning with Public Interest Theory. LGA 1 exhibit the strongest alignment, particularly in the areas for Public Benefit Framing (12) and Accountability (10), whilst also demonstrating commitment to Equity (2), Transparency (2) and Public Engagement (4). LGA 2 demonstrates high references in Accountability (12) and Public Interest Framing (7) with lower reference numbers in Transparency (2) and Engagement (2).

LGA with moderate Integration

LGA 3 – LGA 6, which have a total of 7 to 14 references, shows partial integration of CE principles, aligning with Public Interest Theory (PIT).

LGA 3 and LGA 4 are strong in only one area each. only one are each, which is Accountability and Public Interest Framing, indicating imbalanced focus. Whiles, LGA 5 and LGA 6 demonstrates references in multiple categories but to a low extent, suggesting while there is emerging interest in integration of CE into their strategic planning and reporting their consideration remains broad.

LGA with Minimal or No Integration with less than 7 references.

LGA 7 – LGA12 show low integration of CE principle in their strategies and reporting.

Table 5: Analytical Summary by Themes and Findings

Theme	Findings
Accountability (52 references)	This theme is prominently addressed and is strongest across LGA leaders, particularly through reference to CE objectives. However, explicit references to CE performance measure are either limited or absent across all LGAs.
Public Interest Framing of CE (48 references)	This is the second prominent them across LGA, particularly evident LGA 1 and LGA4. This prevalence suggests a stronger alignment with Public Interest Theory (PIT) over Regulatory Capture among these Councils.
Public Engagement (7 references)	Limited, with only 3 LGAs referenced, showing low inclusion and references to Public Engagement.
Transparency – CE Target Disclosure (6 references)	Rarely present, only 3 LGA's made CE disclosure.
CE Equity Distribution Considerations (2 references)	Critically absent, addressed only by LGA 1 and LGA2

A comparative analysis of 12 Local Government Areas (LGAs) in the Sydney Basin reveals that while some councils are advancing the integration of the Circular Economy in their planning and reporting and aligning with the principles of Public Interest Theory, the majority demonstrate only partial or minimal integration and alignment. Although CE objectives and Public Interest Framing are strongly represented, other critical areas to lead a successful CE transition such as CE equity distribution, CE Target Disclosure and public engagement are largely underrepresented. The fundings suggests that many CE initiatives, particularly in Domestic Waste Management, may be focused on operational aspects and limited in the social dimension that includes inclusivity and transparency. Therefore, this study proposes a more holistic approach that integrates CE equity considerations, transparent CE performance measures and public participation into CE driven decision making processes in the domestic

waste management. The CE inclusive and integrated framework can support Councils in achieving the sustainable outcomes that will ultimately benefit communities.

REFERENCES

Abarca-Guerrero, L., Maas, G., & Hogland, W. (2022). Municipal solid waste management challenges in urban areas: A review. *Journal of Environmental Management, 316*, 115-127. Retrieved February 6, 2025, from https://pmc.ncbi.nlm.nih.gov/articles/pmc9566108/

Allwood, J. M., Cullen, J. M., & Lancaster, P. (2011). Promoting a circular economy: The role of business opportunities, governmental interventions, and consumer drivers. *Resources, Conservation and Recycling, 55*(11), 939-944.

Bautista, J. (2020). Crafting a theoretical framework on waste management: A case for sustainable cities. *International Journal of GEOMATE, 18*. https://doi.org/10.21660/2020.68.5683

Bocken, N. M. P., Bakker, E., & Pauw, I. D. (2016). Product design and business model strategies for a circular economy. *Journal of Cleaner Production, 114*, 147–157. Retrieved February 2, 2025, from https://doi.org/10.1080/21681015.2016.1172124

Department of Climate Change, Energy, the Environment and Water (DCCEEW). (2024). *Australia's circular economy framework*. Department of Climate Change, Energy, the Environment and Water, Canberra, December. CC BY 4.0.

DiMaggio, P. J., & Powell, W. W. (1983). The iron cage revisited: Institutional isomorphism and collective rationality in organizational fields. *American Sociological Review, 48*(2), 147–160. Retrieved January 10, 2025, from https://doi.org/10.2307/2095101

Ellen MacArthur Foundation. (n.d.). What is a circular economy? Retrieved January 11, 2025, from https://www.ellenmacarthurfoundation.org/topics/circular-economy-introduction/overview

Ellen MacArthur Foundation. (2019). City governments and their role in enabling a circular economy transition: An overview of urban policy lever. Retrieved January 31, 2025, from https://circular-cities-and-regions.ec.europa.eu/support-materials/papers-and-reports/city-governments-and-their-role-enabling-circular-economy

Ellen MacArthur Foundation. (2019). The circular economy: A transformative economic model. Retrieved January 31, 2025, from https://www.ellenmacarthurfoundation.org/

Etzioni, A. The Capture Theory of Regulations—Revisited. *Soc* **46**, 319–323 (2009). https://doi.org/10.1007/s12115-009-9228-3

Feng, T., Cummings, L., & Tweedie, D. (2017). Exploring integrated thinking in integrated reporting: An exploratory study in Australia. *Journal of Intellectual Capital, 18*(2), 330–353. https://doi.org/10.1108/JIC-06-2016-0068.

Flyvbjerg, B. (2006). Five misunderstandings about case-study research. *Qualitative Inquiry, 12*(2), 219-245. Retrieved February 4, 2025, from https://doi.org/10.1177/1077800405284363

GHD. (n.d.). Circular economy and waste management. GHD. Retrieved February 2, 2025, from https://www.ghd.com/en/circular-economy-and-waste-management

Government of the Netherlands Ministry of Infrastructure and the Environment & Ministry of Economic Affairs. (2016, September). *A circular economy in the Netherlands by 2050*. Retrieved February 1, 2025, from https://circulareconomy.europa.eu/platform/sites/default/files/17037circulaireeconomie_en.pdf

Geels, F. W. (2002). Technological transitions as evolutionary reconfiguration processes: A multi-level perspective and a case-study. *Research Policy, 31*(8-9), 1257–1274. Retrieved February 1, 2025, from https://doi.org/10.1016/S0048-7333(02)00062-8

Geissdoerfer, M., Savaget, P., Bocken, N. M. P., & Hultink, E. J. (2017). The circular economy – A new sustainability paradigm? *Journal of Cleaner Production, 143*, 757–768. Retrieved February 2, 2025, from https://doi.org/10.1016/j.jclepro.2016.12.048

Ghisellini, P., Cialani, C., & Ulgiati, S. (2016). A review on circular economy: The expected transition to a balanced interplay of environmental and economic systems. *Journal of Cleaner Production, 114*, 11-32. Retrieved February 4, 2025, from https://doi.org/10.1016/j.jclepro.2015.09.007

Greater Sydney Commission. (2018). *Greater Sydney Region Plan: A Metropolis of Three Cities*. New South Wales Government.

Greer, R., von Wirth, T., & Loorbach, D. (2021). The waste-resource paradox: Practical dilemmas and societal implications in the transition to a circular economy. *Journal of Cleaner Production, 303*, 126831. Retrieved February 2, 2025, from https://doi.org/10.1016/j.jclepro.2021.126831

Greer, R., von Wirth, T., & Loorbach, D. (2023). The circular decision-making tree: An operational framework. *Circular Economy and Sustainability, 3*(3), 693–718. Retrieved January 20, 2025, from https://doi.org/10.1007/s43615-022-00194-6

Guerrero, L. A., Maas, G., & Hogland, W. (2013). Solid waste management challenges for cities in developing countries. *Waste Management, 33*(1), 220-232. https://doi.org/10.1016/j.wasman.2012.09.008

Lake Macquarie City Council. (2021). *Circular economy framework (Version 1)*. Retrieved January 20, 2025, from https://www.lakemac.com.au/Our-Council/City-strategies-plans-and-reporting/Circular-Economy

Leech, N. L., & Onwuegbuzie, A. J. (2011). Beyond constant comparison qualitative data analysis: Using NVivo. *School Psychology Quarterly*, 26(1), 70–84.

Local Government Act 1993 (NSW) s 8A. Retrieved January 10, 2025, from https://legislation.nsw.gov.au/view/whole/html/inforce/current/act-1993-030

Marshall, A. (1920). *Principles of Economics* (8th ed.). London: Macmillan.

Meadows, D. H., Meadows, D. L., & Randers, J. (1992). *Beyond the limits: Confronting global collapse, envisioning a sustainable future*. Chelsea Green Publishing. Retrieved from https://donellameadows.org/archives/beyond-the-limits-to-growth/

Merli, R., Preziosi, M., & Acampora, A. (2018). The circular economy and the waste management system: Challenges and opportunities. *Environmental Science and Policy, 87*, 85-94. https://doi.org/10.1016/j.envsci.2018.06.011

Merriam, S. B., & Tisdell, E. J. (2015). *Qualitative research: A guide to design and implementation* (4th ed.). Jossey-Bass.

Mintrom, M. (2016). Herbert A. Simon, *Administrative behavior: A study of decision-making processes in administrative organizations*.

Murray, A., Skene, K., & Haynes, K. (2015). The Circular Economy: An Interdisciplinary Exploration of the Concept and Application in a Global Context. *Journal of Business Ethics*, 140(3), 369–380

Noblit, G. W., & Hare, R. D. (1988). *Meta-ethnography: Synthesizing qualitative studies*. Newbury Park, CA: Sage Publications.

NSW Department of Planning. (2025). *Population projections: Key findings*. Retrieved from https://www.planning.nsw.gov.au/data-and-insights/population-projections/key-findings.

OECD. (2016). *OECD Science, Technology and Innovation Outlook 2016*. OECD Publishing. Retrieved January 9, 2025, from https://www.oecd.org/en/publications/debate-the-issues-new-approaches-to-economic-challenges_9789264264687-en.html

OECD. (2020). *The circular economy in cities and regions: Synthesis report*. OECD Urban Studies, OECD Publishing, Paris. https://doi.org/10.1787/10ac6ae4-en

Patton, M. Q. (2015). *Qualitative research & evaluation methods* (4th ed.). Sage Publications.

Pervin, N., & Mokhtar, M. (2022). The interpretivist research paradigm: A subjective notion of a social context. *International Journal of Academic Research in Progressive Education and Development, 11*(2), 419–428.

Petrović, E. K. (2024). Sustainability transition framework: An integrated conceptualisation of sustainability change. *Sustainability, 16*(1), 217. Retrieved February 6, 2025, from https://doi.org/10.3390/su16010217

Pigou, A. C. (1932). *The Economics of Welfare* (4th ed.). London: Macmillan.

Rahman, H., & Chen, Q. (2020). Decision frameworks in waste management: Cost-benefit analysis and community consultation. *International Journal of Environmental Science & Technology, 18*(7), 1559-1572.

Rico, C. (2019). Local and regional governments using waste to inform circular economy policy (Master's thesis). Green Mountain College, Poultney, Vermont.

Salle, A. (2020). Local governments accountability: A content analysis of the financial audit reports. *Utopía y Praxis Latinoamericana*, 25(Special Issue 1), 184–195. https://doi.org/10.5281/zenodo.3774609

Simon, H. A. (1997). *Administrative behavior: A study of decision-making processes in administrative organizations* (3rd ed.). Free Press.

Smith, A., Stirling, A., & Berkhout, F. (2005). The governance of sustainable socio-technical transitions. *Research Policy*, 34(10), 1491–1510.

Stake, R. E. (2006). *Multiple case study analysis*. Guilford Press.

Stott, P. A., & Gillett, N. P. (2010). Detection and attribution of climate change at regional scales. *Wiley Interdisciplinary Reviews: Climate Change, 1*(2), 192–211. Retrieved January 9, 2025, from https://doi.org/10.1002/wcc.34

Torkayesh, A. E., Rajaeifar, M. A., Rostom, M., Malmir, B., Yazdani, M., Suh, S., & Heidrich, O. (2022). Integrating life cycle assessment and multi-criteria decision making for sustainable waste management: Key issues and recommendations for future studies. *Renewable and Sustainable Energy Reviews, 168*, 112819. https://doi.org/10.1016/j.rser.2022.112819

UN-Habitat. (2018). *Solid waste management in cities: Indicator 11.6.1 training module*. United Nations Human Settlements Programme. Retrieved February 6, 2025, from https://unhabitat.org/sites/default/files/2019/02/Indicator-11.6.1-Training-Module_Solid-waste-in-cities_23-03-2018.pdf

UNDP. (n.d.). What is circular economy and how it helps fight climate change. *UNDP Climate Promise*. Retrieved February 2, 2025, from https://climatepromise.undp.org/news-and-stories/what-is-circular-economy-and-how-it-helps-fight-climate-change

Vandchali, H. R. (2024). Circular economy in procurement: 2024 discussion paper on key actions for councils. *Local Government Procurement*. Retrieved January 10, 2025, from https://lgp.org.au/wp-content/uploads/2024/12/LGP-circular-economy-discussion-Paper.pdf

Wilson, D. C., Rodic, L., Modak, P., Soos, R., Carpintero, A., Velis, C., ... & Simonett, O. (2015). *Global waste management outlook*. United Nations Environment Programme (UNEP).

Wilson, D. C., Rodic, L., & Velis, C. (2015). Integrated waste management strategies: The role of stakeholder perspectives and environmental considerations. *Waste Management, 42*, 1-9.

Wilson, J. Q. (1989). *Bureaucracy: What Government Agencies Do and Why They Do It*. New York: Basic Books.

Wilk, V., Soutar, G. N., & Harrigan, P. (2020). Online brand advocacy (OBA): The development of a multiple item scale. *Journal of Product & Brand Management, 29*(4), 415-429. Retrieved February 4, 2025, from https://doi.org/10.1108/JPBM-10-2018-2090

WJARR. (2024). Circular economy and waste management. *World Journal of Applied Research and Review, 12*(5), 1-12. Retrieved February 2, 2025, from https://wjarr.com/sites/default/files/WJARR-2024-1517.pdf

World Wildlife Fund. (2012). *Living planet report 2012: Biodiversity, biocapacity and better choices*. World Wildlife Fund. Retrieved January 10, 2025, from https://donellameadows.org/archives/beyond-the-limits-to-growth/

Yin, R. K. (2003). *Case study research: Design and methods*. Thousand Oaks: Sage Publications.

Yin, R. K. (2014). *Case study research: Design and methods* (5th ed.). Sage Publications.