forestry, fisheries & the environment

Department:
Forestry, Fisheries and the Environment
REPUBLIC OF SOUTH AFRICA

DISCUSSION DOCUMENT

STRATEGIC STAKEHOLDER PARTICIPATION ON CONSTRUCTION AND DEMOLITION WASTE MANAGEMENT

Prepared By:

Novelto Engineering Services

Prepared For:

The Department of Forestry, Fisheries and the Environment

Contact Details:

082 413 9445

bopalamo@novelto.co.za

www.novelto.co.za

OVERVIEW

INTRODUCTION

This discussion document is designed to facilitate effective stakeholder participation in the management of Construction and Demolition (C&D) waste in South Africa

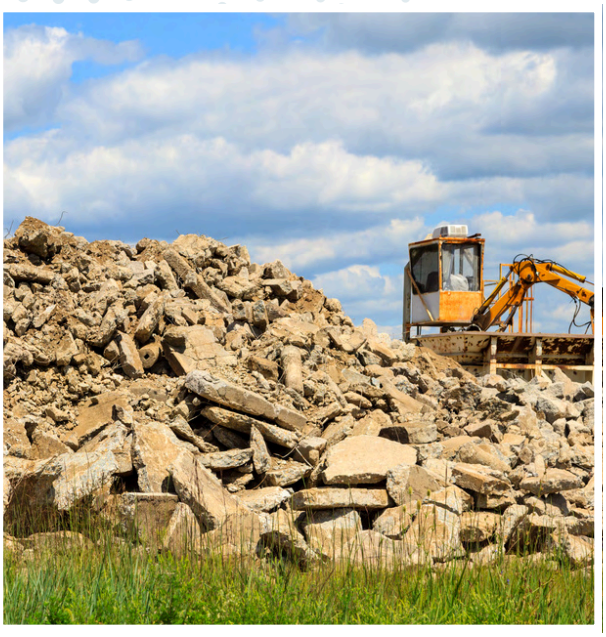
Drawing insights from our Literature Review and responses to the Stakeholder Questionnaire, we aim to provide a meaningful platform for discussion that aligns with strategic objectives for waste management

OBJECTIVES

The key objectives of this discussion document and the questionnaire are to:

- gain insight from stakeholders regarding current C&D waste recycling projects, successes, impediments and key lessons
- derive an industry-driven strategy which will lead to greater reuse of C&D waste by driving project development

CONTEXT OF THE PROJECT



THE PROBLEM

South Africa generates approximately 10–15 million tons of C&D waste annually, with a recycling rate of only 10–20%. This significant waste generation poses serious environmental threats, including pollution and resource depletion

The Green Procurement Strategy seeks to reimagine C&D waste management by promoting recycling, increasing sustainability in construction and establishing circular economy practices

EXPECTED OUTCOMES

The overarching objectives of this project are to:

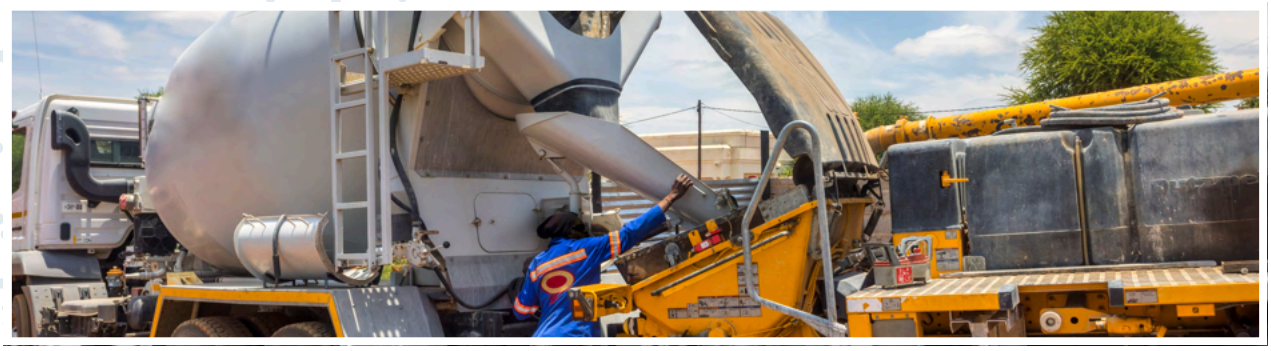
01. significantly increase recycling rates for C&D waste and achieve greater diversion from landfill

02. improve environmental quality and enhance public health

03. generate economic opportunities within the recycling sector

04. foster a sustainable circular economy in the construction industry

PHASES OF THE PROJECT



PHASES OF THE PROJECT

01. ASSESSMENT OF CURRENT PRACTICES

- Evaluating existing waste management frameworks to identify deficiencies.
- Engaging stakeholders to uncover barriers and opportunities for enhanced C&D waste management.

02. ASSESSING TECHNOLOGY AND PROCESS OPTIONS:

- Evaluating global technological options for the management and recycling of C&D waste.
- Conducting value chain analysis to determine how to facilitate the creation of a viable C&D waste recycling industry.

03. DEVELOPMENT OF GREEN PROCUREMENT GUIDELINES:

- Creating guidelines to support the systematic integration of recycled materials in construction projects.
- Setting minimum recycled content requirements for public sector projects.

04. IMPLEMENTATION AND PILOT TESTING:

- Launching pilot projects to demonstrate effective recycling processes.
- Collaborating with municipalities and industry stakeholders to facilitate project execution and compliance.

05. MONITORING AND EVALUATION:

- Continuously tracking project outcomes and recycling rates through robust data collection.
- Assessing environmental and economic impacts to ensure accountability and transparency.

ENVIRONMENTAL IMPACTS OF C&D WASTE

C&D waste contributes significantly to environmental issues such as pollution and habitat destruction. Robust waste management strategies must consider these impacts

C&D waste impact	Response
Noise, water, air pollution	**Permit conditions:** Require demolition waste management plans before permit issuance
Unsightly and expensive to remediate	**Chain-of-custody:** GPS-logged haulage and weighbridge slips with random inspections
Degrades environment and reduces property values	**Graded penalties:** Repeat offenders face permit holds and tender ineligibility

KEY GAPS IN THE CURRENT FRAMEWORK

01 REGULATORY FRAMEWORK

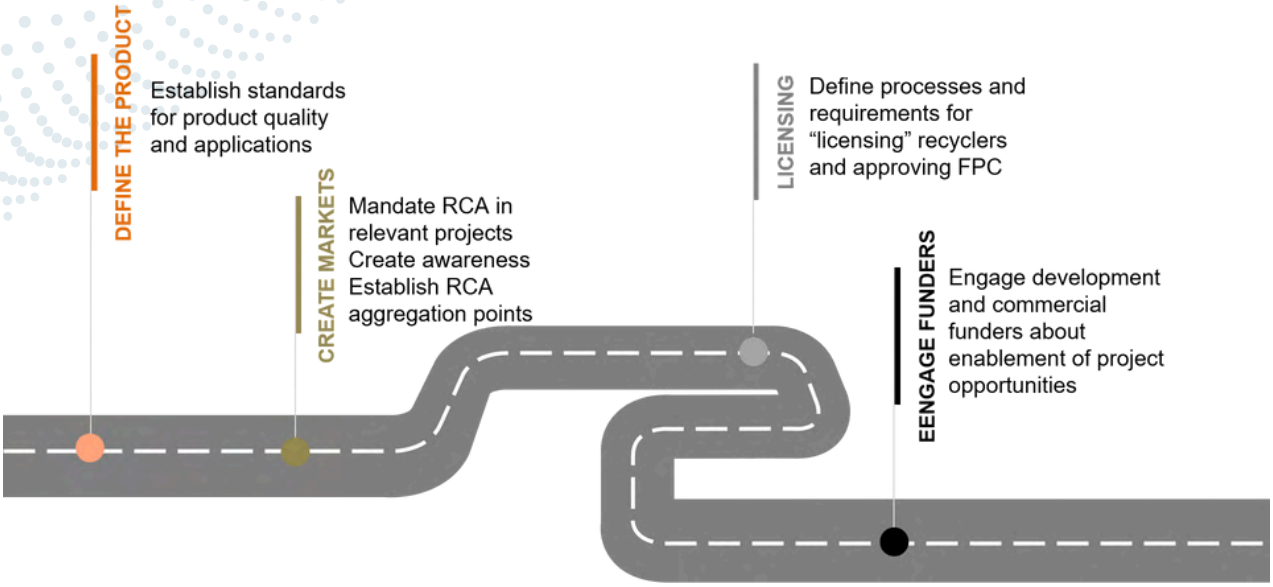
Policies like the National Environmental Management: Waste Act (NEM:WA) need stronger enforcement mechanisms

02 DATA MANAGEMENT

Enhanced waste reporting mechanisms are essential to support actionable strategies

Legislation / policy	Key focus	Comments
National Environmental Management: Waste Act (NEM:WA) No. 59 of 2008 (as amended in 2014 and 2020).	Cornerstone legislation for waste management that empowers the classification of wastes (including potentially C&D waste) as priority streams and mandates the waste hierarchy	Enforcement is weak due to under-reporting to the South African Waste Information System and limited audits
National Waste Management Strategy (NWMS) 2020	Sets ambitious diversion targets (zero waste to landfill by 2050), emphasizing market development for recycled aggregates and incentives for circular practices	Implementation challenges include inconsistent municipal reporting and illegal dumping
Public Health Act No. 36 of 1919 (as amended) and Occupational Health and Safety Act No. 85 of 1993 (as amended, succeeding the Factories, Machinery and Building Work Act No. 22 of 1941)	These laws address health and safety aspects of waste. The Public Health Act defines "nuisance" to include C&D waste causing environmental harm, while the Occupational Health and Safety Act regulates waste from construction sites to protect workers	The laws are outdated, relying on NEM:WA for enforcement, and lack specific penalties for C&D mismanagement
Local Government: Municipal Systems Act No. 32 of 2000 and Municipal By-Laws	Enforcement of local integrated waste management plans, requiring demolition permits with waste segregation plans	These promote on-site sorting and green procurement, but heterogeneity in enforcement leads to gaps
South African Waste Information System	A system used by government and industry to capture routine data on the tonnages of waste generated, recycled and disposed of in South Africa	Enhancements are ongoing to address data fidelity issues for C&D waste, including under-reporting
The Carbon Tax Act No. 15 of 2019 (amended in phases, including 2024 extensions)	Offers offsets for low-emission waste practices, such as recycling, to reduce GHG emissions from landfilling	None
The Recycling Enterprise Support Programme (RESP)	Support for small scale recyclers acros different waste sectors	It has been criticised for insufficient funding (only 9% for C&D in 2025) Expansion to more effectively encompass C&D waste

FOSTERING PROJECT DEVELOPMENT



Project development facilitation requires a deliberate effort by policymakers and industry

01

ADVANCED TECHNOLOGIES

Utilizing advanced technologies, such as on-site AI sorting and CO_2 curing, can enhance recycling efforts and reduce reliance on virgin materials

02

VALUE CHAIN ANALYSIS

Value chain analysis to ensure that every component of the value chain functions optimally, creates businesses opportunities and is optimally integrated into the process,

03

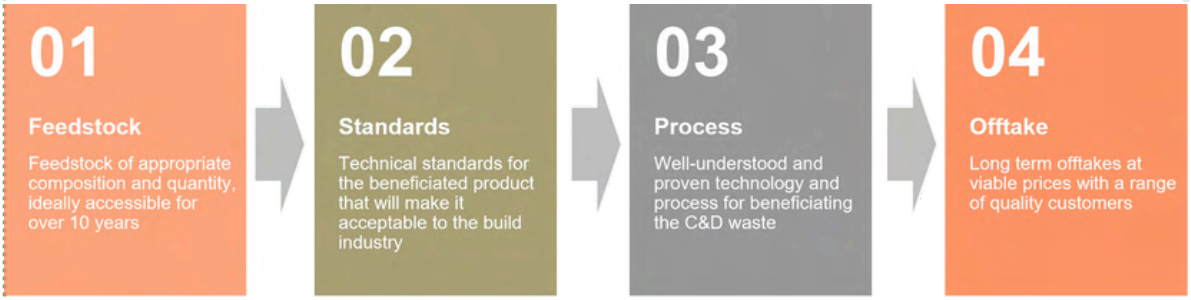
INNOVATIVE FUNDING

Funding inadequacies can be addressed through innovative models (e.g., green municipal bonds) to drive investment in recycling initiatives

INTERNATIONAL BEST PRACTICE

A STANDARDISED APPROACH

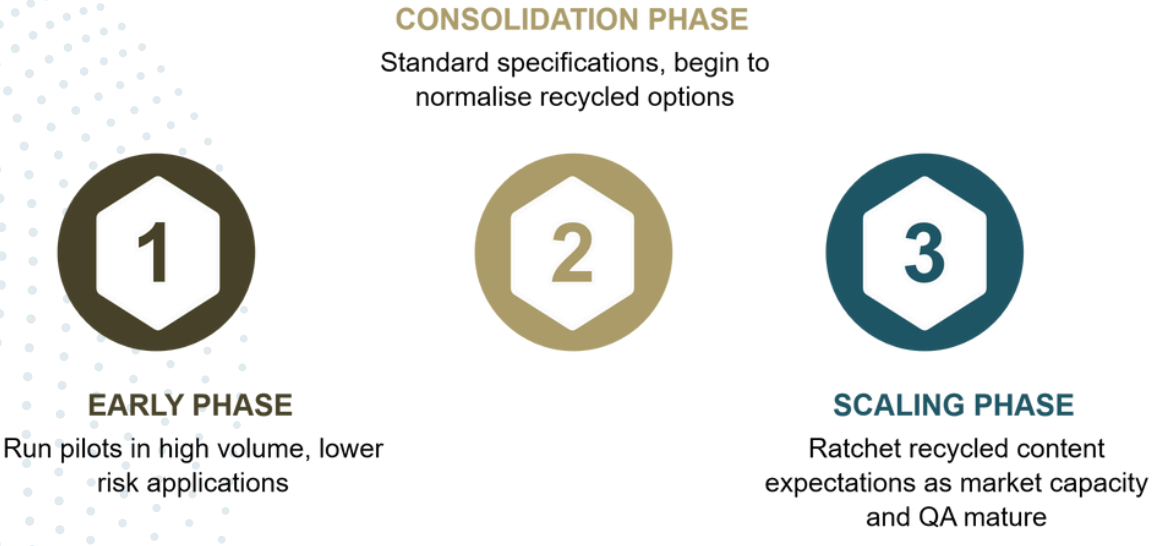
- coordination of waste availability, technical standards, recycling processes and facilitation of offtakes through green procurement mechanisms in the public sector



The principal driver of a sector project development strategy is a standardised approach which allows for product replication and thus makes project financing easier to accomplish and at the lowest cost possible

A PHASED PROCESS

- a critical consideration is phasing of the implementation, starting with a low risk approach nd ultimately scaling up after testing and piloting



TECHNOLOGY CONSIDERATIONS

IMPACT OF HIGH EFFICIENCY TECHNOLOGY

The output value of C&D waste material after processing depends on purity, application, and market demand

High efficiency technology drives up product quality, stimulates demand and results in higher recycling rates

However, high efficiency technology also has a high upfront capital cost

Road sub-base
Low quality (contaminants <10%)
Value: $50 - 150 / ton
High demand

Concrete production
High quality (contaminants <2%)
Value: $100 - 150 / ton
Moderate demand

Building products
Moderate quality (contaminants <5%)
Value: $80 - 200 / ton
Moderate demand

3D printing
Very high quality (purity >98%)
Value: $200 - 400 / ton
Low demand

VALUE OF ON-SITE SEGREGATION

- Contamination Prevention: Concrete mixed with plastics, wood, or gypsum produces low-quality aggregate unsuitable for structural use
- Cost Efficiency: Sorting at source can reduce transportation/processing costs by 30–50%
- Material Value Maximization: High-purity concrete (>95%) commands 2–3× higher market value than mixed waste

STAKEHOLDER ENGAGEMENT

01. PURPOSE OF STAKEHOLDER PARTICIPATION

Active engagement of stakeholders, from government officials to private sector actors, is crucial for the success of the Green Procurement Strategy

Meaningful participation fosters diverse perspectives that inform innovative solutions and increase buy-in from all parties involved

02. FOCUS AREAS FOR DISCUSSION

During stakeholder meetings, the following focus areas will be explored to deepen the engagement process:

POLICY AND REGULATORY FRAMEWORK:

- Evaluate existing policies like the National Environmental Management: Waste Act (NEM:WA) and the National Waste Management Strategy (NWMS) to ascertain their effectiveness
- Identify regulatory hurdles and discuss proactive measures to streamline compliance and enhance C&D waste recycling initiatives

TECHNOLOGY AND INNOVATION:

- Assess the technologies currently employed in C&D waste processing and explore opportunities for innovative solutions that improve efficiency and reduce costs

PROJECT VIABILITY AND IMPLEMENTATION:

- Discuss factors essential for successful C&D recycling projects, including capital investment, resource allocation, and stakeholder roles

ENVIRONMENTAL AND SOCIAL IMPACT:

- Quantify the potential environmental benefits of heightened recycling rates and evaluate social equity implications, particularly job creation for marginalized communities

FUNDING AND FINANCIAL MECHANISMS:

- Identify funding challenges and explore various financial solutions, such as government grants, green bonds, municipal recycling bonds and public-private partnerships to support recycling projects

STAKEHOLDER ENGAGEMENT

03. STRATEGIC INPUTS FROM STAKEHOLDERS

Vision and Goals

- What is your vision for effective C&D waste management in South Africa? How can we collectively achieve this vision?
- Collaboratively define goals that reflect a shared vision and set measurable outcomes

Innovations and Technology

- What innovative technologies or practices have you encountered that could enhance C&D waste management in our context?
- Gather examples and case studies that stakeholders believe could be adapted for our purposes

Policy Recommendations

- What specific policy changes do you recommend to support improved C&D waste management in South Africa?
- Create a refined set of policy recommendations based on stakeholder input to be advocated for at the national level

Identification of Barriers

- What do you see as the major barriers to implementing effective recycling and waste management practices? How can these be overcome?
- Compile a prioritized list of barriers from stakeholder feedback to inform targeted interventions

Collaborative Opportunities

- What partnerships or collaborative opportunities do you envision that could amplify our efforts in C&D waste management?
- Identify key stakeholders to engage in collaborative initiatives and projects

Enterprise Development

- What enterprise development opportunities do you believe can be unlocked by C&D waste management?
- Develop a view of possible business and preferential procurement opportunities in C&D waste management

PROJECT DOCUMENTATION

CONCLUSION AND KEY DATES

CONCLUSION

The effective management of C&D waste presents significant challenges but also tremendous opportunities for economic growth and environmental enhancement in South Africa. Stakeholder engagement is paramount to the success of the Green Procurement Strategy, enabling collaboration, knowledge sharing, and collective problem-solving

We invite all stakeholders to actively participate in this dialogue, contributing their insights, expertise, and recommendations as we work together to reduce C&D waste and promote sustainable practices in the construction industry

KEY DATES

Publication of Stakeholder Questionnaire	21 November 2025
Gauteng Stakeholder Workshop 1	7 December 2025
Questionnaire Response Deadline	28 February 2026
Publication of Draft Strategy	31 March 2026
Regional Workshops	10 - 25 April 2026
Publication of Revised Strategy	30 June 2026
Publication of Final Strategy	31 July 2026

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Access the stakeholder questionnaire at:

www.novelto.co.za/c&dstrategy/