South Africa Metro Trading Services Program (P505813)

Program for Results (PforR)

DRAFT

ENVIRONMENTAL AND SOCIAL SYSTEMS ASSESSMENT (ESSA) REPORT

January 2025

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List of Acronyms

ARO	African Reclaimers Organization
COGTA	Department of Cooperative Governance and Traditional Affairs
COIDA	Compensation for Occupational Injuries and Diseases Act
CPF	Country Partnership Framework
CRR	Critical Risk Rating
CSIR	Council for Scientific and Industrial Research
CSP	Cities Support Program
DEFF	Department of Environment, Forestry and Fisheries
DFFE	Department of Forestry, Fisheries and the Environment
DLI	Disbursement linked indicators
DMA	District Metered Areas
DMRE	Mineral Resources and Energy
DPLG	Department of Provincial and Local Government
DSI	Department of Science and Innovation
DWS	Department of Water and Sanitation
E&S	Environmental and Social
EPR	Extended Producer Responsibility
ESF	Environmental and Social Framework
ESHS	Environmental, social, health and safety
ESMS	Environmental and Social Management System
ESP	Expanded Social Package
ESSA	Environmental and Social Systems Assessment
FBE	Free Basic Electricity
GDIP	Green Drop Improvement Plan
GHG	Greenhouse Gas
GIIP	Good International Industrial Practice
GWh	Gigawatt hour
HDPE	High Density Polyethylene
IDP	Integrated Development Plan
IFC	International Finance Corporation
ISO	International Standards Organization
IUDP	Integrated Urban Development Framework
IWMP	Integrated Waste Management Plan
KPI	Key Performance Indicators
kWh	Kilowatt hour
LGEI	Local Government Environmental Indaba
MRF	Material Recovery Facility
MTS	Metro Trading Service
MTSG	Metro Trading Services Grant
MTSP	Metro Trading Services Program
NEM:WA	National Environmental Management: Waste Act
NEMA	National Environmental Management Act
NMBMM	Nelson Mandela Bay Metropolitan Municipality
NRW	Non-revenue water

NT	National Treasury
NWA	National Water Act
NWMS	National Waste Management Strategy
NWRS	National Water Resources Strategy
OHS	Occupational Health and Safety
OHSA	Occupational Health and Safety Act
OPRC	Operations Procurement Review Committee
PAP	Project Affected Person
PDO	Program Development Objective
PET	Polyethylene terephthalate
PforR	Programme for Results
PIAP	Performance Improvement Action Plan
PIAPs	Performance Improvement Action Plans
PMU	Project Management Unit
PP	Public Participation
PRO	Producer Responsibility Organization
RA	Results Area
RBIG	Regional Bulk Infrastructure Grant
SALGA	South African Local Government Association
SANS	South Africa National Standards
SAWPA	South African Waste Pickers Association
SAWPRS	South Africa Waste Picker Registration System
SEMA	Specific Environmental Management Act
W2RAP	Wastewater Risk Abatement Planning
WC/WDM	Water Conservation / Water Demand Management
WRC	Water Resource Commission
WSA	Water Services Authority
WSIG	Water Services Infrastructure Grant
WSS	Water Supply & Sanitation
WWTW	Wastewater Treatment Works

Executive Summary

The World Bank Metro Trading Service Program (MTSP) and Program for Results (PforR) has been developed with the National Treasury under the City Supports Program umbrella. The MTSP aims to respond to the institutional capacity needs of eight major metros, enabling substantive interventions in response to deteriorating infrastructure services (water and sanitation, waste and electricity). The MTSP will assist the metros to leverage additional funding for their infrastructure needs for these services. The eight targeted metropolitan municipalities include the City of Johannesburg, Ekurhuleni and Tshwane located in Gauteng Province, the City of Cape Town located in Western Cape Province, eThekwini located in Kwa-Zulu Natal, Nelson Mandela Bay and Buffalo City located in Eastern Cape Province and Mangaung located in Free State Province.

The PforR component will finance activities across eight results areas under the three pillars (**Pillar 1:** Water Supply and Sanitation, **Pillar 2:** Energy and Electricity, and **Pillar 3:** Solid Waste Management). Under each of the pillars, the program will support low-risk construction and infrastructure improvement (rehabilitation) projects, with an aim to improve overall operational performance and delivery of services. Eligible investments under the Program include technical assistance to support the consolidation, adoption, and implementation of the trading services' respective Turnaround Strategies and accompanying investment plans, capacity building at both central and local levels, and the low-risk physical investments under each of the pillars. The design of the MTSP is still in progress and will be tailored to meet individual metro's circumstances. The PforR instrument does not support major new works, although the threshold is not clearly defined. Any activity that involved significant physical displacement would be prohibited. Upgrading or expansion of existing landfill and sewage treatment facilities would be permitted, subject to the work being within the boundaries of the site already used for the activity and authorization under the NEM: WA, if not already approved under a phased site development plan. The program will be implemented under the oversight of a National MTSP Steering Committee, and a Project Management Unit will be established at National Treasury staffed with civil servants assigned to the Project and will be implemented over a period of 6 years.

As part of the World Bank program support requirements, an Environmental and Social Systems Assessment (ESSA) was carried out to (i) analyze the environmental and social (E&S) effects, including direct, indirect and cumulative effects, of activities associated with the Program, (ii) analyze the borrower's existing systems for managing the identified environmental, social, health and safety (ESHS) risks and impacts, (iii) compare the borrower's systems against the six core E&S principles for eligible investments . The Six Core principles are as follows:

1. **Environment and Social Management**: To promote E&S sustainability in the Program design; avoid, minimize, or mitigate adverse impacts; and promote informed decision-making relating to the Program's ESHS effects.
2. **Natural Habitats and Physical and Cultural Resources**: To avoid, minimize, or mitigate adverse impacts on natural habitats and promote informed decision-making relating to a Program's ESHS effects in relation to physical and cultural resources.
3. **Protection of Public and Worker Safety**: To protect public and worker safety against the potential risks associated with construction and/or operations of facilities or other operational practices under the Program; exposure to toxic chemicals, hazardous wastes, and other dangerous materials under the

Program; and reconstruction or rehabilitation of infrastructure located in areas prone to natural hazards.

4. **Land Acquisition and Loss of Access to Natural Resources**: To manage land acquisition and loss of access to natural resources in a way that avoids or minimizes displacement, and assists the affected people in improving, or at the minimum restoring, their livelihoods and living standards.
5. **Indigenous Peoples and Vulnerable Groups**: To give due consideration to the cultural appropriateness of, and equitable access to, Program benefits, giving special attention to the rights and interests of the Indigenous Peoples and to the needs or concerns of vulnerable groups.
6. **Social Conflict:** To avoid exacerbating social conflict, especially in fragile states, post-conflict areas, or areas subject to territorial dispute.

The ESSA concluded that the overall environmental and social risk associated with the program is considered Moderate. The environmental and social benefits associated with the project will be significantly positive and outweighs the anticipated adverse effects which are temporary and manageable. Environmental and social benefits associated with the program include i) reduced greenhouse gas emissions, ii) less demand for development of greenfield water resources, (iii) less pollution from wastewater treatment works and raw sewage discharges. (iv) reduced pollution associated with illegal dumping of waste and poor landfill site operations, iii) promotion of a circular economy to assist with reducing waste volumes to landfill, iv) enhanced access to basic services such as water and electricity provisions to vulnerable households and enhanced public health because of improved environmental controls. While the Program has an overall highly significant benefit, some potential adverse environmental and social impacts could occur namely, health and safety risks to workers and minor pollution risks associated with civil and electrical construction works. Social risks may include i) potential displacement risks associated with civil works in water and sanitation sector; ii) potential standardization of what constitutes levels of indigency, where the potentially reduced scale of benefits could compromise the existing access of those vulnerable and iii) social conflict between waste pickers due to a resource decline in real value.

Adverse environmental and social effects are considered manageable through the existing regulatory framework, with the possibility of some technical assistance to update and improve relevant local bylaws. The Program will further need to demonstrate that environmental and social risks are effectively identified and managed as specific civil interventions are planned. To facilitate this, an Environmental and Social Management System (ESMS) needs to be put in place at Metro level where they do not already exist. To ring fence responsibilities and encourage ownership, this must be managed by the Metropolitan Trading Services (MTS) themselves, not by the broader metropolitan Government. The ESMS is to set out key risks and impacts, and the procedures, capacity and training necessary to manage them. Similarly, Metro Trading Services require their staff and contractors to comply with municipal health and safety policies and guidelines, the status and enforcement of which varies significantly between the MTSP municipalities.

Provisions for Key Performance Indicators (KPIs) to evaluate OHS and other E&S performance requirements at each Metro Trading Service need to be considered as part of the Program. KPIs should avoid duplicating or unnecessarily changing existing indicators where these are already being implemented, such as the No Drop, Blue Drop and Green Drop methodologies developed by the Department of Water Services for the water and sanitation sector. Solid waste management KPIs must include compliance of landfills with statutory pollution control measures as well as progress to reduce

illegal dumping. To mitigate risks associated with potential resettlement (for example, in service upgrades in informal settlement areas), the scale of the permissible resettlement under PforR must be decided in consultation with National Treasury and the World Bank before a decision is taken to proceed. It is expected that the system of subsidies/free services will remain in place to support disadvantaged groups. A recommended action to deal with the vulnerability aspect of potential re-alignment of the free basic services approach to water, sanitation and electricity is to develop a set of indicators that measure municipality performance against the policy intentions as set out in the Free Basic Services Indigent Support Policy and unlock incentives. Lastly, a common actionable approach consistent with the guidelines for waste picker integration into the formal waste management process is recommended. This should be developed in collaboration with all the participating metros.

In conclusion, the MTSP represents a transformative effort to improve service delivery in South Africa's metropolitan areas through financial and operational reforms, infrastructure investment, and strengthened governance. The ESSA findings underscore the importance of financial accountability and institutional capacity-building to achieve the intended sustainability outcomes. The program's structured approach ensures alignment with national priorities and World Bank standards, promising significant improvements in urban service delivery and sustainability. Before specific civil works projects proposed by the metros are approved, they must be screened for eligibility under the World Bank PforR financing rules, and if eligible must be subject to any additional requirements for environmental and social management required by National Treasury and the World Bank, over and above the conditions of approval set by legally required authorizations.

1 PROGRAM DESCRIPTION

1.1 Background

The World Bank South Africa 2022-2026 Country Partnership Framework (CPF) supports the strengthening of basic service delivery to unlock the potential of urban areas across the country. The main focus has been to participate in the Cities Support Program (CSP) within the eight metropolitan areas. The CSP takes as its point of departure the Integrated Urban Development Framework (IUDP), prepared by the Ministry of Cooperative Governance and Traditional Affairs (COGTA). The CSP, under the stewardship of a dedicated professional team in the National Treasury, is designed to assist cities to address the dysfunctional spatial form and inefficiencies in the built environment, through strengthening institutions and governance, enabling improved performance and inclusive economic growth.

The World Bank Metro Trading Service Program (MTSP) and Program for Results (PforR) has been developed with the National Treasury under the CSP umbrella. It is proposed to respond to the institutional capacity needs of eight major metros, enabling substantive interventions in response to deteriorating infrastructure services (water and sanitation, waste and electricity). The program will assist the metros to leverage additional funding for their infrastructure needs for these services.

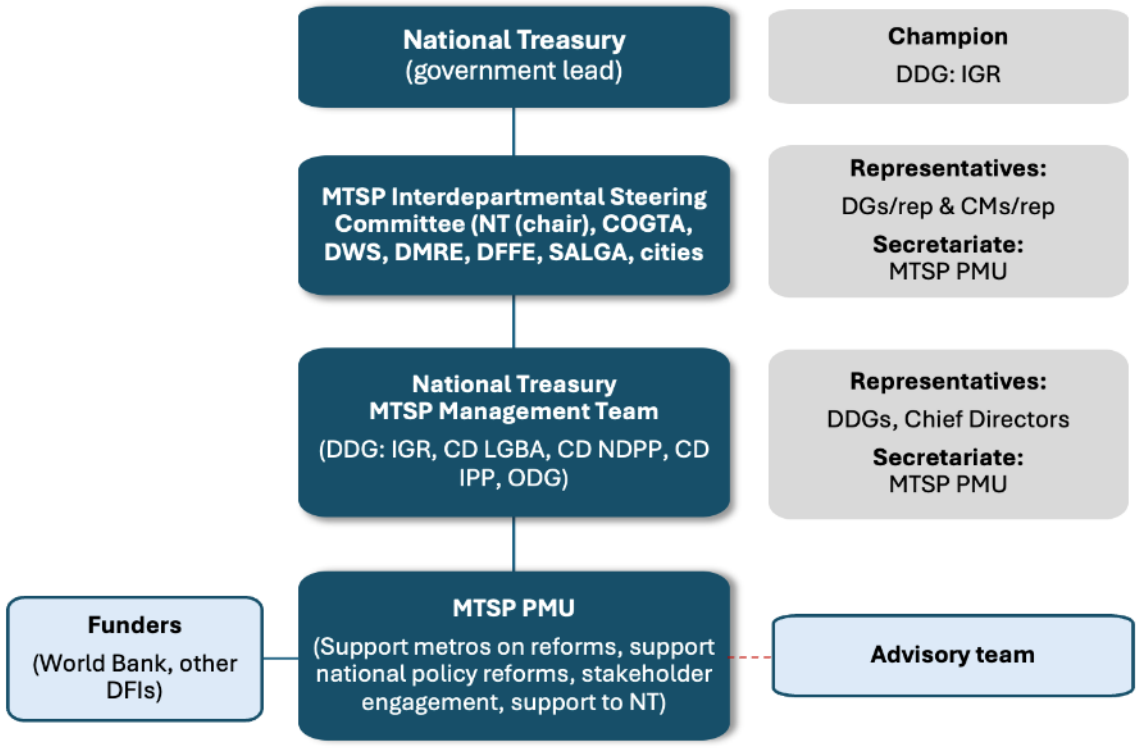


***Figure 1-1**. Cities Support Program under the National Treasury*

The crisis in the provision of metropolitan basic trading services (water and sanitation, waste and electricity)[1] is marked by declining safety, reliability and accessibility. This has been caused by low

[1] Trading services are services for which consumption charges are levied and determined with the intention to make a surplus (profit) on the delivery of the services (National Treasury Guidance Note: *Metro preparations for the introduction of trading*

collection rates with resulting revenue loss, underinvestment in infrastructure operations and maintenance, lack of financial transparency and suboptimal procurement processes, lack of proper asset management and human capacity constraints; all contributing to the cycle of diminishing revenues, decreased investment and increasingly unreliable service. In most metros, trading services departments also do not have full control of the revenue cycle, which is centralized with other support services such as finance and collections, human resources, supply chain management, information technology, and fleet management, often under multiple separate departments. This aggravates the problem of poor governance, making it difficult to ring fence the performance of the trading service.

1.2 Program Scope

The MTSP will include all financing spent on the program (US$2.9 billion), comprising the Metro Trading Services Grant (MTSG) that will exclusively target water supply and sanitation, electricity, and solid waste services, which will be in addition to Metro expenditure from their own revenues and borrowing across the three trading services (~US$6 billion).

1.3 Program Boundaries

The PforR boundaries are defined as follows:

- The Program will support eligible investments during the first phase of the anticipated Government program and its approximate US$2.9 billion multi-sectoral investment plan over a period of 6 years (2025-2031). The PforR includes the MTSG (US$2.9 billion) comprising International Bank for Reconstruction and Development (IBRD) financing ($US1 billion) and National Treasury (NT) financing ($US1.9 billion). The PforR expenditures are all those under the MTSG, but do not include the MTSP expenditures financed by the Metros from their own resources.
- The Program area includes eight metropolitan municipalities, namely City of Johannesburg, Ekurhuleni and Tshwane located in Gauteng Province, City of Cape Town located in Western Cape Province, eThekwini located in Kwa-Zulu Natal, Nelson Mandela Bay and Buffalo City located in Eastern Cape Province and Mangaung located in Free State Province (**Figure 1-2**). Over 38 % of the population of South Africa fall within these eight municipalities .

services infrastructure financing reforms, starting in 2024/25 with water and sanitation 2024). Service charges are based on consumption (in the case of electricity and water); **or approximations** in the case of sanitation and solid waste.

***Figure 1-2**. Metropolitan Municipalities of South Africa included in the PforR (Source: Wikipedia)*

1.4 Program Development Objective (PDO) and PDO Level Results Indicators

The PDO is to improve metropolitan trading service delivery through financial and operational sustainability, strengthened governance and investments.

The PforR component will finance activities across eight results areas (RAs) under the three pillars (**Pillar 1:** Water Supply and Sanitation, **Pillar 2:** Energy and Electricity, and **Pillar 3:** Solid Waste Management). The RAs and are presented below:

- **Results Area 1:** Water Supply & Sanitation (WSS) - Governance, Operational, and Financial Performance of WSS Services.
- **Results Area 2:** Electricity - Governance, Operational, and Financial Performance of Electricity Services.
- **Results Area 3:** Solid Waste - Governance, Operational, and Financial Performance of Solid Waste Management Services.

Main areas of reform, specific to each Trading Service, include the following demonstrative indicators that among many others to be included in the Performance Improvement Action Plans (PIAPs), are:

- Governance and Accountability (with the following examples of actions)
  - Single point accountability[2]
  - Ring fencing of costs and revenues
  - Fit for purpose institutional structure
  - Defined relationship between the service and the city[3]
  - Separate audited financial statement for each trading service

- Operational Performance (with the following examples of actions)
  - Water: Non-revenue water (NRW) reductions, water effluent quality Improvements
  - Waste: Weighbridge functionality, logistics management
  - Electricity: Distribution network rehabilitation, commercial operations improvements, reduction of technical and non-technical losses

- Financial Performance (with the following examples of actions)
  - Operating cost coverage ratio (operational revenues/operational cost)
  - Financial surplus[4]
  - Collection ratio

The PIAPs include a combination of performance indicators that apply to all Metros, and performance targets that are metro-specific. While the PIAPs are still being finalized, and are subject to revision, the latest detail for each service area is included in Annexures 1-3. Additional recommended actions for inclusion in the PIAPs, identified by the analysis in the ESSA, are proposed in Section 6.

In PforR projects, disbursements are linked to indicators (DLIs). **Table 1-1** provides an overview of the DLIs for this PforR.

Table 1-1*. Disbursement Linked Indicators (DLI) associated with the MTSP PforR Project.*

Results Area	Disbursement linked indicators	
Results Area 1: Water Supply & Sanitation (WSS) Governance, Operational, and	**DLI 1**	**Metros have a council-approved Water & Sanitation Performance Improvement Action Plan (PIAP) in place and are meeting the periodic performance targets outlined in their PIAPs**
	DLR 1.1	Metros have a council-approved Water and Sanitation PIAP in place

[2] For the business (incl. revenue & customer mgt), with effective professional management accountable for performance (with control over essential functions). Additional management capability may be needed (e.g., through management contracts)

[3] Full financial transparency for the trading service (audited AFS); and a clearly defined financial relationship between city and service (allocation of grants, return on equity, cost of support services, etc..)

[4] Significant improvement in revenue completeness (metering and billing) and cash collection (credit control)

Results Area	Disbursement linked indicators	
Financial Performance of WSS Services.	DLR 1.2	Metros are meetings their performance targets set in their Water & Sanitation PIAP with the assessment in FY27/28
	DLR 1.3	Metros are meetings their performance targets set in their Water & Sanitation PIAP with the assessment in FY29/30
Results Area 2: Electricity Governance, Operational, and Financial Performance of Electricity Services.	**DLI 2**	**Metros have a council-approved Energy/Electricity Performance Improvement Action Plan (PIAP) in place and are meeting the periodic performance targets outlined in their PIAPs**
	DLR 2.1	Metros have a council-approved Energy/Electricity PIAP in place
	DLR 2.2	Metros are meeting their performance targets set in their Energy/Electricity PIAP with the assessment in FY27/28
	DLR 2.3	Metros are meeting their performance targets set in their Energy/Electricity PIAP with the assessment in FY29/30
Results Area 3: Solid Waste - Governance, Operational, and Financial Performance of Solid Waste Management Services.	**DLI 3**	**Metros having a council-approved Solid Waste Performance Improvement Action Plan (PIAP) in place and are meeting the periodic performance targets outlined in their PIAPs**
	DLR 3.1	Metros have a council-approved Solid Waste PIAP in place
	DLR 3.2	Metros are meetings their performance targets set in their Solid Waste PIAP with the assessment in FY27/28
	DLR 3.3	Metros are meetings their performance targets set in their Solid Waste PIAP with the assessment in FY29/30

1.5 Description of the eligible infrastructure support

Eligible investments under the Program include technical assistance to support the consolidation, adoption, and implementation of the trading services respective Turnaround Strategies and accompanying investment plans, and capacity building at both central and local levels. Eligible investments also consist of low-risk physical investments to support institutional strengthening across the trading services. However, investments that create a risk of highly adverse impact on the environment and/or nearby population (as defined in the World Bank Policy and Directive on PforR Financing and Guidance for Environmental and Social Systems Assessment under the PforR instrument), will be excluded. Also, all works, goods, and consultancy contracts above the Operations Procurement Review Committee (OPRC) thresholds will be also excluded.

Table 1-2 provides an overview of typical proposed physical infrastructure support that is envisaged under the PforR.

Table 1-2*. Proposed physical infrastructure support as part of the PforR project.*

Sector	Infrastructure support
Water Supply and Sanitation	▪ Rehabilitation and expansion of existing water and sanitation systems ▪ Infrastructure/asset upgrading of priority systems ▪ Waste storage reservoir equipment with water quality sensors and automated distribution mechanisms
Electricity	▪ Rehabilitation/ replacement of faulty / failing distribution network infrastructure

	▪ Deployment of management information systems and smart metering
Solid Waste	▪ Upgrading of waste treatment facilities ▪ Improving disposal practices (waste hierarchy) and landfill management

1.6 Details of infrastructure

Water supply and sanitation -

- Rehabilitate and expand existing water supply and sanitation systems, including: (i) the rehabilitation and/or expansion of production, pumping, treatment, and storage infrastructure; distribution and sewerage networks; standpipes; and household connections and (ii) the development of associated studies and works supervision. Expansion of pump stations, which implies increased use of water, may be financed if it does not involve critical questions of water balance, river health and long-term biodiversity impact in the affected aquatic ecosystems that has not been previously studied and authorized under National Environmental Management Act (NEMA). Water storage infrastructure would include small scale intermediary storage, but not primary storage on ridgelines requiring large scale civil works.
- Upgrade infrastructure/assets of water supply and sanitation systems including those out of service and selected to be repaired as a priority.
- Implement works related to improving transmission and distribution networks. Construction of transmission pipelines may include work within the urban framework but will not be in greenfield areas or any area where species or habitats of conservation concern may be impacted.
- Improve service quality: continuous water supply initiatives in demonstration zones, expand distribution network for 24/7 supply; expand sewerage network and treatment capacity.
- Construct a water quality lab for more frequent and accurate quality monitoring.
- Provide water storage reservoirs with water quality sensors and automated distribution arrangements.

Electricity -

- Enhance infrastructure protection measures to mitigate risks of damage and theft.
- Implement integrated security solutions and surveillance cameras and alarm systems at critical infrastructure sites.
- Implement design modifications, upgrade fencing and access control mechanisms, and explore innovative solutions (e.g. smart tagging) to deter theft and vandalism.

Solid Waste –

- Support improvements of operational performance of service providers.
- Invest in solid waste infrastructure and assets including transfer stations, stormwater drainage, leachate collection systems and fleet.
- Invest in solid waste information systems including fuel theft monitors, route optimizations trackers and weighbridges.
- Implement security measures including landfill fencing, access control gates and security cameras.

1.7 Implementation arrangements

The Program will be implemented under the oversight of a National MTSP Steering Committee that includes the key stakeholders involved in the three trading services. A Project Management Unit (PMU) will be established at National Treasury (NT) staffed with civil servants assigned to it. The PMU will be responsible for monitoring all Results Areas, preparing progress reports both to the World Bank and to the Steering Committee for review and guidance.

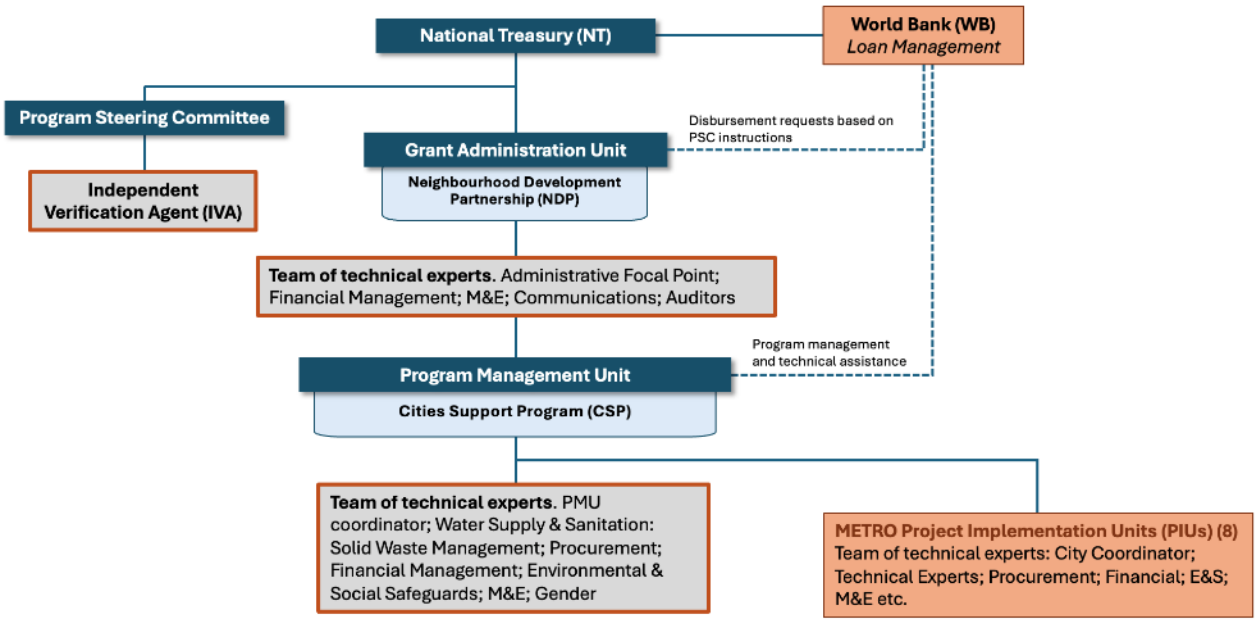


Figure 1-3. *Proposed Institutional and Implementation Arrangements for the Program*

2 ENVIRONMENTAL AND SOCIAL SYSTEMS ASSESSMENT APPROACH AND METHODOLOGY

As per the requirements of the World Bank PforR Policy and Directive requirements, the Bank must carry out an Environmental and Social Systems Assessment (ESSA) to: (i) analyze the environmental and social (E&S) effects, including direct, indirect and cumulative effects, of activities associated with the Program, (ii) analyze the borrower's existing systems for managing the identified environmental, social, health and safety (ESHS) risks and impacts, (iii) compare the borrower's systems against the six core principles and key planning elements set out in the Bank Policy and Directive for PforR to identify any significant differences that could affect Program performance; and (iv) propose recommended measures to address key gaps identified to strengthen the managing of the Program identified E&S risks.

2.1 ESSA Approach

The ESSA was prepared to establish the extent to which the Borrower's existing systems are consistent with the six Core Principles of the World Bank Policy and Directive for PforR. The Six Core principles are as follows:

7. **Environment and Social Management**: To promote E&S sustainability in the Program design; avoid, minimize, or mitigate adverse impacts; and promote informed decision-making relating to the Program's ESHS effects.

8. **Natural Habitats and Physical and Cultural Resources**: To avoid, minimize, or mitigate adverse impacts on natural habitats and promote informed decision-making relating to a Program's ESHS effects in relation to physical, biological and cultural resources.
9. **Protection of Public and Worker Safety**: To protect public and worker safety against the potential risks associated with construction and/or operations of facilities or other operational practices under the Program; exposure to toxic chemicals, hazardous wastes, and other dangerous materials under the Program; and reconstruction or rehabilitation of infrastructure located in areas prone to natural hazards.
10. **Land Acquisition and Loss of Access to Natural Resources**: To manage land acquisition and loss of access to natural resources in a way that avoids or minimizes displacement, and assists the affected people in improving, or at the minimum restoring, their livelihoods and living standards.
11. **Indigenous Peoples and Vulnerable Groups**: To give due consideration to the cultural appropriateness of, and equitable access to, Program benefits, giving special attention to the rights and interests of the Indigenous Peoples and to the needs or concerns of vulnerable groups.
12. **Social Conflict**: To avoid exacerbating social conflict, especially in fragile states, post-conflict areas, or areas subject to territorial dispute.

The relevance and applicability of each of the six core principles to the Program are discussed in Section 5 of the report.

2.2 ESSA Methodology

The approach to undertake the ESSA entailed the steps outlined below.

a) **Screening.** During the concept (current)[5] stage, the Program activities were assessed to identify potential ESHS effects associated with the Program (Annexure 4). The screening process further assessed the program against the exclusion criteria in the World Bank Policy for PforR financing and the ESSA Guideline for PforR programs, to determine activities which are ineligible for investment support, due to their potentially unacceptable adverse ESHS risks, involving the environments and/or affected people that are sensitive, diverse, or unprecedented. In terms of risk ratings for ineligible PforR programs and activities, the ESSA Guideline (World Bank, 2020) states: "Programs with an *aggregate risk rating of Substantial* or *individual risk ratings of Substantial or High,* in one or more criteria, are subject to further discussion among the task team and with Management to determine whether such risks require special management measures, or whether the activities are excluded from the proposed Program". The rules are thus not hard and fast and require critical evaluation as the program is developed.

Since many of the specific programs' activities involving civil works are still to be defined, the screening assessment, and the determiniation of the eligibility of classes of activity, has been done at a broadly conceptual level. Checking eligibility against PforR financing rules and guidelines will need to be done for each proposed activity as the program designs are developed, particularly where these are on the border line between eligible and ineligible activities under the PforR instrument.

[5] Specific design proposals for maintenance and/or upgrading of sectoral infrastructure were still under development at the time of preparation of this ESSA. The metros have put forward 'shopping lists' for civil works which they wish to implement. The MTSP program design team are presently evaluating these requests, taking into consideration the PforR eligibility criteria, but no details were available at the time of writing

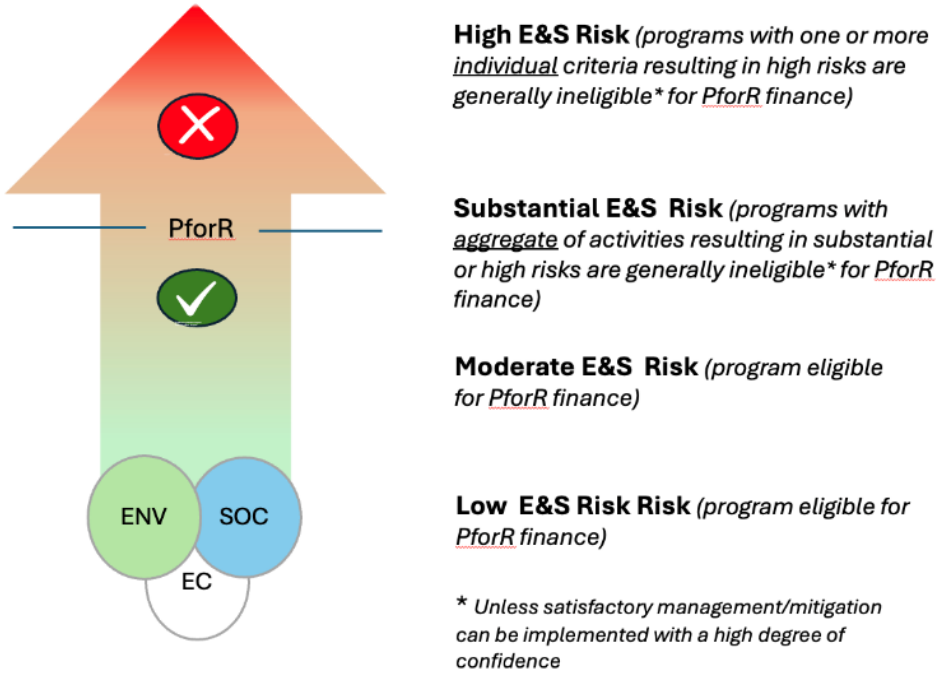


***Figure 2-1**. PforR eligibility thresholds*

b) Desktop review. A desktop review was undertaken of the country policies, legislation, regulations and institutional frameworks applicable to the ESHS aspects of the Program. Publicly available records and reports about the implementing agencies performance within the three sectors were also reviewed and considered. This included a review of policies and legislative frameworks at National level and policies, by-laws and plans at implementation level.

c) System, Institutional and Capacity Assessments. Various consultations (virtually and in-person) were held with stakeholders to obtain views of the country systems to manage ESHS Program risks in line with the six core principles and to identify any additional ESHS risks that need to be considered as part of the Program. The capacity of the implementing entities was assessed through review of publicly available information and records and consultations with stakeholders and key members of staff in each of the metros to obtain their views. Stakeholders that were engaged at National level and at Implementing Level. Records of meetings and lists of stakeholders consulted are presented in Annexures 5 and 6.

d) ESSA validation and disclosure workshop – consultations. The draft ESSA findings will be presented to the stakeholders through consultations that will be conducted by Appraisal, in line with the requirements of the Policy for PforR financing. The feedback received on the draft ESSA will be incorporated in the final ESSA, prior to approval and in-country disclosure on the NT website and external disclosure by the Bank.

Any gap-filling measures identified to enhance the in-country systems and capacities to manage environmental and social (E&S) outcomes will be incorporated in the Program PIAP to enhance the Program design.

3 RELEVANT LEGAL AND INSTITUTIONAL MANAGEMENT FRAMEWORKS

3.1 Legal Framework Applicable to the Program

This section includes a discussion of the most important policy and legislation that is relevant to the MTSP. Annexure 7 is a more complete summary of all legislation that has a a bearing on the program.

3.1.1 General

South Africa has a robust environmental legislative framework, with environmental matters related to assessment of environmental effects, enhancement of environmental quality, protection of water and biodiversity resources being highly regulated (Bowman, 2020). Environmental rights are enshrined in the South African Constitution, which stipulates that environment is a functional area of all three spheres of government. Part A and B of Schedule 4 and 5 of the Constitution stipulates matters over which local government has authority, namely air pollution, potable water supply systems, and domestic wastewater and sewage disposal systems, while Section 24, the Bill of Rights, imposes further duties on municipalities in terms of environmental rights (Mathebula, 2014).

The National Environmental Management Act (Act 107 of 1998) provides the legislative framework for cooperative environmental governance between the three spheres of government[6] and addressing key environmental aspects relevant to the PforR. It contains environmental principles to which all state institutions must comply to ensure activities under their responsibilities are done in a manner that is not detrimental to the environment. The Act requires local government to integrate environmental considerations into metropolitan planning and development by preparing and implementing integrated environmental management plans as stipulated in various specific environmental legislation. It further delegates specific responsibilities to each of the spheres of government including annual reporting on implementation progress to the Director-General.

NEMA and its regulations provide a comprehensive framework for assessing environmental impacts associated with projects[7]. It ensures that assessments are done with the participation of interested and affected parties to facilitate an informed decision-making process. Environmental considerations must be addressed in the project design, and form part of the environmental authorization. The NEMA Environmental Assessment Regulations contain a list of activities which have the potential to impact on the environment and for which environmental authorization is required prior to commencement. Three lists are described, based on activity thresholds and geographic locations, the first of which contains activities for which a Basic Environmental Assessment (abbreviated EIA) is required, the second a list of activities which require a full Environmental Impact Assessment, inclusive of scoping, and a third containing activities in specific geographic and administrative areas that automatically require an Environmental Impact Assessment and environmental authorization. For energy generation, transmission and distribution, water and wastewater infrastructure and waste disposal activities, the lists set thresholds that determine whether the activity requires a Basic Assessment of a full ESIA prior to implementation. As part of the environmental assessment, some activities may require a water use license, especially those stipulated in the National Waste Act (Act 36 of 1998). NEMA allows for an integrated process by which an application for an environmental license (Water and / or Waste) can be done in conjunction with the EIA

[6] National, provincial and local

[7] https://www.legal500.com/guides/chapter/south-africa-environment/)

process, avoiding duplication and facilitating integrated environmental authorization for projects. Only registered independent Environmental Assessment Practitioners may undertake the environmental assessment and license application process. Installation of renewable energy infrastructure within urban areas or at existing facilities, and water distribution networks located in road reserves, are excluded from having to prepare an environmental assessment, unless the activity triggers any other requirement in the listings. Activities within existing infrastructure footprints, which do not trigger any additional requirements as stipulated in the NEMA regulations; will need to comply with existing environmental requirements contained in either the environmental authorization, generic environmental management plans and sector-specific norms and standards. Where the expansion triggers any activities listed the necessary environmental assessments will need to be conducted.

The Department of Forestry, Fisheries and Environment (DFFE) introduced a mandatory national web-based environmental screening tool in July 2019, which contains a series of environmental sensitivity maps and information to assist developers to screen proposed projects for environmental sensitivities. The screening tool identifies exclusions and specific requirements such as specialist studies which need to be undertaken as part of an EIA process[8] The screening tool is a useful aid to identifying environmental sensitivities and no-go areas early in the project development process.

3.1.2 Sector specific legislation

There are several pieces of environmental legislation which fall under the NEMA framework, referred to as Specific Environmental Management Acts (SEMAs). The SEMAs delegate certain responsibilities to metros and require them to prepare sector-specific environmental implementation or management plans as part of their Integrated Development Plans (IDPs). The IDP is a key strategic document, which according to the Municipal Systems Act (Act 32 of 2000), contributes to the integration of environmental planning into municipal planning. The IDP must ensure that metropolitan planning and annual budgeting take into account questions of environmentally sustainability, including environmental management, environmental protection and climate change. In addition to the IDP, the Municipal Structures Act (Act 117 of 1998) and Municipal Systems Act (Act 32 of 2000) are central to environmental planning in metropolitan structures as they set out the mechanisms and processes for ensuring that water, waste and electrical services are provided in a sustainable manner.

Like the NEMA, the SEMAs require authorizations, licenses or permits for particular activities before they can be undertaken. For activities that do not require authorizations, licenses or permits, the SEMAs instead require compliance with published norms and standards (Bowmans 2000).

Waste Management: Prevention of pollution and environmental degradation while promoting economic and social development are enshrined in the National Environmental Management: Waste Act (Act 59 of 2008) (NEM:WA). The Act provides a legislative framework which requires compliance with the waste hierarchy, seeking to prioritize waste minimization, reuse, recycling, recovery and treatment of waste before disposal as a last resort. Waste-related activities for which licenses are required are in accordance with the EIA regulations.

[8] https://www.cliffedekkerhofmeyr.com/news/publications/2024/Practice/Corporate/corporate-commercial-alerts-22-May-the-environmental-and-other-legislative-transitions-to-a-low-carbon-economy-in-south-africa)

The Act establishes a cooperative governance mechanism for dealing with matters such as waste management planning[9] and sets out the responsibilities of metros for waste service delivery, including duties like waste collection, storage and disposal in line with national and provincial norms and standards. It further requires metros to prepare, submit for approval and thereafter implement Waste Management Plans with prescribed content, as part of their IDPs. Metros must appoint a waste management officer, who is responsible for coordinating matters pertaining to waste management. In addition to the norms and standards, NEM:WA makes provision for financial management systems, standard by-laws and tariffs to be developed. Financial provisions and systems for waste management are incorporated through the requirements stipulated in the Municipal Finance Management Act (Act 56 of 2003).

The norms and standards are guideline documents that are designed to protect the environment, promote sustainable development and ensure public and worker health and safety, through consistent and effective management of waste. The norms and standards provide guidance about the following:

- Classification of waste streams to ensure correct handing, storage treatment and disposal to prevent environmental impacts
- Waste minimization and recycling to divert waste sent to landfill
- Collection and transportation, including frequency of collection, container types and method of collection, with an aim to prevent spillage, contamination and impact on public health
- Treatment and disposal requirements for landfill sites, including site selection, specific design requirements, monitoring of environmental impacts on air quality, water and soil.

The waste hierarchy approach is further reinforced by the National Waste Management Strategy (NWMS) 2020. The NWMS bases waste management on three pillars, namely waste minimization, effective and sustainable waste services and compliance, enforcement and awareness, with the objective of achieving zero waste in landfills, well managed and financially stable waste services and a culture of zero tolerance to pollution and illegal dumping (NWMS 2020). According to the NWMS, there has been a significant improvement in waste collection and disposal services, including implementation of a successful program to license landfill sites. While the NWMS sets targets for diverting waste from landfill, it is not clear how these are to be achieved, nor the roles and responsibilities of the various entities in this regard. Local Government Environmental Indaba (LGEI) (2023) notes that the NWMS still needs to be fully implemented and that municipalities are yet to be trained on its requirements.

Although NEM:WA and the NWMS provide a sound basis for managing waste, implementation at municipal level has proved difficult, and key issues such as increasing waste volumes, low recycling rates, failure to segregate waste at source, illegal dumping, financial resource constraints and issues surrounding governance and accountability of the metros trading services have limited their ability to effectively implement the waste management strategy. Municipal bylaws are often outdated or are not adequately enforced, reinforcing the negative trends. DFFE has renently stepped in

The Municipal Systems Act delegates the responsibility of sustainable delivery of services in cities to the Metros, which includes waste collection and disposal services. The application process for landfill sites is often lengthy with authorizations being delayed, leading to landfill sites being constructed and operated illegally, while waiting for permits, due to the necessity of dealing with waste being generated (CSIR 2020).

[9] http://wastepolicy.environment.gov.za/book/export/html/327)

Water and Sanitation: The framework governing water and sanitation in South Africa is robust, promoting sustainable water use, protection and access to water resources. Water resources are considered national assets of which the national government is the custodian. The Constitution stipulates that access to clean and safe water is a human right and that water resources must be protected to ensure an environment that is not harmful to the health or well-being of the citizens of South Africa. Water resources are, however, facing increased pressure as a result of climate change, an increase in demand associated with population growth, over-utilization and poor management practices resulting in pollution. The Constitution allocates different responsibilities to the three spheres of government for safeguarding water resources. National government is tasked as the legislative and executive authority of freshwater resources and bulk supply, while municipalities administer, ensure budget provisions and planning of water and sanitation services within the boundaries of provision of potable water, domestic wastewater and sewage disposal systems[10].

The National Water Act (Act 36 of 1998) (NWA) provides the overarching framework for the protection, use, development, conservation, management and control of water resources. It recognizes that the protection of water resources is essential to ensure human health and functioning of ecosystems. The NWA regulations (GN R810 of 17 September 2010) place water resources in three classes which determine the level of protection and extent to which water can be utilized from sources. Once a resource has been classified, it is the Minister's responsibility to set specific objectives and goals to ensure the protection of the resource relevant to its class. There are eleven (11) water uses in the NWA which may have a potential detrimental impact on water resources. Activities related to wastewater treatment and management of waste are both listed. For these activities, an integrated environmental authorization process must be followed in which the environmental assessment addresses the requirements of NEMA, NEM:WA and NWA. Water resources are further classified and assigned certain protection requirements based on their classification. Resource quality objectives are set out under the NWA to ensure that basic human needs and protection of aquatic ecosystems are met.

The National Water Resources Strategy III (NWRS) was published in 2023 as a deliverable from the NWA, which requires the Minister to develop and publish a strategy at national scale, to be reviewed every five (5) years. The NWRS is a key instrument for implementing and operationalizing the NWA (Adom & Simatele 2021) and provides information about how water resources must be managed and relevant institutional responsibilities. Protection of valuable water resources, including protection of aquatic ecosystems are in the forefront of the NWRS objectives.

Allied to the National Water Resources Strategy is the Free Basic Water Policy (2001). The policy requires that all households must have access to a basic supply of water, even if they cannot afford to pay for it. This is implemented by municipalities and overseen by the Department of Water and Sanitation (DWS). The standard amount is 6,000 liters per household per month for indigent (low-income) households. The policy is largely entrenched in law through the Water Services Act 108 of 1997.

Duties of metros in respect of water and sanitation services are set out in the Water Services Act (Act 108 of 1997). The Act mandates the Department of Water and Sanitation, as the custodian of water resources, to regulate water services through compulsory norms and standards. Norms and standards for domestic water and sanitation services have been published under the WSA. The standards set out the requirements for potable water to ensure that it does not pose a health risk; aspects of pollution prevention associated with sanitation services in line with the mitigation hierarchy set out in NEMA, and standards for the

[10] https://hsf.org.za/publications/hsf-briefs/water-governance-i-a-broad-outline-of-the-legislative-framework-in-south-africa

treatment and disposal of effluent. The WSA was recently amended to strengthen arrangements and accountability, allowing for the Minister to act against municipalities that consistently fail to meet their license conditions.

Requirements for wastewater discharge into the environment are established under the NWA. Specific requirements for the quality of effluent discharged from wastewater treatment facilities are set in the South African National Standards for Effluent Discharge (SANS 241) which these facilities must comply with. The standards are enforced through the legislation and permit conditions for effluent discharge from individual Wastewater Treatment Works (WWTWs), which are monitored by the DWS as the regulatory authority. The performance of metros in terms of water and sanitation services are audited against five key performance areas and results are publicly available through the DWS Blue, Green and No Drop reports.

As evident from the above, metros have access to a complex suite of legislation, instruments and tools to ensure that environmental aspects and governance are considered in water and sanitation planning (MMM EIMP 2016). At municipal level, a series of policies and plans have been prepared as a part of the metro's IDPs The overall aim of these plans is to uphold the environmental rights of all citizens, as stipulated in the Constitution, and to promote sustainable use of water in municipal planning. The strategies and plans include among others, environmental sustainability strategies, air quality management plans (as related to water and sanitation services), climate change adaptation and mitigation strategies and biodiversity management plan. Section 11 of the NEM:WA requires the development of Integrated Waste Management Plans (IWMPs), and all of the metros have complied with this requirement. Environmental protection is therefore well integrated into the metro systems stated approach, even if implementation is lacking in many cases.

Over and above the Blue, Green and No Drop monitoring reports, DWS is engaged in several initiatives aimed at addressing the problem of pollution of rivers by municipal wastewater treatment works. Firstly, the Minister has agreed on action plans to address infrastructural deficiencies in many of the worst performing municipalities, and DWS is assisting municipalities with funding from the Water Services Infrastructure Grant (WSIG) and Regional Bulk Infrastructure Grant (RBIG) to address these deficiencies. Secondly, DWS is taking regulatory action in terms of the National Water Act, including issuing non-compliance notices, directives, taking civil action, and as a last resort, laying criminal charges against polluting municipalities. Thirdly, DWS is drafting amendments to the Water Services Act to strengthen its role as the regulator of municipal water and sanitation services and to enable the Minister to intervene effectively when there is non-compliance with directives to stop pollution.

3.2 Relevant Institutional Framework for the Program

A significant component of the program is institutional reform. This reform will underpin all other activities undertaken by the program to improve the sustainable provision of metropolitan trading services. Figure 3-1 describes the steps that will be required, and provides an annotated account of how, to succeed, city utilities will need to integrate distinct elements of reform, starting with sound governance and a supporting and enabling environment. National Treasury and the MTSP design team have emphasised that ring-fencing of the utilities to achieve stable financial results and good governance will be the foundation of all improvements in service provision, and will be the first Results Area in the program.

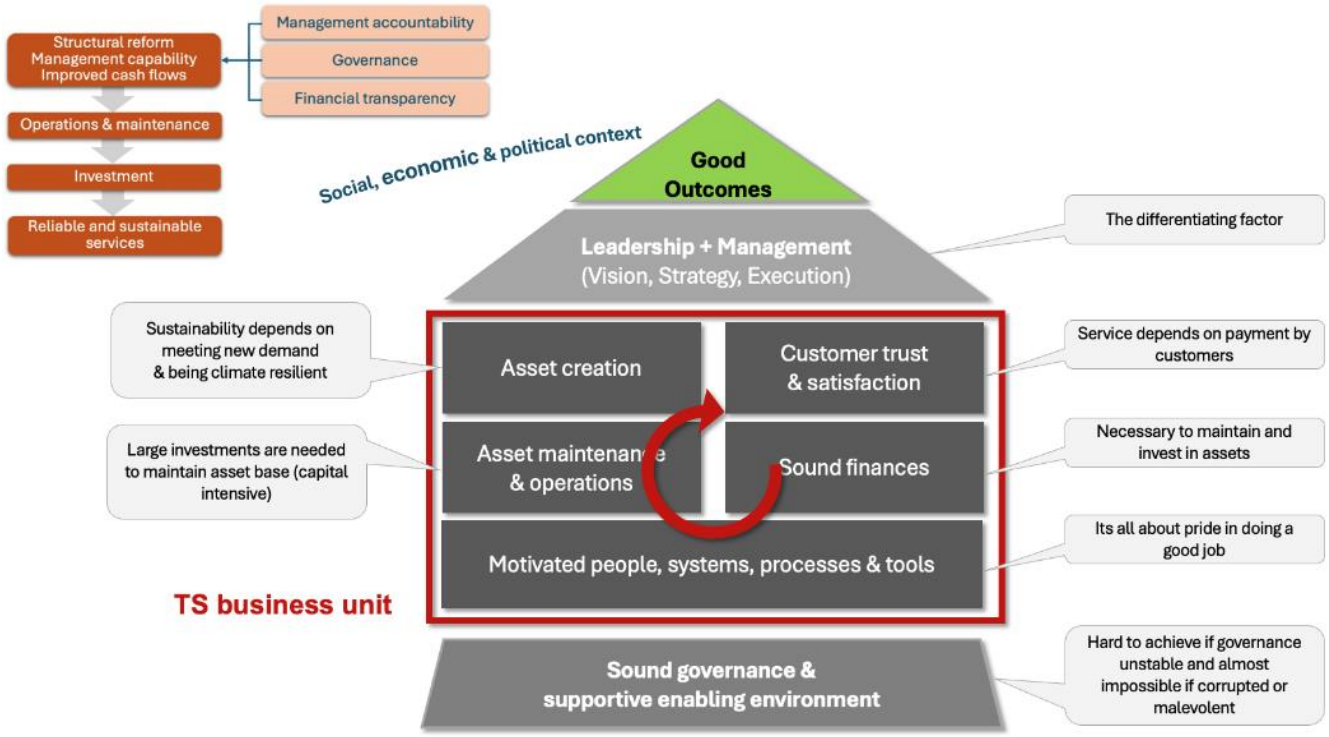


***Figure 3-1**. Integration of key reform components to achieve sustainable business units*

4 ENVIRONMENTAL, SOCIAL, HEALTH AND SAFETY EFFECTS OF THE PROGRAM

4.1 Program Environmental, Health and Safety Benefits

4.1.1 Water and Sanitation (Results Area 1)

(i) More efficient use of water as a scarce natural resource

The increasing pressure of water demands on water resources has been recognized by the South African Government, and planning of water resource development while maintaining the integrity of the resource has been ongoing for many years. The goals of the latest National Water Resource Strategy (NWRS-3) are to ensure water is protected, used, developed, managed, and controlled sustainably and equitably and that water and sanitation must support development and eliminate poverty and inequality. The NWRS-3 applies a holistic and integrated methodology, focusing on increasing water supply, reducing water demand, managing effective water and sanitation, regulating the water and sanitation sector, redistributing water for transformation, promoting international cooperation, managing water and sanitation under a changing climate, improving raw water quality, and protecting aquatic ecosystems and maintaining and restoring ecological infrastructure.

Historically the ecological reserve was not sufficiently considered, and experience of its application shows that in many cases it has effectively taken up much of what was thought to be “spare” capacity. In developing priorities for the ecological reserve, the South African Water Research Commission (2008) pointed out that its implementation is not primarily about conservation of fauna and flora (although many would argue that this is also critically important) but is based on the concept of the circular economy –

without the maintenance of an ecological reserve, the ecosystems supporting clean fresh water will collapse. The WRC (2008) concisely summarizes what has become a guiding principle under the NWRS: *"Water is crucial to environmental sustainability. It sustains the natural functioning of the ecosystem resource base from which goods and services are provided for society's use. The principal reason for protecting this resource is to maintain the ecosystem integrity at a level that ensures continued delivery of the desired ecosystem goods and services, and which ultimately leads to human benefit socially, economically and environmentally*."

As a water-stressed country, and in the context of the threat of climate change, the conservation of water resources has become a critical priority. At National level, the National Water and Sanitation Masterplan (NWSM) highlights the water crisis that faces South Africa and warns that this is impacting on economic growth and on the well-being of all South Africans (DWS, 2018). The NMSM made urgent recommendations to reduce the risk of water shortages. Between 2018 and 2023, national water consumption continued to increase and in 2024 the DWS estimated that South Africa will face a 17% water deficit by 2030 if current trends persist. The DWS emphasizes that linear approaches to the development of water resources have reached their limit, with 98% of the country's available water resources already developed, and that circular approaches must be implemented which recognize the linkage between water development and other sectors (DWS, 2024).

The importance of urban water conservation / water demand management (WC/WDM) as a component of the urgent action necessary to manage the water crisis is recognised in the NWSM and has been integrated into provincial and municipal policies, strategies, and legal instruments. Water Service Authorities (WSAs) are required, through the National legislation, to measure performance related to water use targets, water losses, non-revenue water and water use efficiency. The DWS is the regulatory authority responsible for measuring the performance of WSAs pertaining to WC/WDM. DWS has developed an analytical framework for reporting by all WSAs, known as the *'No Drop Report'*, which facilitates the assessment of their core competencies and provides the basis for the analysis of trends (Table 4-1). Annual audits are undertaken, from which the DWS generates feedback to assist the WSAs to define risk profiles and inform plans for improvement.

***Table 4-1**. How DWS calculates Water Use Efficiency Performance in the WSAs.*

No Drop audits use a range of KPIs to inform 5 criteria, which determine the effectiveness of WC/WDM. These are:

Criteria 1: WC/WDM status quo, plans and strategies, budgets, and implementation of projects (Water Resource Diagram, Water Balance, Council approved WC/WDM strategies and budgets)

Criteria 2: Asset management as it relates to meter replacement. Monitoring, analysis, and action of high loss District Metered Areas (DMAs) in metropolitan municipalities.

Criteria 3: Technical skills of WC/WDM team

Criteria 5: Compliance and performance. Based on the water loss (NRW) and efficiency key performance indicators (KPIs) and year-on-year improvement. Water losses are divided into commercial water losses (NRW - water used but not paid for) and physical water losses (ILI - water lost to leaks). The NRW efficiency scores are calculated as shown below. In the metros, these three scores are weighted to make up 35% of the total score.

No Drop Key Performance Areas

ILI (physical water loss) performance categories

>8	Extremely high physical water loss
6-8	Poor performance in physical water loss
4-6	Average physical water loss performance
2-4	Good physical water loss performance but some improvement may be possible subject to economic benefit
<2	Excellent physical water loss management

NRW (%) performance categories

>40%	Extremely poor non-revenue water management
30-40%	Poor non-revenue water performance
20-30%	Average performance with potential for marked improvement
10-20%	Good performance but some improvement may be possible subject to economic benefit
<10%	Excellent non-revenue water management

Water Use Efficiency (l/c/d) performance categories

>300	Extremely high per capita water use
250-300	Poor per capita water use
200-250	Average per capita water use with potential for marked improvement
150-200	Good per capita water use but some improvement may be possible subject to economic benefit
<150	Excellent per capita water use management

The water use efficiency failures in the water sector have been mainly due to weak implementation. WC/WDM performance has been poor at national and metropolitan levels, with the City of Cape Town being the only MTSP metro to score an overall 'Excellent' on the DWS *No Drop* scorecard, based on 2020/2021 data (DWS, 2023b). Table 4-2 provides the most recent NRW and physical loss estimates for the MTSP metros. Only the City of Cape Town achieves an *'average with potential for marked improvement'* performance score for NRW. All other MTSP metros score 'poor' or 'extremely poor'. Physical leaks due to poor maintenance of infrastructure escalated sharply during COVID, although performance is expected to improve in the next audit, reflecting the reestablishment of maintenance

routines. Three MTSP metros achieved 'average' physical water loss scores for 2021-2022, three were 'poor' and two 'extremely poor' (Table 4-2). The significance of these scores is underlined by the overall amount of water consumed by the eight metros, which DMS (2023a) estimates to be 53% of the total water use in South Africa.

***Table 4-2**. No Drop Key Performance Areas for the eight Category A metropolitan municipalities (2021-2022 data)*

Metro	SIV	Revenue Water	NRW	%NRW	l/c/d	ILI
Buffalo City	65 166 097	40 626 442	24 539 655	37,7%	214	4,7
City of Cape Town	312 826 977	220 753 930	92 073 047	29,4%	161	4,0
City of Ekurhuleni	368 351 408	254 395 814	113 955 594	30,9%	257	6,4
City of Johannesburg	634 461 668	328 709 771	305 751 897	48,2%	280	9,3
City of Tshwane	361 666 588	243 780 416	117 886 172	32.6%	239	7,2
eThekwini	414 138 078	43 279 273	241 374 733	58.3%	298	26,4
Mangaung	80 813 586	52 665 080	37 534 313	46,4%	261	5,4
Nelson Mandela Bay	101 340 716	52 665 080	48 675 636	48,0%	199	7,4
Category A	**2 338 765 117**	**1 356 974 071**	**981 791 047**	**41.i4%**	**239**	**7,6**

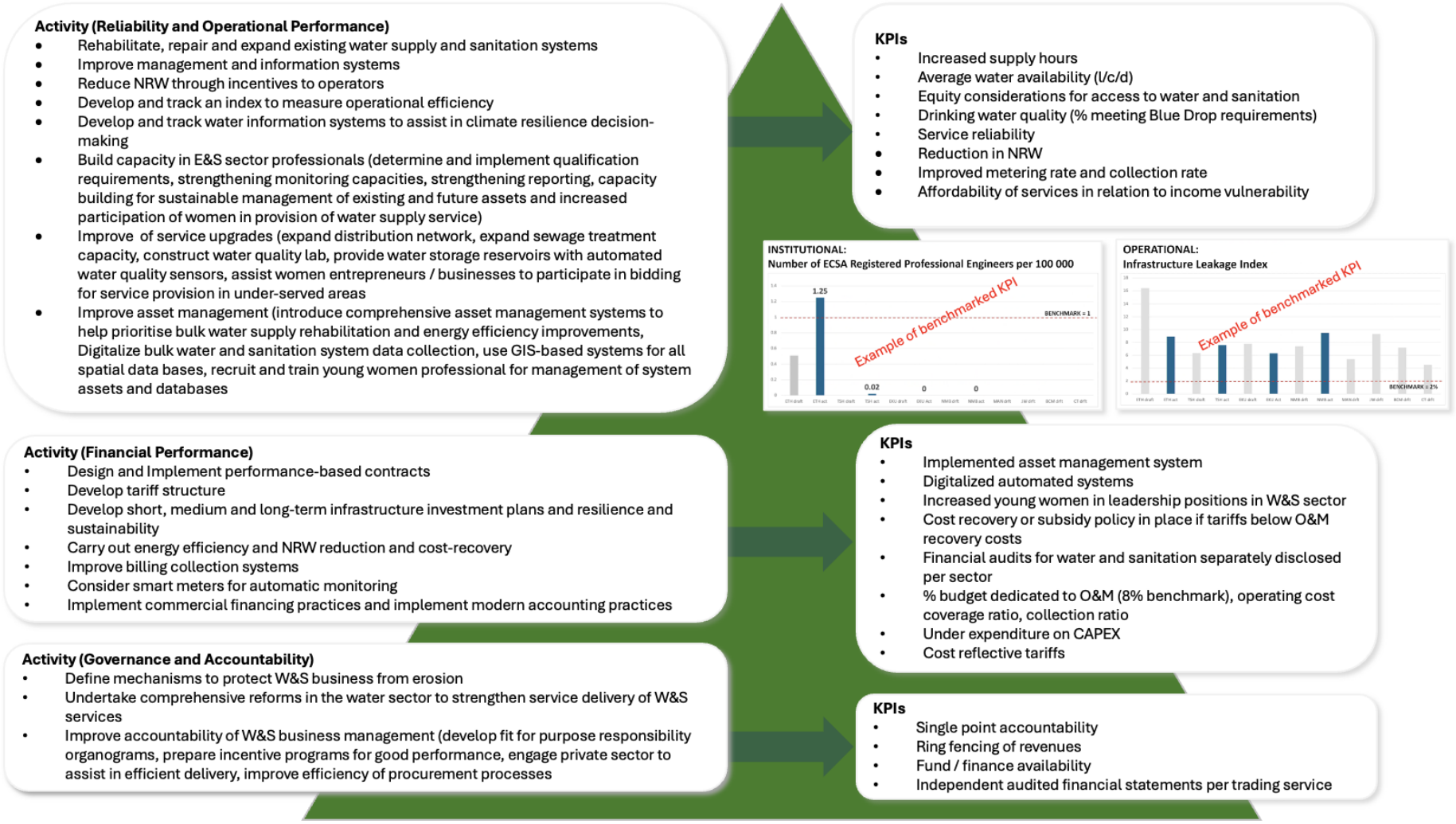
SIV: Specific import value (m^3/a) **NRW:** Non-revenue water (m^3/a) **%NRW:** %NRW in relation to SIV,
l/c/d: litres/customer/day. **ILI:** Physical water loss rating (see rating scale legend in Table x)
Source: DWS (2023a).

The proposed MTSP for the water supply and sanitation sector is intended to improve metro performance at all levels of water efficiency management, including governance and accountability, rigorous ongoing monitoring and evaluation, improved operation of infrastructure including infrastructure repair response times, and financial performance, particularly focusing on ring fencing of water supply and sanitation costs and expenses, the determination of realistic tariffs, and reduction of NRW, which depending on the municipality presently varies between 29,4% and 58,3% of raw water used. The program does not address supply-side issues, which are primarily under the control of the National Government, but instead seeks to achieve efficient use of existing water resources available to the metros through improving the efficiency of distribution and WC/WDM. The MTSP directly addresses the underlying reasons for the metros' generally poor performance in relation to WC/WDM (as shown in Table 4-2 above), while acknowledging that different strategies will be followed for each metro, depending on individual circumstances, capacity and performance.

Details of the component design are still under development but are expected to ensure that all interventions are specifically relevant to the metro concerned. A selection of more specific activities and proposed performance indicators are presented in Figure 4-1 [11] (the full list for the WSS sector presently available is included in Annexure 1).

[11] The project team has been working to keep the KPI's focused and measurable, and not to reinvent KPIs which already exist, and that are embedded in legal and other requirements. Government stakeholders in particular have emphasized that 'less is more' *regarding KPIs – having extended lists of KPIs that are manpower-intensive will increase the risk of already overburdened Metro's failing to implement them effectively (source: discussions in the Progress Meeting held on October 23, 2024, chaired by National Treasury). Discussion also centered on whether a distinction should be made between KPIs that are input-based and those that are output-based, and how /whether these should be preferentially weighted in the scoring, which will determine grant disbursements. These continue to be refined in consultation with the metros. The ESSA team have considered those KPIs made available for this Draft ESSA Report, and have made recommendations, in Section 6, for additions, changes and clarifications to the KPI list.*

***Figure 4-1**. Summary of Activities and KPIs for the Water and Sanitation Sector*



4.1.2 Environmental Benefits

The environmental benefits of the more efficient use of MTSP metro water are expected to be highly significant. They include:

- Much improved alignment of metro performance with South African government WC/WDM policy and legislation, and with the stated intent of metro IDPs. Assuming that over the period of the grant, all metros achieve a water saving of an agreed volume per capita.
- Reduced demand for potable water, per capita, minimising life cycle ecological impacts of bulk water infrastructure development. In addition to the unavoidable impacts of river regulation associated with large dams, some are likely to be in areas of high conservation value.
- Reduced demand for sanitation services, per capita, minimising life cycle ecological impacts of wastewater discharges (refer below).
- Improved climate resilience. Measurable effects of climate change on the water cycle are being felt around the world, altering the availability, quantity, and quality of water. Climate change has altered hydrological cycles and increased the timing, frequency, and intensity of water-related extremes, such as floods and droughts, making water availability more unpredictable and unreliable (World Bank, 2021).
- Overall, a significant improvement in the circular economy, supported by strengthening of metro financial and institutional performance, less financial cross subsidization from other sectors, and lower environmental and social costs of water per unit of consumption. The project team refers to the present situation as a 'reinforcing negative loop'. The project is designed to reverse this loop, resulting in better service provision to consumers, improved quality of life and at the same time reduced per capita pressure on environmental resources.

(ii) Reduced incidence and severity of wastewater pollution

The environmental impact of treated and untreated sewerage discharged into the rivers within the area of influence of the MTSP metros is a concern reflected in Metro reports, Central Government reviews and audits, news media and NGO articles and many other stakeholder comments (refer to the bibliography). The main causes are non-compliant discharges from municipal wastewater treatment works (WWTWs), and sewage spills from burst or leaking pipes, largely because of poorly maintained and aging infrastructure. The impact is exacerbated by governance issues, financial constraints, and undercapacity, as applies to other aspects of water management.

Poorly treated sewage effluent and raw sewage released into watercourses typically results in a condition known as 'eutrophication'. This has been widely studied internationally. In its simplest definition, 'anthropogenic' eutrophication means the enrichment of natural waters by human activities with nutrients that are used by aquatic plants. The two most problematic nutrients resulting from inadequately treated sewage discharges are nitrogen and phosphorous. Both are essential for plant growth, but at elevated levels, and particularly in cases where discharges are into warm, shallow, waters in lakes, impoundments, estuaries and the marine environment, there may be an explosion of aquatic weed, and hypoxic (low-oxygen) conditions.

While there are many other sources of eutrophication, including the leaching of nutrients from fertilizers applied to cultivated lands; the discharge of treated sewage effluent from metropolitan WWTWs, coupled with the more damaging effect of raw sewage releases, is a highly significant contributor. The ecological

impacts of this are typically severe, resulting in reduced biodiversity in the downstream aquatic / marine environment[12]. Cumulative life cycle impacts create a web of further social and ecological costs. Zhang (2022) describes six symptoms of eutrophication:

- Release of limiting nutrients such as phosphorus and nitrogen into the water body.
- Degradation of water quality such as the appearance of red tides or excessive foam over the surface of the water.
- Increase in the productivity of the ecosystem along with biomass of phytoplankton, macrophytes, and harmful algal blooms.
- Reduction in the water clarity and sediments are visible from a depth of few feet. Due to the greenish color of water, turbidity, and high levels of planktonic algae, the clarity of the water is drastically reduced.
- Oxygen depletion due to increased production of organic matter and formation and release of hydrogen sulfide.
- Shifts in the composition of species, for example, increased concentration of nitrogen causes new and more competitive forms to invade and compete with original ones.

Added to the problems of eutrophication is widespread municipal failure to control harmful pathogens in sanitary wastewater. Microbiological contamination is ubiquitous in many South African rivers, and while this is recognized as a public health risk, research has also shown that poorly treated sewage elevates concentrations of pathogens, endocrine disruptors, heavy metals, and pharmaceuticals in natural ecosystems and that these contamination hotspots may overlap extensively in occurrence with coral reefs, salt marshes, and fish-rich river systems (Wear et al, 2021).

The constitutional responsibility for providing water and sanitation services in South Africa rests with local government. The Department of Water and Sanitation has the power to regulate how these services are provided, to monitor and support municipalities providing water services and a duty to intervene where national norms and standards are not met. The DWS has created a system of reporting and analysis known as 'Green Drop' which provides important benchmark data about municipal wastewater management. Broadly speaking, Green Drop seeks to identify and develop the core competencies that, if strengthened, would gradually and sustainably improve the standard of wastewater management in South Africa (DWS, 2023). The intention is to align the minimum requirements and best practice to raise the bar for wastewater management.

Participation in the 'Green Drop' reporting process is compulsory, and DWS (2023) confirms that most metro participants have willingly embraced the requirements, although with varying degrees of competence. The Green Drop process, together with associated DWS initiatives (No Drop and Blue Drop) provide a robust legal basis for improving the effectiveness of water and sanitation management, provided that the requirements are fully and effectively implemented.

[12] See, for example, Ashworth 2021, Zhang (ed.) 2022

***Table 4-3**. How DWS calculates Sanitation Performance in the WSAs using Green Drop*

For the purposes of the present analysis, the Cumulative Risk Rating (CRR%) used in *Green Drop* is presented, which is the cumulative risk, based on four indicators associated with individual WWTWs in the metros.

Risk Indicator 1: Design capacity of the WWTW (the larger the works, the greater the risk).

Risk Indicator 2: Operational flow as a % of capacity (high risk if the works is operating significantly in excess of design capacity).

Risk Indicator 3: Number of non-compliant effluent quality determinants at point of discharge into the environment (determinants include pH, EC, SS, COD, NH_3-N, NO_3-N, O-PO_4, *E.coli*/Faecal coliforms, depending on specific authorizations). The number of water quality determinants in license conditions is determined in part by the catchment conditions and whether the river or tributary is listed. License conditions vary individually and while there is broad similarity in the water quality metrics required for monitoring, there may be fewer or more depending on the circumstances. Apart from the general conditions other license conditions may also be specific to the WWTWs.

Risk Indicator 4: Number of technical skills gaps (supervision, operation, maintenance).

Risk Rating

Higher % values indicate a high-risk state that requires urgent intervention to improve the overall risk rating of the collector system. WWTWs which fall in the critical-risk rating (CRR) category (90-100% CRR deviation) are earmarked for site inspections by regional DWS inspectors who may then trigger regulatory enforcement measures depending on the severity of the risk/impact

%CRR/CRR_{max} Deviation	90 – 100% Critical Risk WWTW's	
	70 - 90% High Risk WWTW's	
	50-70% Medium Risk WWTW's	
	Less 50% Low Risk WWTW's	

Table 4-4 summarizes key interim results for the MTSP metros based on Green Drop data for 2021-2022 (DWS, 2023). The %CRR deviation scores in Table 4-4 are adapted to show the percentage (%) of total operating effluent flow from the combined WWTWs in each metro that falls within the four risk rating categories. The table confirms that there is a high level of risk of poor operation in many of the Metro WWTW's with 22 (17%) in the high-risk category and 3 (2%) in the critical risk category. Regarding the number of non-compliant effluent quality determinants at point of discharge into the environment (Risk Indicator 3), which is a direct measure of environmental impact, none of the WWTWs consistently comply with all of their permit conditions and many are significantly non-compliant. Annexure 8 provides details of DWS Green Drop scores for each metro WWTP. Annexure 9 is a summary of the number of WWTWs that are compliant with water quality parameters in their license conditions.

As in the case for water use efficiency, the MTSP directly addresses the underlying causes of the gaps in the metros' performance in relation to water pollution management, while acknowledging that the project will follow different strategies for each metro, depending on individual circumstances. Details of the component design are still under development but are expected to ensure that all interventions are specifically relevant to the metro concerned. The MTSP will address a spectrum of activities under the broad headings of governance and accountability, financial performance and reliability and operational

performance (Figure 4-1), that will all contribute to the improvement of effluent quality management. The environmental benefits are expected to be highly significant and will include:

- Reduced pollution impacts in rivers receiving treated sewage effluent from metro WWTWs, due to improved compliance with water quality standards in the license conditions for the works.
- Reduced frequency of occurrence of significant raw sewage spills due to pipe bursts and other infrastructure failure, and the resulting impacts on downstream aquatic and estuarine habitats and species.
- Reduced life cycle impacts due to improved water quality downstream of the metro WWTWs
- Overall, a significant improvement in the circular economy, supported by strengthening of metro financial and institutional performance.

An important consideration relating to the environmental benefits of the reforms is that the grant is not intended as a shopping list for aspirational investigations and corrective actions that step outside of the framework of existing policy, legislation and permit conditions. It will be a significant achievement if the turnaround strategy of the MTSP results in financial efficiency and accountability and compliance with existing environmental standards for the WWTWs, without imposing additional demands on the metros. An illustrative example would be the City of Cape Town's marine outfalls, which are a source of friction with stakeholders along the seaboard[13], many of whom believe are harmful to marine life and cause risks to human health as well. The benchmark for the grant in cases such as this will be compliance with permit conditions, although the ESSA team recommends that the team consider a technical assistance component to the grant, which helps fund well-motivated scientific investigations, agreed with the metros in consultation with key stakeholders, that could improve environmental performance. These could be motivated on a case-by-case basis.

[13] See, for example, Cape Argus, 2022, url: https://www.iol.co.za/capeargus/news/sewage-wars-city-of-cape-town-pressured-over-impacts-of-sewage-discharge-eed06ecd-18da-49df-a777-c5a566ff2474

***Table 4-4**. Summary Data for the MTSP Metro Wastewater Treatment Works based on the DWS November (2023) Green Drop D-PAT Report*

Metro / Overall 2023 CRR% Rating	# of WWTW	Total operating flow (all WWTWs) Kl/d	Percentage (%) of total operating flow from WWTWs with risk (CRR%) rated as				Summary of Overall Regulator Comment
			Critical	High	Med	Low	
Buffalo City 68,5%	15	120 743	40,7	33,8	8,9	16,5	All WWTWs where monitoring is undertaken (13) have compliance failures in one or more respects. Technical skills adequate at all WWTWs. No Wastewater Risk Abatement Plans (W2RAPs) in place and only one Green Drop Improvement Plan (GDIP).
City of Cape Town 65,3%	26	441 170	0,0	42,2	50,9	6,9	Poor microbiological compliance at 5 WWTWs; very good compliance at 8 WWTWs. Physical/chemical non-compliance for 7 or more parameters at 7 WWTWs. Technical skills at each works generally good but some gaps noted. Most systems have W2RAPs in place and all have GDIPs.
Ekuruhleni 64,4%	17	899 012	0,0	72,6	7,63	19,8	5 WWTW high risk, 5 medium risk, 7 low risk. All works have adequate technical skills. High risk works due mainly due to operating capacity being exceeded. Water quality performance poor at 5 works. W2RAP and GDIPs in place.
City of JHB 59%	6	817 407	0,0	67,6	20,6		1 WWTW high risk, 3 medium risk, 2 low risk. Three works have poor effluent quality. Process controller and supervisors are certified, and maintenance staff are well trained. Missing monitoring parameters in some cases (Nitrate). W2RAPs in place for some works and GDIPs for all works.
Tshwane 69,4%	16	560 038	0,0	40,8	59,2	0,0	None of the WWTW meet their permit conditions for wastewater quality. Eleven WWTWs operating above 90% of their design capacity. Process audits required and corrective actions through the W2RAP process. One works (Klipgat) under regulatory supervision.
Ethekwini 61,5%	28	325 902	14,6	3,8	67,8	13,8	One (1) critical risk WWTW, 8 high risk, 13 medium risk, 6 low risk. Four WWTW achieved good or excellent water quality scores. Twenty-two obtained poor scores. Twenty works not compliant with supervisor, process controller and maintenance requirements and all obtained a poor score for technical skills. No W2RAP or GDIPs submitted indicative, with the risk ratings of poor overall risk management performance
Mangaung 70,8%	13	134 413	2,2	61,3	36,5	0,0	Two (2) critical risk WWTWs, 6 high risk, 5 medium risk. No flow meter data presented resulting in low confidence CRRs. Effluent quality monitoring for 8 works, all with poor quality. No microbiological monitoring. All systems obtained low scores for technical competence.
Nelson Mandela Bay 56,9%	7	150 735	0,0	6,2	87,1	6,0	Two (2) high risk WWTWs, 4 medium risk, one low risk. Design capacity information incomplete. Overall effluent quality poor for all WWTWs. All works operating without valid authorizations. Technical skills of maintenance team fully compliant. Supervisor and process controller skills partially

Note: *The CRR% scores are adapted to show the percentage (%) of total operating effluent flow from the combined WWTWs in each metro that falls within the four risk rating categories*

4.1.3 Electricity (Results Area 2)

(i) Reduced emission of greenhouse gasses

The MTSP study team has identified a series of electricity supply challenges that exist across most metros (Table 4-5).

***Table 4-5**. Common challenges across most metros*

FINANCE	OPERATIONS	GOVERNANCE
• Profitability is negative and declining, with most metros unable to recover their operating costs • Sales are declining, despite of customer growth- businesses are declining • Rand difference between purchase and sale (available markup) is declining sharply • Lack of utility-level financial transparency, especially regarding balance sheets, cost transfers & cash flows • High or substantial dependence on grant transfers to fund CAPEX	• High technical losses due to aging infrastructure, maintenance backlogs and understaffing • High non-technical losses due to illegal connections, meter tampering, meter faults, non-allocated meters, inaccurate billing, cash collections • Long downtimes for resolution of power outages due to a lack of outage management systems that integrate with smart grids for faster fault detection and isolation • Declining power quality and network overloads due to insufficient investments and poor maintenance, lack of tools enabling electrical network visibility	• Lack of complete control over the wires, retail and supporting processes • Electricity revenue collected is not ring-fenced • Decision-making authority (such over capital investment and tariff decisions), and key parts of operational performance (such as supply chain management, billing, and collection) is diffused

The metros technical and non-technical operational losses have been increasing over the past decade, exacerbating poor service delivery to existing customers, delaying the ability to provide power to vulnerable communities in rapidly urbanizing areas and causing the per unit and life cycle cost of power to rise. Table 4-6 shows the record for 2022/2023[14]. Most of the metros are unable to distinguish between the physical and non-technical losses. The physical losses are influenced by the network configuration and voltage levels and need to be estimated by a loss load flow study. A reasonable estimate for the metros is around 4,5%[15] which, based on a South African grid emission factor of 0,96 tCO_2e/MWh, and annual electricity consumption by the metros of 43 589 GWh, amounts to the release of approximately 2 million tons of carbon per annum (as CO_2-e) into the atmosphere.

The MTSP is designed to reform the metros' electricity trading services and to assist them to adapt to the rapidly changing power supply landscape. Specific electricity reforms proposed by the MTSP under governance, financial and operational categories are described in Annexure 2. The improved governance and profitability of the metro businesses is expected to result in a positive maintenance cycle, reducing technical electricity losses. **The main environmental benefit of the program, apart from a general reduction in life cycle costs due to more efficient use of resources per unit of consumption will be a reduction in carbon and other grid emissions**. Each kWh of electricity that is not wasted represents a direct carbon saving of 0,96 kg of CO_2-e[16]. Grid emission reductions per unit of consumption will also be

[14] Data presented by the World Bank study team during the November 2024 Mission presentations

[15] eThekwini estimates 4,5% in its business plan and Ekurhuleni, which has done a loss load study, finds similar results.

[16] Dept. of Forestry, Fisheries and the Environment (2024). South Africa's 2022 Grid Emission Report. Government Gazette 1 November 2024. No 5498. The value quoted is the 'Domestic Generation Grid Emission Factor' (DGGEF) - a high GEF (e.g., >1 kg

achieved for criteria pollutants (NO_2 and SO_2) although these are not calculated for GHG purposes and average emissions per KWh are not available from Eskom[17].

***Table 4-6**. Electricity billed, leakage and profit margins in the metros*

Metro	Total Electricity Billed (GWh) 2022/2023	Percentage (%) Total Electricity Losses 2022/2023	Net Profit Margin (%)
Buffalo City	1 060	19,9	-17,1
City of Cape Town	7 540	11,5	-1,8
City of Ekurhuleni	9 528	16,3	-0,4
City of Johannesburg	7 956	29,7	-13,1
City of Tshwane	7 443	21,5	-3,3
eThekwini	8 786	10,9	-3,3
Mangaung	1 276	9,9	-12,7
Nelson Mandela Bay	2 522	25,3	-17,7
Total GWh (all Metros)	43 589		
Total GWh lost (2022/2023)	**7 678,3**		
Total CO_2-e (tons)*	**6 653 229**		

** South Africa's carbon emissions per kilowatt hour (kWh) of electricity are around 0.96 kg of carbon dioxide equivalent (CO_2-e). This is based on 2022 IPCC data*

4.1.4 Solid Waste (Results Area 3)

(i) Reduced pollution caused by illegal dumping

Population growth and rapid urbanization have led to sharply increasing solid waste generation in the MTSP metros, which together with institutional and financial constraints and problems, have resulted in the metropolitan councils struggling to provide and maintain basic waste removal services. The most apparent outcome has been a proliferation of illegal dumping, particularly in poorer urban areas and areas of informal settlement (Ngalo and Thondhlana, 2023[18].· World Bank (2023)[19] reports that the issue is

CO_2 per kWh) typically indicates that a given electricity grid is powered by carbon intensive fuel sources such as fossil fuels, while GEFs closer to zero symbolize electricity grids that are supplied by renewable energy sources. The 2022 DGGEF of 0,96 tCO2e/MWh, accurately reflects South Africa's 2022 energy mix for electricity generation. It is an improvement on the 2021 DGGEF (1.013 tCO2e/MWh), reflecting the increasing contribution to the grid by renewable energy supplied by private power producers.

[17] A rough calculation is 14-15 kg/GWh for SO_2 and 6-7 kg/GWh for NO_2

[18] Ngalo, N. and Thondhlana G., 2023. Int. J. Environ. Res. Public Health 2023, 20, 6750. https://doi.org/10.3390/ijerph20186750

[19] A Diagnostic of Solid Waste Management in South African Metros. 7 June 2023. Internal presentation to the National Treasury and other MTSP stakeholders

significant across all metros and lists numerous causes, including growing informal settlements (difficulty in servicing or keeping pace with inward migration patterns), transporters (to avoid travelling to landfill sites and having to pay the gate fee), waste collection backlogs (unreliable fleet), poor landfill management (sites inaccessible), and limited resources to enforce by-laws and apprehend culprits. In some cases, bylaws are outdated

Data from some of the metros and other sources about the extent of illegal waste dumping illustrates the magnitude of the problem (Table 4-7). Recent satellite image analysis in Nelson Mandela Bay municipality, for example, identified 7800 illegal dumping sites, an increase of 57% between 2015 and 2021 (Swanepoel et al 2024). All of the metros consider illegal dumping to be a critical ongoing problem.

Table 4-7*. Estimates of illegal waste dumping sites in the MTSP metros*

Metro	Estimated number of illegal dumping sites		Description
	Council Estimates	Third Party Estimates	
Cape Town	Acknowledgement and cost estimate	Cape {Town} etc.	COCT estimates cost of illegal dumping of solid waste to be R 225 million per year. Over 180 000 tons of illegally dumped waste cleared annually in 2022 (Cape {Town} etc.)
Ethekwini	Acknowledgement but no data	Cost estimates	Acknowledgement of dumping hotspots and the /enormous challenge that illegal dumping represents (Ethekwini Municipality, 20 September, 2024). Illegal dumping costs city R180 million in waste removal and rehabilitation annually. Estimated 10,8% of households not provided with waste removal services and burn or dump their waste (Catapult Connected Places, 2021).[20]
Tshwane	No data	670	3S Media ReSource May 2021. Metro reported to spend R30 million per year in illegal dumping cleanup.
Johannesburg	-	1900	Hotspots. Reported in the Star Newspaper 9 January 2023. City spends R70 M/year on illegal dumping (WB internal report)
Ekurhuleni	Acknowledgement but no data	-	Little available information. 'Scourge' of illegal dumping recognised by the City[21]
Mangaung	Acknowledgement but no data	-	IWMP recognises failure to adequately implement bylaws regarding illegal dumping of waste. Underlying causes also recognised (governance, funding, waste collection insufficient, insufficient waste diversion, failure to prosecute offenders

[20] Catapult Connected Places is a UK based organization that works with six cities (Nairobi, Mombassa, Kisuma Johannesburg, Cape Town, Ethekwini) on the Urban Links Africa Programme.

[21] City of Ekurhuleni, 2024

Buffalo City	-	Acknowledgement but no data	Widespread illegal dumping referenced[22]
Nelson Mandela Bay	-	7800	Swanepoel (2023). Satellite image analysis

The MTSP acknowledges that the project will follow different strategies for each metro, depending on individual circumstances. The program will address a spectrum of activities under the broad headings of governance and accountability, financial performance and reliability and operational performance, that will all contribute to the improvement of solid waste. The headline areas under which the MTSP will drive reform are security and vandalism, fleet management, landfill compliance and maintenance, public awareness and communication, customer interface and communication, community engagement and law enforcement, human resources, revenue management and extended producer responsibilities. In some cases, the technical assistance component of the program may support review and updating of outdated municipal waste bylaws[23]. All these interventions will contribute to a more efficient service and a reduction in illegal waste dumping. While the program design is still being developed, an indication of the key activities and performance indicators is provided in Annexure 3.

The environmental benefits of reduced illegal dumping[24] are expected to be highly significant and will include:

- Reduced water pollution causure ed by leaching of contaminants from dumps. Illegal waste dumps may contain a range of organic and hazardous wastes such as paints, waste oils, acids, household and industrial detergents and cleaners, medical health waste, plastics, organic materials, including human and domestic animal feces, and various other general wastes. Environmental effects have been extensively reported in the press and in government and academic studies. Owusu-Asante 2019[25] identified illegal waste dumping in South African metros as one of the important sources of contamination contributing to the poor state of urban river health.
- Reduced plastics contamination of aquatic and marine ecosystems. While acknowledging the usefulness of plastics, their uncontrolled disposal has resulted in contamination of rivers and oceans, which has become a global issue of concern. The effect of microplastics on aquatic and marine ecosystems is a particular emerging area of international study.
- A positive reinforcement loop, which together with better metro communication about waste and the environment, will improve community attitudes towards waste management, foster pride in neighborhoods where greater agency will promote self-regulation by local people.

(ii) Reduced pollution caused by landfills

Many of South Africa's municipal landfills do not meet the requirements of their license conditions. In its latest landfill audit report of the performance of 183 municipal landfills in South Africa's nine provinces,

[22] Brown, 2020

[23] pers. comm. E Dickson, World Bank MTSP team leader. January 30, 2025.

[24] Illegal dumping, in the present context, includes both the deliberate disposal of accumulated waste outside of designated landfills and the casual throwaway of waste by individuals, particularly plastic wastes, where it may be entrained by stormwater into urban rivers and streams

[25] Water Research Commission Report: *Detection and Removal of Illegal Discharges into Stormwater Systems. 2019*

the watchdog group AfriForum (2024)[26] found that only 14,3% of the sites achieved the pass rate of 80% compliance, which is a minimum requirement according to the audit methodology. Afriforum (2024) notes that that there is a general lack of accountability for proper waste management, monitoring and licencing by local authorities. inadequate waste management practices, the collapse of infrastructure, corruption in some cases, health and safety issues, and a shortage of space for the disposal of refuse (air space), all of which contribute to poor performance. This ultimately contributes to environmental pollution and endangers the health of communities. The World Bank MTSP team draws similar conclusions, adding that metro waste disposal services are under-resourced, available data and reporting are generally not fit for purpose and there is little public reporting on compliance performance.

On average, the metro landfills and transfer stations achieve better results than the national average, but differ widely individually, from good to extremely poor, In the Afriforum audit, the metros achieved only six scores of over 80% in 19 audited results (Table 4-8). The two private landfills that are operated under agreement with the Tshwane Municipality scored best, with scores of 94% (Bon Accord) and 98% (Mooiplaats). In independent external audits, done as a requirement of license conditions, only the City of Cape Town and two of eThekweni's landfills passed the audits with scores of over 80% (Table 4-9). Annexure 10 provides a summary of the external audit findings, underscoring the poor condition of many of the metro landfills, with frequent findings about badly maintained infrastructure, inadequately covered and compacted waste, failure to follow the approved design of the landfill, unsafe and leaking leachate ponds, mixing of uncontaminated stormwater and leachate, broken fencing and lack of security, absence of appropriate management systems and records and lack of staff training being just some of the concerns.

***Table 4-8**. Afriforum (2024) audit results for selected metro landfills and transfer stations*

Metro	Disposal Site	Compliance (%)	Methodology
Buffalo City	East London (Roundhill)	84	The audit questionnaire consisted of 33 questions covering the most important aspects of good waste management a landfill site (and where applicable a waste transfer facility) must comply with. The questions are based on the minimum requirements, which were enforce at the time when most of the permits for the landfills were issued. Subsequently the NEMA Waste Act and associated regulations changed to waste licenses.
City of Cape Town	Bellville	Closed	
	Gordon's Bay waste transfer facility	96	
City of Ekurhuleni	Alberton (Platkop)	98	
	Boksburg (Rooikraal)	Closed	
	Germiston (Simmer & Jack)	80	
	Brakpan (Weltevreden)	74	
	Kempton Park (Chloorkop)	Closed	
	Springs (Rietfontein)	Closed	
City of Johannesburg	Roodepoort	78	

[26] *AfriForum is a non-profit civil rights organization. As a part of its #CleanSA initiative, AfriForum initiated an ongoing landfill site audit reporting project. This project determines the extent to which landfill sites in the municipalities across South Africa comply with the requirements of waste management legislation and their license conditions. The report is circulated to all key stakeholders.*

City of Tshwane	Bon Accord	94	Scores were determined by allocating one point to each question. No weighting was applied, and the scores were normalised to % compliance/non-compliance. Under each category, performance was rates as either compliant (1 point), partially compliant (1/2 point), or non-compliant (0 points). Green highlighted WWTWs are privately operated by *The Waste Group*
	Bronkhorstspruit	74	
	Ga-Rankuwa	66	
	Hatherley	68	
	Mooiplaats	98	
	Shoshanguve	66	
eThekwini	Seadoone	60	
Mangaung	Bloemfontein North	18	
	Bloemfontein South	18	
Nelson Mandela Bay	Port Elizabeth (Arlington)	76	
	Port Elizabeth Gillespie Street waste transfer facility	28	
	Port Elizabeth Hillwacht waste transfer facility	2	
	Uitenhage (Koedoeskloof)	48	

Source: *AfriForum (2024)*

***Table 4-9**. External Audits of landfill and transfer station compliance with permits and license conditions*[27]

Metro	Audit Date	Waste Management Facility	Audit Score (%)
Tshwane	Jul 2022	Soshanguve	71
	Jul 2022	Ga-Rankuwa	52
	Jul 2022	Onderstepoort	76
	Jul 2022	Hatherley	53
	Jul 2022	Bronkhorstspruit	48
Mangaung	Feb 2024	Southern Landfill	17
	Feb 2024	Northern Landfill	41
Johannesburg	Sep 2024	Robinson Deep	66,5
	Sep 2024	Marie-Louise	68,6
	Sep 2024	Goudkoppies	65,7
	Jun 2024	Ennerdale	NS
Cape Town	May 2024	Vissershok South	90,3
	May 2024	Vissershok North	90,7
	Oct 2023	Swartklip Transfer Station	94,7
	Oct 2023	Kraaifontein IWMF	90,1
	Feb 2024	Tygerberg IWMF	87,7
	Oct 2023	Athlone Refuse Transfer Station	97,1
	May 2024	Coastal Park WDF	87,5
eThekwini	Feb 2024	Marianhill Landfill Site	90
	Sep 2024	Buffelsdraai Landfill Site	86

[27] Refer to reference list for details of external audits. Further details of audit findings are included in Annexure 10.

Metro	Audit Date	Waste Management Facility	Audit Score (%)
	Jan 2023	Bisasar Road Landfill Site	76,2
Ekurhuleni	Mar 2024	Weltevreden Landfill Site	NS
	Mar 2024	Simmer and Jack Landfill Site	54,3
	Mar2024	Platkop Landfill Site	61,6
	Mar 2024	Riefontein Landfill	NS
	Mar 2024	Rooikraal Landfill	NS
NS: Not Scored			

The environmental risks and impacts of inadequately managed landfills extend well beyond the physical boundaries of the landfill, and have been documented in many academic, industry and government reports, as well as in extensive news media coverage. Landfills without effective leachate control create groundwater pollution risks, releasing toxic contaminants, with knock on effects on surface water and aquatic ecosystems. The release of methane from decomposing waste contributes to greenhouse gas emissions, undermining efforts to combat climate change. The International Solid Waste Association (ISWA, 2016) states that if current landfill trends continue, methane and CO_2 from landfills will account for 10% of all greenhouse gasses released into the atmosphere by 2025. Spontaneous combustion can also be a problem in poorly compacted landfills, resulting in the release of air pollutants including dioxins and furans, which are carcinogenic. The proliferation of pests and other disease vectors are common on poorly managed landfills, potentially spreading into surrounding communities.

The design of the MTSP addresses the root causes of poor waste management performance by removing institutional barriers and creating ring-fenced, financially viable, business units. This is expected to provide a sound basis for tackling fleet maintenance issues, service backlogs and landfill upgrading.

The environmental benefits of the program are expected to be highly significant and will include:

- Reduced groundwater pollution
- Greater availability of airspace (and lower demand for new landfill sites)
- Lower incidence of nuisance vectors
- Less odour and other gaseous emissions
- Prompter capping and rehabilitation of completed landfill cells.

Technical assistance from the program may also be used to fund investigations into new landfill sites, which take time to authorize, and must be planned and approved long in advance if a crisis in airspace availability is to be avoided.

(iii) Promotion of the waste mitigation hierarchy and circular economy

The National Waste Management Strategy (NWMS, 2020) is a legal requirement under the National Environmental Management: Waste Act, 2008 (Act No. 59 of 2008), intended to provide a road map to achieve the purposes of the Waste Act. Public and private organizations are obliged to give effect to the NWMS.

The waste minimization hierarchy (Figure 4-2) and, more broadly, the circular economy[28] (Figure 4-3) are at the centre of the NWMS. The circular economy is an approach to reducing the environmental impact of economic activity by reusing and recycling processed materials to minimise the need to extract raw materials from the environment, and the need to dispose of waste. The NWMS strategy incorporates the waste management hierarchy and circular economy principles in accordance with the following themes[29]:

- Waste minimisation: Forty-five percent of waste to be diverted from landfill within five years; 55 percent within ten years; and at least 70 percent within 15 years, leading to zero waste going to landfill
- Effective and sustainable waste services: All South Africans to live in clean communities with waste services that are well managed and financially sustainable
- Compliance, enforcement and awareness: Mainstreaming of waste awareness and a culture of compliance, with zero tolerance of pollution, litter, and illegal dumping.

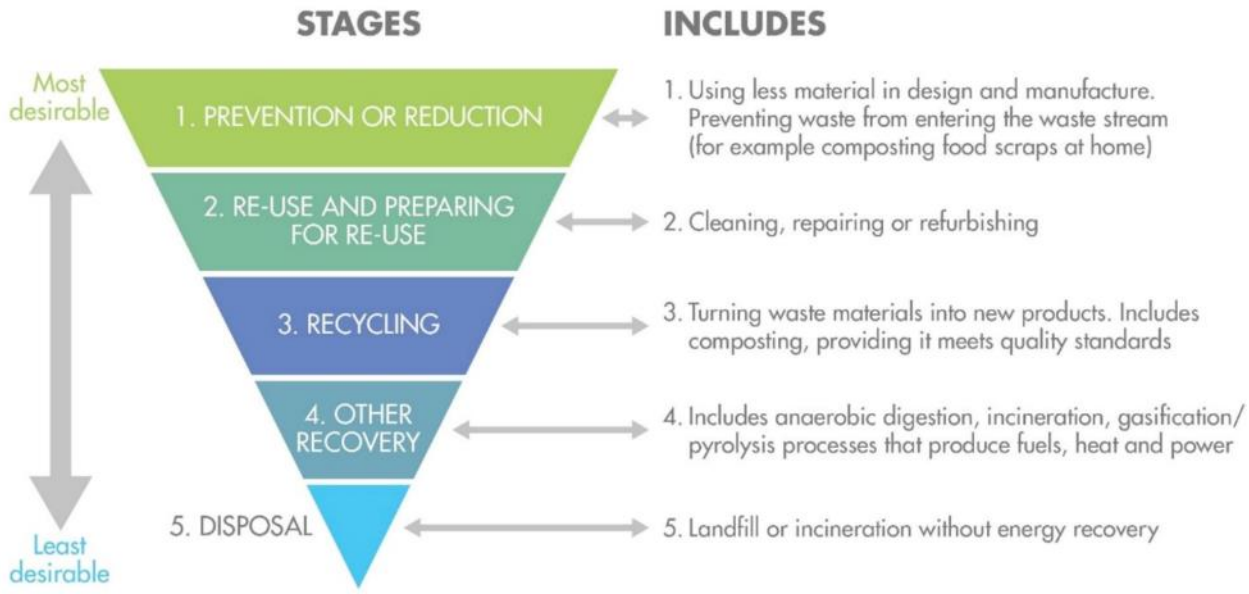


***Figure 4-2**. The waste mitigation hierarchy*[30]

[28] The circular economy, as defined by the National Waste Management Strategy (DFFE, 2020), is an economy that is restorative and regenerative by design, and aims to keep products, components, and materials at their highest utility and value at all times, distinguishing between technical and biological cycles. A circular economy is built on the concept that there is no such thing as waste.

[29] DFFE presentation to the Parliamentary Monitoring Group, 18 February 2022

[30] Source: DFFE, 2020

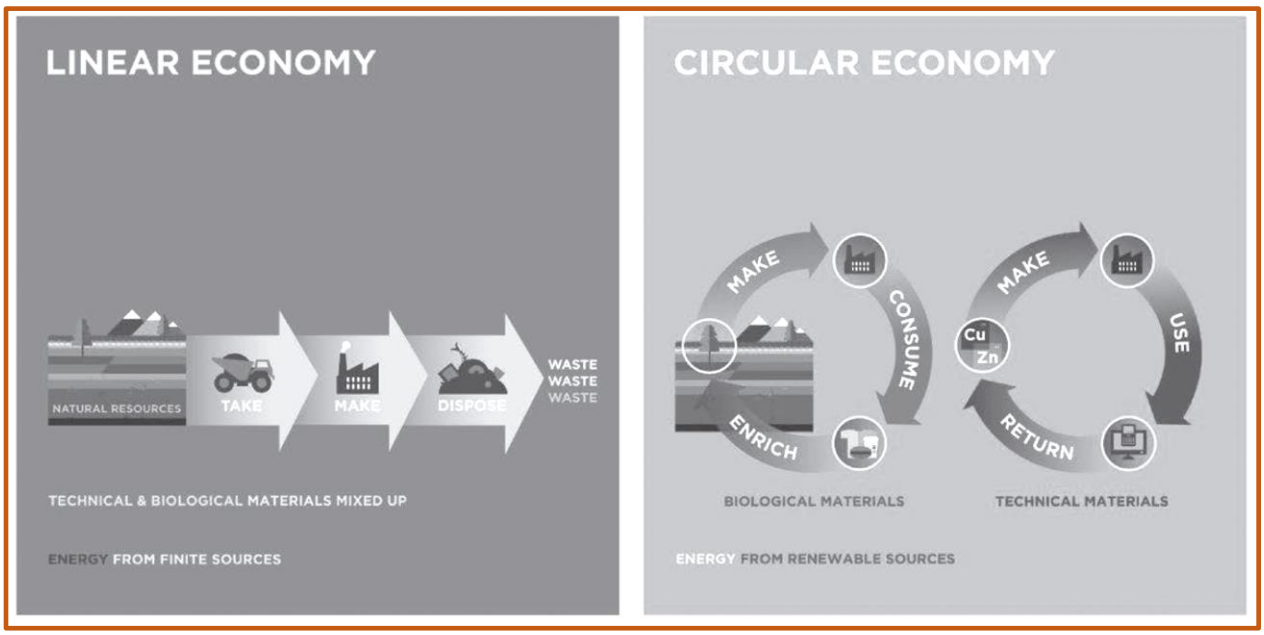


***Figure 4-3**. The linear vs circular economy*[31]

At municipal level, the objectives of the NWMP are to be implemented through the development and implementation of Integrated Waste Management Plans (IWMPs). While all the metros have developed their IWMPs, progress with implementation has been slower than hoped. Despite many individual public and private initiatives to improve progress towards a circular economy, it has still not become sufficiently mainstream to approach the targets set by the NWMS. Recent studies confirm that the South African waste economy remains predominantly linear, following the 'take-make-dispose' model (World Bank, 2022). Across all material types, material cycling in South Africa is estimated at 7% (Von Blottnitz & Haas, 2021); of which 5% is the result of ecological cycling of biomass and organic waste. Table 4-10 presents the percentage of total waste generated by the metros that is diverted from landfill.

***Table 4-10**. Total waste disposed to and diverted from landfill in the metros*

Metro	Waste Disposed (Mtpa)	Waste Diverted	Waste Diverted (as % of total waste)
Johannesburg	1 400 000[32]	200 000	14,2%
Cape Town	1 184 832[33]	295 056	19,9%
Ekurhuleni	-	-	-
eThekwini	1 400 000[34]	112 000	8%[35]

[31] Source: Ellen MacArthur Foundation,

[32] City of Johannesburg (2022). Urban Waste Management Presentation to the Parliamentary Monitoring Group. February 19.

[33] City of Cape Town (2022). Urban Waste Management Presentation to the Parliamentary Monitoring Group. February 19. Data for December 2022, multiplied by 12 as an annual estimate. Cape Town quotes 17,5%

[34] Google AI search

[35] Catapault Connected Places 2021. eThekwini Waste Management. https://cp.catapult.org.uk

Tshwane	-	-	20%[36]
Mangaung	222 852[37]	ND	ND
Buffalo City	90 539	25912[38]	17,6%
Nelson Mandela Bay	-	-	-

Many reasons for the slow progress have been advanced. Contrary to how the concept is often perceived, a circular economy is about far more than simply improved waste management and recycling (the 'mitigation hierarchy' - although this is still a fundamental part of the solution to leakage). It instead involves a systemic shift away from the traditional linear 'take-make-waste' economy; and encompasses a radical transformation of the ways in which resources are perceived and used, the way products are designed, and of the relationship between producers and consumers (World Bank, 2022). This transformation involves multiple cross-sectoral actors who are to be part of implementation along the entire value chain, including product designers, mining operators, producers, distributors, consumers, collectors of end-of-life products, recyclers, inclusive of the informal sector and youth (DFFE, 2020).

The World Bank (2022) sets out 10 key messages for advancing the circular economy in South Africa. While these are particularly related to the plastic economy, they apply to all initiatives to reach the goal of zero waste:

- adopting a common vision and roadmap for the circular economy
- creating an effective enabling environment
- improved waste collection and management to ensure recovery of recyclables and elimination of leakage
- designing out unnecessary and problematic items
- driving design for circularity
- scaling up reuse models
- further development of recycling capacity where required
- driving demand for post-consumer product
- improved communication, education and behavioral change, and
- promoting inclusivity and a just transition.

The MTSP recognizes the complexity of the issue, and the program design is limited to achieve specific measurable goals in relation to the circular economy, particularly those resulting in improved waste collection and management, recovery of recyclables and elimination of leakage. The theory of change is that until the business units that are responsible for waste management in the metros are fully functional with all the necessary capacity to maintain waste management infrastructure and monitor inputs and outputs accurately, the enabling environment required by the NWMP for an effective partnership between

[36] Nokele, A.K. (2020). Assessment of integrated waste management plan in the City of Tshwane (Masters Dissertation). Johannesburg: University of Johannesburg. Available from http:///hdl.handle.net/102000/0002. Data considered by the author to have limitations due to inaccuracy of collection.

[37] Mangaung (2019 -2020) Consolidated Annual Report, page 63. The 2022-2023 Annual Report has no data on total waste tonnages or diversion of waste from landfill

[38] Buffalo City online waste data (open data). January – September 2024 scaled up by 12/9 for an annual estimate

the metros and Producer Responsibility Organizations (PROs)[39] will not be in place. The MTSP is therefore seen as a critical mechanism for de-bottlenecking the slow progress towards the goals of the circular economy as it applies to metro waste.

4.2 Adverse Environmental and Health and Safety Risks and Impacts

(i) Health and safety risks during civil and electrical construction works

The MTSP is still to define the full scope of civil construction works in the three program sectors. Some indication is provided in the menu of activities for each sector (Annexures 1-3)) but these are preliminary, and the metros may only identify the specifics of some activities well into the program schedule. The principle that governs PforR is that 'major' works would be excluded - this does not, however, materially change the occupational health and safety risk profile of the works since any civil construction contracts involving the use of heavy construction machinery, the transport of supplies and equipment, the transport of labor, concrete works, upgrading of electrical works, working at heights, and many other construction-related activities may result in potentially significant risks to the health and safety of construction workers. Civil construction projects worldwide rank among the highest causes of injury, per thousand manhours worked, and in Africa, the average fatality rate is an order of magnitude higher than in similar projects in developed countries. The reasons for this are complex but typically reflect lax attitudes towards Occupational Health and Safety (OHS) performance by management, failure to train workers in safe OHS practices and lack of competent safety supervision. It is also World Bank experience that smaller contracts can result in a greater risk of severe injuries and fatalities because of contractors' lack of OHS capacity and their inability to manage sub-contractors with similar or even greater limitations.

In the current context, the risk is considered moderate but is amenable to mitigation if the program includes specific OHS management requirements that govern contractor performance as well as emphasis on the capability of the trading services themselves to have capacity in OHS systems. For the appointment of civil and electrical works contractors, requirements should include certification of the contractor under a recognized management system such as ISO 45001 and specific requirements for competent, qualified, health and safety managers and site staff, ongoing training, record keeping, incident reporting and auditing.

(ii) Pollution caused by civil and electrical construction works

The civil and electrical maintenance, repair and expansion works, while reducing the future pollution risks caused by aging or overloaded infrastructure, may in themselves result in short term pollution risks while the works are being carried out. The significance of these risks will generally be low, particularly if construction is managed to an international standard (GIIP). No new (greenfield) works will be undertaken, since these would fall outside of the acceptable categories permitted under the PforR instrument.

[39] Producer Responsibility Organizations (PROs) in South Africa are businesses that collect fees from producers and use the funds to recycle materials. Some examples of PROs include PETCO, Polyco, and the Polystyrene Association of South Africa.

Concrete batching, trenching, pressure testing of pipes and tanks and other typical construction works are all activities that may cause pollution risks. For some of the activities, such as the expansion of WWTWs, there could be a labor force of up to 500 people at peak construction, resulting in associated hygiene and sanitary pollution risks and generation of solid waste. Small hydrocarbon spills due to leaking equipment and inadequate control of fueling points and service yards are typical hazards associated with such projects, with a risk of larger spills if diesel storage tanks are not properly contained.

Subject to a proportionate level of management control, pollution risks are expected to be low to moderate. Given the cross cutting responsibilities within metros for management of civil and electrical works, effective oversight and supervisory control will be necessary to ensure that the waste management hierarchy is applied in accordance with South African law and GIIP. It is also recommended that in those cases where NEMA authorizations are not triggered, a simple screening process is followed to verify that there are no site-specific risks that must be considered, over and above the typical pollution risks managed through the E&S requirements of the construction contracts.

4.3 Program Social Benefits

4.3.1 Water and Sanitation (Results Area 1)

(i) Context

South Africa implements a free basic water policy by providing 6,000 liters of water per household per month without charge. As indicated this policy is part of the broader Free Basic Services initiative, aimed at improving the living conditions of low-income households. Implementation parameters are as follows:

- Funding: The national government allocates funds to municipalities to cover the cost of providing free basic water to eligible households as per the Free Basic Water Implementation Strategy.
- Eligibility: Households in metropolitan areas that are registered as indigent (low-income) are eligible for the free water allocation.
- Infrastructure: Municipalities are responsible for ensuring that the necessary infrastructure is in place to deliver water to these households. This includes maintaining and upgrading water supply systems.
- Monitoring and Reporting: Municipalities are required to monitor water usage and report on the delivery of free basic water to ensure that the policy is being effectively implemented and that the allocated funds are being used appropriately.

In addition, the Masibambane Water Services Sector Support Program has been in operation since 2001 and is currently in its first phase of operations. This focuses on capacity building, improving water supply infrastructure, and enhancing service delivery. The Program is managed by the DWS but involves multiple partners, including the Department of Provincial and Local Government (DPLG), the South African Local Government Association (SALGA), and external funders.

While a national policy and approach is in place the Municipalities have a degree of freedom to apply their own approach and standards. Threse is typically expressed via their Integrated Development Plan (IDP) or in an Expanded Social Package (ESP). The Free Basic Services Indigent Support Policy (as Amended 2023-

2024) is also in place to give guidance. This was developed by the Department of Cooperative Governance and Traditional Affairs (COGTA) in collaboration with other relevant government departments and stakeholders.

Although the recommended free basic water policy suggests 6,000 liters of water, for all households, the municipalities, within the policy have altitude as to how to determine applicability. Almost all municipalities require, at least in theory, a level of indigency to be demonstrated to qualify for free basic water. Further, the amount of free water allocated differs among municipalities. The free amount allocated can also differ based on demonstrated bands of indigency demonstrated by households. For example, the City of Johannesburg has three bands of indigency recognized within their ESP. and allocates up to 15,000 liters of free basic water per household per month to registered indigent households in the most impoverished band. The City of Cape Town allocates 15,000 liters of free basic water per household per month to registered indigent households and 10,500 liters of free sanitation services. The City of Tshwane allocates 12,000 liters of free basic water per month to registered indigent households. The Nelson Mandela Bay Municipality allocates 8,000 liters of free basic water per month to registered indigent households.

(ii) Social Benefits

The bulk of the Capex funding is not linked to activities that would normally trigger significant environmental risks and negative impacts. The program description in Section 1 summarizes the key objectives of the MTSP. The governance and financial reforms that are proposed for the water sector will underpin improvements in reliability and maintenance of water infrastructure. The Bank's technical teams, in consultation with the participating Government Departments and metros, have identified the drivers behind the poor institutional and financial performance and the initial actions are designed to correct these.

All of the municipalities within the program are, to a lesser or greater degree, subject to service delivery failures within the water sector. These often result in protests and social unrest as communities express their frustration and dissatisfaction. Protests sometimes become violent. As such, improving municipal water and sanitation service delivery, and securing the promised free basic access, has social and economic advantages, including the following:

- More reliable water and sanitation services improve living conditions, contributing to overall well-being and dignity.
- Access to clean water and sanitation reduces the spread of waterborne diseases, leading to healthier communities. Preventing water-related diseases reduces healthcare costs and the economic burden on families and the healthcare system.
- Improved sanitation facilities, particularly for women and girls, promote gender equality by providing safe and private spaces, reducing the risk of gender-based violence.
- Efficient water and sanitation services support economic activities, leading to job creation and economic development while improved infrastructure will attract investment and development projects, boosting local economies as well as leading to savings that can be passed on to consumers. This is particularly critical in the municipalities that are at risk. The failing water infrastructure in Johannesburg is a key regional and national, economic risk. Emergency

measures, such as water tankers and temporary solutions, are often more expensive than maintaining a stable water infrastructure. Further, as has been made evident coastal municipalities – notably eThekwini - are losing significant revenue because of the continued capacity constrains inherent in their wastewater treatment works. Sewage discharge into the ocean is one of the factors having a considerable impact on tourism numbers and the economic sustainability of eThekwini.

4.3.2 Electricity (Results Area 2)

(i) Context

South Africa has a Free Basic Electricity (FBE) policy. The policy was developed by the Department of Minerals and Energy (now the Department of Mineral Resources and Energy - DMRE) in 2003. The aim is to support low-income (indigent) households by ensuring they have access to basic electricity for essential needs such as lighting, media access, ironing, and boiling water. The policy is implemented by Eskom in collaboration with local municipalities. To implement the process the indigent households are identified by local municipalities. The municipalities include these households in a list of FBE beneficiaries and submit the list to Eskom, enabling the beneficiaries to collect their FBE vouchers on a monthly basis from Eskom vending outlets. The maximum amount allowed by ESKOM is between 50kWh and 60kWh per household, depending on the municipality of residence. The customer is then charged for anything used above this limit.

The costs of the Free Basic Electricity (FBE) policy in South Africa are covered by the national government through the Department of Mineral Resources and Energy (DMRE)

There are several limitations that have been identified with the system. 40 These can be summarized as follows:

- Once an indigent household has use up their free electricity allowance, they must pay for the rest of their usage at whatever the approved tariff rate is. If the household is on a pre-paid meter, they have visibility as to when they have used up your free electricity. However, households with conventional meters will not necessarily be aware of this

Accessibility to this free basic electricity, is unevenly applied. A 2021 report found that over a six-year period, about R38.3 billion disbursed through the scheme failed to reach the intended recipients. This situation is only getting worse. While the number of indigent households officially funded is rising, the number receiving the benefit is falling.[41]

Some of the municipalities tasked with administering the scheme have created barriers to access. Indigent households struggle with the bureaucracy involved, especially if they face a long journey to the relevant office. Other barriers include the requirement to reapply on a regular basis, and the need to access a smartphone to use the free electricity code.

One of the key findings of the Ledger (2021) report is that current free basic electricity situation contradicts the goals of South Africa's pro-poor transformation agenda, which emphasizes the crucial role of local

[40] https://greeneconomyjournal.com/explainer/role-of-free-electricity-in-south-africas-just-transition/?form=MG0AV3

[41] Ledger, T (2021); "Broken Promises: Electricity access for low-income households – good policy intentions, bad trade-offs and unintended consequences". Public Affairs Research Institute.

government in delivering these objectives, as well as the original policy intentions for the developmental role of energy in a post-apartheid society. These outcomes also risk undermining the decarbonization targets being pursued in the shift from coal to clean energy. By neglecting the realities of the energy distribution system, poorly implemented policy is effectively creating and reinforcing two parallel energy systems: one that is clean and based on renewable energy but is limited in accessibility, and another that is largely hidden, dirty, and dangerous, which remains the only option for a large number of the poor. households.

(ii) Social Benefits

As with the water and sanitation Sector Capex funding is not linked to activities that would normally trigger significant environmental risks and negative impacts. And, also in common with the water and sanitation sector all of the municipalities within the program are, to a lesser or greater degree, subject to service delivery failures within the electricity sector. Given the supply issues driven by Eskom these are not as easily linked to municipal failures. However, improving the delivery of municipal electricity services has social and economic advantages, including the following:

The bulk of the interventions associated with the electricity sector would be

- Economic growth as reliable electricity supports industrial and commercial activities. Businesses can operate more efficiently without the disruptions caused by power outages, leading to increased productivity and profitability. A stable electricity supply makes the region more attractive to investors, fostering economic growth and development. All of these increase opportunities for job creation and incomes.
- Improved quality of life as consistent power supply enhances the quality of life for residents by ensuring access to essential services such as healthcare, education, and communication.
- Public Safety as adequate lighting and functioning infrastructure contribute to public safety and reduce crime rates.

4.3.3 Solid Waste (Results Area 3)

(i) Context

The primary focus of solid waste management Capex in the eight major metropolitan areas is currently centered on upgrading infrastructure to meet permit and licensing requirements. Key improvements include installing landfill fencing, weighbridges, and repairing systems for stormwater and leachate management, such as pumps and monitoring wells. Additionally, some metros are introducing upgrades like fuel theft monitors and route optimization trackers for vehicle fleets.

Several municipalities, including Mangaung, Cape Town, Nelson Mandela Bay, Johannesburg, and Buffalo City, are prioritizing the acquisition and upgrading of onsite waste management equipment, such as dozers and excavation vehicles, to meet rising demand and address potential new or regional greenfield developments for waste disposal sites. There is also a widespread push to develop or enhance transfer stations, enabling efficient waste compaction for transport to licensed disposal sites via bulk evacuation vehicles. Plans are underway to establish material recovery facilities featuring manual and mechanical sorting systems to separate waste and recover recyclables effectively.

In terms of the requirement for additional waste disposal sites, the City of Johannesburg has identified this as an urgent need in the Midrand/northern districts.

Greater detail as to the situation with respect to waste pickers is included in Annexure 11.

(ii) Social Benefits

The social benefits of fficient and effective waste management are relatively self-evident but include:

- Improved public health through reduced pollution and carbon/methane emissions leading to cleaner air and water.
- Enhanced quality of life as cleaner environments contributes to a better outcome for residents, promoting well-being and community pride
- Savings, as the cost of waste management with enhanced efficiency, is ultimately reduced and this can be passed on to the customer base.
- Economic growth and a more efficient circular economy as efficient waste management can stimulate local economies by creating new businesses and industries related to recycling and waste processing.
- Community involvement as effective waste management encourages community participation in recycling programs and environmental initiatives, fostering a sense of responsibility and cooperation.
- Resource conservation is promoted by recycling and reusing materials and will help to conserve natural resources, reducing the need for raw material extraction and promoting sustainability.
- Job creation as waste management activities, such as collection, sorting, and recycling, create job opportunities and boost local employment rates, particularly among vulnerable and impoverished members of communities.

The last of these listed benefits is of critical importance. The role that waste pickers play in the environmental management has been well documented in South Africa. It is reported that they are responsible for recycling up to 90% of plastic and packaging waste.[42]

This reduces the waste that ends up in landfills and helps mitigate pollution. By diverting recyclable materials from landfills, waste pickers contribute to a cleaner environment and help conserve natural resources, and in so doing earn an income. Their efforts also support the circular economy, which aims to reintegrate resources into the economy to foster sustainable growth. The Department of Environment, Forestry and Fisheries (DEFF) estimates that between 60,000 and 90,000[43] informal waste pickers are active and support both direct and indirect jobs in the downstream recycling and manufacturing sectors, saving municipalities between R300 million and R750 million annually in landfill costs, often at minimal expense to the government. This not only benefits the environment but also creates economic opportunities and improves livelihoods for the waste pickers themselves. These livelihoods sustain an otherwise economically inactive element of South Africa growing unemployed. People involved in waste picking are most typcially among the urban poor. While highly variable, reports indicate that the waste pickers monthly income is around R2000, or less than half the statutory minimum wage. Research indicates that women in particular are able to exploit the opportunities afforded by the waste picker sector

[42] Department of Environment, Forestry and Fisheries (2020) National Waste Management Strategy (NWMS). https://www.dffe.gov.za/sites/default/files/docs/2020nationalwaste_managementstrategy1.pdf?form=MG0AV3

[43] Estimates of the number of active waste pickers differ substantially but a number of around 60 000 to 90 000 is most often quoted.

and make up a substantial portion of the informal waste picker workforce.[44] However women waste pickers typically earn significantly less per month than men and experience worse chronic health outcomes and experience exposure to personal safety and security.

Although they make critical contributions, waste pickers in South Africa largely remain politically and socially marginalized. They are often excluded from recycling and waste management decision-making processes. In recognition of this there are several efforts to integrate waste pickers into a more formalized overall waste management process. These efforts include the Waste Picker Integration Guideline produced by the DFFE and the Department of Science and Innovation (DSI) as well as the official South African Waste Picker Registration System (SAWPRS). This Guideline and its corresponding registration platform aim to improve the working conditions and livelihoods of waste pickers by integrating them into formal waste management system.[45]

Further the recently promulgated Extended Producer Responsibility (EPR) Regulations require producers to take responsibility for the entire lifecycle of their products, including waste management. The regulations include initiatives to support waste pickers and integrate them into the recycling value chain.[46] Specifically the regulations ensure that waste pickers are recognized as key stakeholders in EPR schemes and producers are required to include them in their collection and recycling processes. This inclusion is aimed at ensuring they receive fair compensation for their services. This enhanced renumeration and beneficiation is envisaged as being delivered through a Producer Responsibility Organization (PRO). The PRO is defined in the Regulations as a non-profit organization established by producers to support the implementation of their extended producer responsibility scheme

Giving effect to the EPR and enabling the PRO is tied to a process of registration of waste pickers. Efforts to register waste pickers in South Africa are being spearheaded by several initiatives and organizations. Initiatives include the South Africa Waste Picker Registration System (SAWPRS), which aims to create a formal registry of waste pickers to ensure that they are recognized and compensated for their contributions.[47] Several pilot projects have been conducted in different regions to test and refine the registration system.[48]

Various organizations, including the South African Waste Pickers Association (SAWPA) and the African Reclaimers Organization (ARO), work with government, industry, and academia to create policy changes that benefit waste pickers.

[3] Wilson, K; Kootbodien, T; Made, T, *et al*. (2022) "Men and women waste pickers on landfills in Johannesburg, South Africa: Divergence in Health, and Socioeconomic Status." International Archives of Occupational and Environmental Health, Vol.95(2), pp.351-363

[45] Department of Environment, Forestry and Fisheries and Department of Science and Innovation (2020). "Waste picker integration guideline for South Africa: Building the Recycling Economy and Improving Livelihoods through Integration of the Informal Sector." : Pretoria.

[46] Extended Producer Responsibility Regulations, 2020. GN 1184 in GG 43879 of 5 November 2020 [with effect from 5 May 2021].

[47] Cities Support Programme (CSP) in National Treasury, the Department of Science and Innovation (DSI), and UNIDO provided the Council for Scientific and Industrial Research (CSIR) and the University of the Witwatersrand (Wits) with financial support to develop and pilot the South Africa Waste Picker Registration System SAWPRS.

[48] World Bank (2023). "Supporting Waste Picker Registration & Integration: Insights From South Africa". Washington.

The implications of the process of formalized integration of the waste pickers into the overall waste management stream are envisaged as leading to both better remuneration as well as greater personal security and safety for those participating in the sector.

4.4 Program Social Risks and Impacts

4.4.1 Water and Sanitation (Results Area 1)

As indicated, there is a national policy approach to free basic water and sanitation services that is aimed at benefiting vulnerable households. This is executed at municipal level. In keeping with the intention of policy the municipalities interpret this beneficiation as being accessed through households' registration as indigent. There is some differential between the municipalities in terms of thresholds of what constitutes indigence. For example, the City of Cape Town defines a household as indigent based on the total household income. To qualify for indigent support, the total household income must be R7,500 or less per month.[49] For the City of Johannesburg, the level is R 6 087.[50] In addition to differences in qualification the benefits, as discussed above, also differ between municipalities.

It is expected that the system of subsidies/free services will remain in place to support the defined indigent, however potential standardization of what constitutes levels of indigency as well as the scale of benefits could compromise the existing access of those vulnerable (indigent) households who enjoy municipal benefits that are more than national policy. Raising the threshold of subsidy/free access could be counterproductive to broader program aims in undermining the sustainability of the metropolitan areas who cannot afford additional non-revenue service delivery.

There may also be some displacement risk associated with civil works in the water and sanitation sector. Displacement or livelihood impacts are most likely to be associated with network system expansion and, to a lesser extent, rehabilitation and repair of water and/or sanitation infrastructure. It is not presently clear how much network expansion is envisaged. The repair of infrastructure in densely populated settlements, particularly in cases where there has been encroachment onto municipal assets, or where re-routes are needed to accommodate efficient and cost-effective expansion or repair, may require some temporary or permanent physical displacement or loss of livelihood.

4.4.2 Electricity (Results Area 2)

As with the water sector it is expected that the system of subsidies/free services will remain in place to support the defined indigent, however potential standardization of what constitutes levels of indigency as well as the scale of benefits could compromise the existing access of those vulnerable (indigent) households who enjoy municipal benefits that are more than national policy. Raising the threshold of subsidy/free access could be counterproductive to broader program aims in undermining the sustainability of the metropolitan areas who cannot afford additional non-revenue service delivery.

4.4.3 Solid Waste (Results Area 3)

As noted above, the bulk of Capex funding is not directed toward new infrastructural developments that would typically trigger social risks and negative impacts. However, two areas warrant further discussion and consideration. The first is the identification and development of additional waste disposal sites. It

[49] https://www.capetown.gov.za/City-Connect/apply/Financial-relief-and-rebates/Individuals/Apply-for-indigent-rates-relief

[50] https://joburg.org.za/Pages/2020%20Notices/May/Expanded-Social-Package-(ESP)-Registration.aspx

appears that while most municipalities are currently only prioritizing the rehabilitation or the construction of new cells on existing landfills rather than new greenfield development, the City of Johannesburg has identified a need for additional or regional disposal sites

However, the Concept Note states that "*No activities of high environmental and social risk will be financed. Certain types of infrastructure will be considered ineligible and placed put on a "negative" (or prescribed) investment list – these will include infrastructure items that are likely to have a significant negative social or environmental impact(s), such as construction of new landfill sites*."

The second potential issue is located within the risks associated with an inadequately managed rollout of the process of integration of waste pickers into the mainstream waste management environment. Recent criticism of the perceived poor practical outcomes of the EPR, as managed by the PRO, is an example.[51] The critique is largely levelled at the alleged inability of the PRO to proceed with the registration system and disburse the funds collected via the EPR levy into the hands of waste pickers. A failed system could lead to mistrust of the process and failure to increase waste picker remuneration from current low levels of return. Suspicions of the capture of the benefits of the EPR levy by existing elites and marginalization of the current waste pickers could exacerbate social tension and conflict.

Linked to this is potentially greater social conflict within the ranks of the waste pickers as they compete for a resource declining in real value. The possibility for social conflict within the increasingly xenophobic nature of the South African marginalized classes should not be underestimated.

The nature of the waste picker registration process and application of its outcomes also present a potential issue. The current system is designed to be transparent and open. Critically it is designed so as not to discriminate against foreign nationals. The registration system requires a national identification card/document but does not require that this is exclusively South African. As such, the registration system is intentionally designed to be non-discriminatory, open and transparent. Despite this the degree to which this is positively translated into action at the level of the municipalities is not guaranteed. Over, or corrupted, regulation by municipal officials/agents within the waste integration process using their authority to discriminate against vulnerable people is a potential threat. Further constrained capacity within the municipality to be able to translate the intent of the EPR into actions that will protect and benefit the waste pickers is also evident.

Lastly, the potential development of mechanization of the mooted transfer stations and material recovery facilities that would be established to consolidate and transfer waste for more efficient transportation to disposal facilities could impact the numerous waste pickers who rely on the sector for their livelihoods[52]. The development of a more mechanized approach towards solid waste management and transfer could potentially exacerbate social inequalities, as the mechanization approach will usher in greater benefits for formal workers in solid waste management, whilst potentially excluding informal, or even registered, waste pickers. Increased mechanization and efficiencies in solid waste management and transfer could potentially limit the availability of recyclable material for informal waste pickers, negatively impacting their economic livelihoods. However, evidence from South Africa and other contexts suggests that properly designed and implemented Material Recovery Facilities (MRF) can complement informal systems rather than exclude them. Many MRFs double as buy-back centers, offering improved logistics, better pricing for

[51] See https://www.enca.com/shows/devi-wastepickers-treated-dirt-29-september-2024.

[52] Refer to Annexure 10 for a detailed analysis of the effects of the MTSP on waste pickers

materials, and more professionalized engagement with waste pickers. They could even act as core waste picker registration and information centers, for example. MRFs also often end up dealing with lesser valuable plastics (e.g. "problem plastics") as a good share of polyethylene terephthalate, high density polyethylene, problem plastics, good quality cardboard, paper, glass and metal will have already "leaked" before reaching the MRF.

5 ENVIRONMENTAL, SOCIAL, HEALTH AND SAFETY MANAGEMENT SYSTEMS ASSESSMENT IN RELATION TO THE CORE PRINCIPLES

5.1 Core Principle 1: General Principle of Environmental and Social Management

Program E&S management systems are designed to (a) promote E&S sustainability in the Program design; (b) avoid, minimise, or mitigate adverse impacts; and (c) promote informed decision-making relating to a Program's E&S effects

***Applicability**:* Applicable, as the Program will support activities that have significant positive and some potentially negative E&S effects.

The MTSP is designed to improve the E&S sustainability of Metro Trading Services. The MTSP proposes measures to bring about institutional and financial reforms that will turn the Metro Trading Services into viable business entities, capable of providing essential services in accordance with the Metros' constitutional and other core legal obligations. Based on the requirements of the Constitution, the National Development Plan and the (National) Integrated Urban Development Framework, the IDPs and SDFs of all MTSP metros recognize the central role that municipal services play in a sustainable living environment for their citizens. The MTSP service delivery objectives are therefore fully aligned with South Africa's urban policy and legal framework at all levels of Government. Recent case law in South Africa has shown that the failure to meet these fundamental constitutional and other legal obligations can be challenged in court, resulting in redress or, if the municipality fails to do so, the dissolution of the Council and appointment of an Administrator.[53]

The design of the MTSP is still in progress and will be tailored to meet individual metro's circumstances. In addition to the obvious social benefits of functional municipal services for all urban communities, particularly low income communities and vulnerable households, the program's institutional and financial reforms will also result in a significant reduction in organic pollution of river systems affected by raw and insufficiently treated sewage spillages and discharges, reduced pollution caused by the illegal dumping of municipal (general) and hazardous wastes, facilitation of the circular economy through improved application of the waste management hierarchy, reduced air and water pollution through better management and monitoring of municipal landfills and WWTWs, and acceleration of progress to establish extended producer responsibility for defined solid wastes, as required by regulations under the National Environmental Management: Waste Act (NEM:WA). Wastes from the plastics, electronics, electrical, lighting and paper/packaging sectors fall within the ambit of the regulations.

It will be necessary for the design team to include performance indicators that capture the key social and environmental risks and benefits of the program. Environmental risks and (negative) impacts are expected to be relatively minor, associated with the management of civil and electrical rehabilitation works in the three service sectors. The PforR instrument does not support major new works, although the threshold is not clearly defined. Any activity that involved significant physical displacement would be prohibited. Upgrading or expansion of existing landfill and sewage treatment facilities would be permitted, subject to the work being within the boundaries of the site already used for the activity and authorization under the NEM:WA, if not already approved under a phased site development plan. The program will need to

[53] Declaratory Order of the High Court, 15 August, 2024. S172(1)(a) of the Constitution -breach of duties of municipality of s52(2) and s153(a) of the Constitution. The order applies to Matjhabeng Municipality in Free State Province.

demonstrate that occupational health and safety risks are effectively managed, as well as community health and safety and pollution control risks in areas where rehabilitation of infrastructure is outside of municipal areas where public access can be controlled. To facilitate this, each Metro Trading Service should develop its own Environmental and Social Management System (ESMS), with emphasis on key risks and impacts, and the systems, procedures, capacity and training necessary to manage them. Each MTS must also ensure, through the implementation of its ESMS that all contractors and subcontractors involved in civil works have the necessary capacity and training to manage risks to their employees and the affected publics.

5.2 Core Principle 2: Natural Habitats and Physical Cultural Resources

Program E&S management systems are designed to avoid, minimise, or mitigate adverse impacts on natural habitats and physical cultural resources resulting from the Program. Program activities that involve the significant conversion or degradation of critical natural habitats or critical physical cultural heritage are not eligible for PforR financing.

Applicability: Applicable as the program will support the strengthening of performance of metro trading services, with accompanying ecological benefits resulting from more efficient use of natural resources, promotion of the circular economy and reduced pollution. No negative impacts associated with the program are expected, as all physical activities will be within existing municipal infrastructure footprints.

The restriction of civil works to areas that are primarily brownfields sites within the metro areas minimizes the risk of unavoidable adverse impacts on sensitive natural habitats and physical cultural resources. For linear infrastructure, such as water pipelines, sewage pipelines and distribution power lines; maintenance, repair and upgrading works could extend beyond existing rights of way and result in impacts over the construction period but are in most cases unlikely to be disqualifying under PforR eligibility rules, subject to the application of good international industrial practice (GIIP). Since specific activities under the program are still being considered by the design team, and are not yet available for assessment in the ESSA, it is recommended that an E&S screening process is formalized for each activity prior to approval, to verify that it is eligible under PforR rules. Should any substantial risks be identified by the screening, these should be flagged, and if the activity is continued, should be bought to the attention of the EAP responsible for the assessment undertaken as part of the NEMA /NEM:WA regulatory process.

5.3 Core Principle 3: Public and Worker Safety

Program E&S management systems are designed to protect public and worker safety against the potential risks associated with (a) the construction and/or operation of facilities or other operational practices under the Program; (b) exposure to toxic chemicals, hazardous wastes, and otherwise dangerous materials under the Program; and (c) reconstruction or rehabilitation of infrastructure located in areas prone to natural hazards.

Applicability: Applicable, as the Program will support activities that will involve civil construction, potentially affecting public and worker safety.

South Africa has fairly rigorous worker health and safety legislation set out in the Occupational Health and Safety Act (OHSA) of 1993 and Compensation for Occupational injuries and Diseases Act (COIDA) of 2020. Employers have an obligation to ensure a safe working environment and conduct regular risk assessments

to identify potential hazards and implement measures to mitigate OHS risk. A basis for reporting of occupational injuries and diseases is set out and for compensating employees for any work-related incidents resulting in permanent disability. Employers must also have emergency procedures in place for incidents such as fires, medical emergencies and natural disasters. The Acts apply to all organizations, including Government at all levels, parastatals and private companies. A suite of regulations and standards under the Act provide specific control measures.

The implementation of effective health and safety management systems for workers and the public during MTSP infrastructure works will rest primarily with the municipalities and their service providers and contractors. Metros require their staff and contractors to comply with municipal health and safety policies and guidelines, the current status and enforcement of which varies significantly between the MTSP municipalities. The metros generally align their approach to the requirements of the OHSA and COIDA, and associated regulations which for the reconstruction and rehabilitation of existing Program infrastructure, serve as the primary legal drivers of performance. Any additional requirements for managing risk in civil/electrical contract works are typically included in the agreements between the municipality and the Metro Trading Services, or between the Metro Trading Services and their subcontractors.

The absence of a single point of accountability has resulted in some opacity around MTSP OHS performance, as with other aspects of the relationship between the metros and their Metro Trading Services, with many of them being unable to fully distinguish their responsibilities for OHS costs, OHS management and oversight, safety equipment, safety training, reporting, auditing and corrective action from the broader municipal responsibilities and performance. The reforms proposed by the Program are likely to significantly improve MTS accountability at all levels, making each service fully responsible for managing, monitoring and reporting on its own OHS performance, even though other cross-cutting entities within the municipality, such as health services or corporate services, may continue to be involved and provide support. The MTSP does not propose to restructure the chain of responsibility for health and safety services within metros, but rather to ensure that the Metro Trading Services take responsibility for managing and acting upon their own data, integrating where necessary with supporting metro units.

The ability of the Program to evaluate the effectiveness of OHS management improvement will depend on the proposed KPIs, which must provide a basis for evaluating the overall OHS performance of each Trading Service. It may be necessary to provide greater support to the weaker municipalities in this regard, and to make provision for staged benchmarks for improvement. Not all MTSP municipalities have capacity to monitor and manage OHS risks. Some of the municipalities' environmental and social management systems are weakly developed, and need strengthening, even for the relatively minor civil and electrical construction work that will be undertaken under the MTSP PforR. The World Bank's experience of health and safety incidents on civil works has shown that severe incidents happen just as frequently on small-scale projects as major works. This is largely because of the general presumption by project owners, their consultants and contractors that the level of risk is reduced and personnel competence and due diligence concerning health and safety are a relatively minor issue. The root cause of many severe injuries and fatalities on smaller contracts has been linked to this.

For the PforR to demonstrate compliance with the core principle of worker and public safety, it is recommended that Metro Trading Services be required to:

- Develop and maintain an Environmental and Social Management System

- Demonstrate capability to manage OHS and community safety, in accordance with an analysis of the risks likely to be encountered during the works that are undertaken
- Have all construction workers sign a code of conduct that satisfies World Bank requirements
- Provide initial and ongoing safety training to employees, contractors and subcontractors to identify and minimize the risk of the tasks they undertake that could impact on their field staff or the public
- Provide accurate and prompt incident data to the metro's corporate safety unit and to the MTSP
- Develop and maintain an Emergency Preparedness and Response Plan which provides the framework for managing emergencies efficiently.

Each MTS must organize its health and safety systems to integrate effectively with requirements, guidelines and templates from the Metro.

5.4 Core Principle 4: Land Acquisition and Loss of Access to Natural Resources

Program E&S systems manage land acquisition and loss of access to natural resources in a way that avoids or minimises displacement, and assists affected people in improving, or at minimum restoring, their livelihoods and living standards.

***Applicability**:* Applicable as the rehabilitation, repair and expansion of infrastructure in the three MTSP sectors could trigger some displacement.

While no greenfield infrastructure development is currently envisaged, and no major greenfield development, such as a new landfill site or a large bulk water storage reservoir, would be permitted under the PforR instrument rules, the dividing line separating acceptable and unacceptable displacement under the instrument is not clearly defined, and minor displacement or loss of livelihood may be considered, depending on circumstances and the way it is managed.

Displacement or livelihood impacts are most likely to be associated with network system expansion and, to a lesser extent, rehabilitation and repair of MTSP infrastructure. It is not presently clear how much network expansion is envisaged. The repair of infrastructure in densely populated settlements, particularly in cases where there has been encroachment onto municipal assets, or where re-routes are needed to accommodate efficient and cost-effective expansion or repair, may require some temporary or permanent physical displacement or loss of livelihood.

South Africa has legislation in place that would act as a primary safeguard that serves to ensure that alternatives to displacement are considered prior to project authorization, and that vulnerable people without formal residential rights are not arbitrarily evicted. The Constitution of 1996 (Section 26 (3)) prevents arbitrary eviction and mandates that it is court ordered and only with sufficient demonstration of need. The Prevention of Illegal Eviction and Unlawful Occupation of Land Act (Act 19 of 1998). This ensures also that eviction is governed by a court authorized process that is based on a demonstrated needs and describes methods for court process. The Housing Act & Local Government: Municipal Systems Act 32 of 2000 makes provision for the National Housing Code of 2009. The Housing Code as a policy document sets out the need for local government (in this case the Metros) to provide emergency accommodation under defined circumstances. Section 2.3.1 sets out the conditions that would require emergency accommodation. Eviction of people without formal rights generated by need for development purposes would essentially fall under this provision.

Considering that any displacement or livelihood impacts are likely to be very limited or can be made limited by specificity in the PforR rules for the Program, the risk is considered moderate, subject to compliance with the requirements of the law. To ensure proper proactive management of the resettlement and livelihood recovery process the scale of the permissible scale of resettlement under PforR must be decided in consultation with National Treasury and the World Bank before a decision is taken to proceed.

5.5 Core Principle 5: Indigenous Peoples and Vulnerable Groups

Program E&S systems give due consideration to the cultural appropriateness of, and equitable access to, program benefits, giving special attention to rights and interests of Indigenous Peoples/Sub-Saharan African Historically Underserved Traditional Local Communities and to the needs or concerns of vulnerable groups.

Applicability: Applicable as Vulnerable entities may be exposed

In the context of South Africa, the indigenous groups, as defined in the World Bank's ESF, comprise approximately 1% of the total population. Collectively, this group is known as Khoi-San and comprise the San and the Khoikhoi people. The main San groups live mostly in the Kalahari region, and parts of Kimberley, while the Khoikhoi, who include the Nama, live mainly in the Northern Cape Province; the Koranna live mainly in Kimberley and the Free State province; the Griqua in the Western Cape, Eastern Cape, Northern Cape, Free State and KwaZulu-Natal provinces; and the Cape Khoekhoe in the Western Cape and Eastern Cape, with growing pockets in the Gauteng and Free State provinces. While people of this heritage may live within the MTS areas, their traditional livelihood and way of life is not linked to the functioning of the municipal services and is unlikely to be impacted by Program activities.

However, based on initial screening of program activities, there are other groups such as women, undocumented foreigners, retired workers and unemployed youth, who do not meet the Indigenous Peoples criteria but are present in the MTSP areas, and due to cultural differences, may need additional support to benefit from the Program. The most likely activity where support would be needed is associated with the waste pickers. In common with some of the observations made in Section 4.3 and 4.4, the management of the municipalities to protect such people is not guaranteed. Some municipalities will have constrained capacity to translate the intent of the current waste picker integration guidelines into actions that will protect and benefit the vulnerable. The development of a common actionable approach that is consistent with the guidelines for waster picker integration into the formal waste management process is recommended. This should be developed in collaboration with all the participating metros.

Further, although vulnerable households enjoy access to subsidies for water, sanitation and electricity these are unevenly applied across the metropolitan areas. Although not explicit in the current format of the program, an embedded universal approach across the municipalities to subsidies/free services and a common matrix for measurement of satisfactory implementation potentially has vulnerability consequences.

It is expected that the system of subsidies/free services will remain in place to support disadvantaged groups, however the potential standardization could compromise the existing access of those vulnerable (indigent) households who enjoy municipal benefits that are in excess of national policy. Raising the threshold of subsidy/free access could be counterproductive to broader program aims in undermining the sustainability of the metropolitan areas who cannot afford additional non-revenue service delivery.

A recommended action to deal with the potential vulnerability aspect of potential re-alignment of the free basic services approach to water, sanitation and electricity is to develop a set of indicators that measure municipality performance against the policy intentions as set out in the Free Basic Services Indigent Support Policy and unlock incentives. A precursor to this would be a review of the performances of the eight municipalities and development of individual action plans to address weaknesses or enhance strengths.

5.6 Core Principle 6: Social Conflict

Program E&S systems avoids exacerbating social conflict, especially in fragile states, post-conflict areas, or areas subject to territorial disputes.

***Applicability**:* Applicable, as there is a history and current context of social conflict resulting from use of security forces as well as xenophobic attacks and competition for access to income generating resources within both the water and solid waste sectors

The physical infrastructure to be supported will not be in post-conflict areas or areas subject to territorial disputes. However, as discussed in Section 4.4, there are aspects of the proposed activities that, if not managed at a municipal level, have the potential to replicate or promote inherent social conflicts. An example is the dispute between waste pickers and the City of eThekwini at the Bufflesdraai landfill site. This issue is typically driven by instructions given to municipal security staff to protect the landfill site against perceived threats by waste pickers. Although not strictly at odds with a reformist agenda, as proposed by the Program, the lack of alignment between the vision that is expressed by some municipal officials and a waste picker integration approach could replicate conflict for resources in the waste sector. This is potentially exacerbated, again at a municipal level, by some municipalities - or at least some staff – deliberately mis-using the waste picker registration process as an opportunity to restrict waste picker activities. Played out against a background of xenophobia and increased opportunity for elite capture this could increase social conflict in competition for waste-generated resources and revenues. Mitigation for this impact is to ensure that there is a joint vision across and within the municipalities of the role that waste pickers can play in an integrated overall waste management system, coupled with clear procedural guidelines linked to job descriptions (including security guards, effective training of all personnel, appropriate ongoing communication with waste pickers and a monitoring and auditing mechanism that provides the opportunity for adaptive management.

An unintended consequence of improved security of water supply could be increased social conflict linked to the so called “water tanker mafia”. There are reports of some water tank owners sabotaging water infrastructure so as to further their water sale operations within poorer and marginal communities. Better security of water supply could increase conflict between these criminal elements and municipal staff who combine with the community members who try to protect the infrastructure.

6 INPUTS OF THE PROGRAM ACTION PLAN

6.1 ESSA Findings

(i) The environmental and social impact of the MTSP will be overwhelmingly beneficial. The program directly addresses the root causes of the failure of the three metropolitan trading service sectors to deliver a service which is efficient, equitable, and environmentally and socially sustainable. The program is consequently focused on institutional, financial and structural reform, while recognizing that incentives are better than punitive measures to promote positive change. The program also recognizes that the metros have widely different performance levels, institutional capacity and appetite for change, and that the reform agenda for each municipality may need to be individually tailored to its circumstances.

(ii) The policy and regulatory regime related to the trading services is generally satisfactory at National level. South Africa has a sophisticated and effective framework in this regard at the higher levels of Government. Consequently, the E&S benefits of the program are largely not dependent on policy or regulatory reforms and should be achievable by applying existing policies, laws, norms and standards. At municipal level, however, the consistency of bylaws and management plans and their alignment with current sustainability objectives varies between the metros and may need to be further considered on a case-to-case bases.

(iii) Any gap-filling measures identified to enhance the in-country systems and capacities to manage environmental and social (E&S) outcomes will be incorporated in the Program PIAP to enhance the Program design, once the program activities have been clearly defined for each Metro.

(iv) The project team wishes to avoid MTSP reforms that place unnecessary additional monitoring and reporting burdens on the metros where existing performance indicators, already applied by the metros, are satisfactory. From an environmental perspective, the DWS Green Drop, Blue Drop and No Drop reporting methodologies provide examples of performance indicators that are fully aligned with legal and policy requirements for metro water and sanitation management. There will nevertheless be some rationalization needed, since these reporting requirements consolidate various environmental and other performance indicators into a risk-based metric that may duplicate or conflict with other MTSP metrics.

(v) There are no overarching or universal social metrices that coincide with the program. As indicated different metros have varying indicators for determination of indigency. A discussion with the NT as well as the metros as to a process for synchronization of measures of indices so as to ensure that free basic water, sanitation and electricity access is equitable as well as sustainably applied. This would ensure more effective measurement of governance outputs. Further the development of a common approach that is consistent with the guidelines for waste picker integration into the formal waste management process is recommended. As indicated this should be developed with active participation of all of the participating metros.

(vi) Some activities undertaken by the Metro Trading Services require licenses and permits which may include conditions of approval. Managing policy and legal compliance will be more

effective if these requirements are consolidated into a register, developed and maintained for each metro service.

(vii) A staged approach to environmental compliance should be adopted to avoid disincentivizing the metros in the initial period of the 6-year tenure of the grant. Much of the E&S improvement (demonstrated by outcomes indicators) will be dependent on reform in the institutional and financial components of the project (demonstrated by input indicators), and E&S progress can thus only be expected after the business turnaround strategy begins to show results.

(viii) The reforms will not remedy cases where existing permit conditions or general regulations do not fully protect the environment from harm. Disposal of treated sewage effluent from large WWTWs provides an example where the nutrient loads are so high that even the special standard for o-Phosphate is insufficient to prevent eutrophication of downstream waters, particularly when impounded. The ESSA supports the MTSP team's objective of avoiding 'aspirational' KPIs which are not grounded in existing policies, laws or other council commitments.

(ix) With reference to item (vi) above, the design team should consider a technical assistance component to the grant, which helps fund well-motivated scientific investigations, agreed with the metros in consultation with key stakeholders, that could improve environmental performance.

(x) Service provision is the most public facing of municipal functions. While there are wide differences between the metros in their ability and willingness to capture and address concerns and complaints, all would benefit from improved communication strategies about their service, designed not as PR but as an integral part of internal performance review. KPIs that encourage councils to use public communication as an effective strategy for improvement should be considered. There are a diverse set of national, provincial as well as metropolitan portals that serve as a mechanism for grievances can be lodged. While these exist the degree to which they are functional and trigger and mandatory response process differs greatly. A program-wide grievance mechanism to be adopted by all metro activities under the program could be considered. This should be based around a portal that is accessible, well known and appropriately advertised, managed by dedicated resources and with a protocol that tracks grievances while taking responsibility for responding. The format for usage at metro level should be designed by CSP National Treasury and also replicated as a central portal within the National Treasury.

(xi) The rules for projects implemented under the World Bank PforR instrument are broadly stated in relation to activities that could cause environmental or social harm. There are limitations on the procurements of works, goods and services that would be considered to be 'high value' contracts, with 'high value' defined as anything more than 25% of the total PforR expenditures. In the context of the World Bank MTSP grant, this would not constrain even very substantial civil works. It is recommended that the rules for eligibility for MTSP financing are more closely defined and that any civil works above a defined monetary value are subject to

a screening level risk assessment to determine eligibility before proceeding. An example would be civil works, particularly those associated with water distribution or sewage infrastructure that could be developed. As this is not yet explicitly excluded the chances that this may result in physical or economic displacement cannot be ruled out. While South African legislation allows for compensation to be paid and for protection of rights of abode this is not yet fully consistent with the World Bank's approach.

(xii) Key performance indicators must be clearly defined and measurable, and wherever possible, avoid overlap with other KPIs. In cases where recognized scientific methodologies are required to provide accurate, credible, results these should be specified to provide consistency across metros. Where South African norms and standards are applicable, these are to be preferred. It is recommended that the sector documentation for each metro's services includes supporting definitions for the KPIs in addition to any interim benchmarks that are determined to allow for phased improvements in compliance.

(xiii) All trading services must develop and implement an ESMS, following, recognized international standard and guidelines such as ISO 14001[54] and International Financing Corporation (IFC) guidelines[55]. A Resettlement Policy Framework may be required if works that lead to displacement cannot be explicitly ruled out of scope.

(xiv) External audit teams are to include environmental and social specialists who are competent to judge whether the applicable data supporting KPIs is credible, and that performance benchmarks have been met.

6.2 ESSA Recommendations (To be finalized by appraisal)

This section summarizes the measures that the ESSA team recommends be included in the Program Action Plan and should be executed during program implementation to address the gaps identified above between the program system and the PforR core principles and key elements as well as to address any capacity shortcomings.

Table 6-1 lists the actions, the responsible party(s), the deadline for completion and the associated performance indictor.

Table 6-1. *Contribution to the program implementation action plan.*

SN.	Action description	Responsible party	Deadline	Completion measures/ Indicators
Environmental and Social (ES)Actions				
ES-1				
ES-2				
ES-3				

[54] ISO 14001:2015 Environmental Management System. Edition 3

[55] IFC (2015) ESMS Implementation Handbook.

7 CONSULTATIONS AND DISCLOSURE

Meetings to collaborate with key stakeholders and to disclose the preliminary ESSA findings have been held. The first was a meeting with CSP and was largely attended (on-line) by representatives from National Treasury and the World Bank design team (Annexure 4). The intention of the meeting was to disclose material to be shared with the eight Metropolitan entities in a subsequent online meeting.

An online meeting was held on January 21, 2025 with all eight of the participating municipalities. Representatives of each municipality were present including members of MSTP line departments as well as senior management. The slide pack in Annexure 6 was presented, including the key findings and recommendations of the ESSA. This was followed by a discussion with participants. Notes of the meeting are set out in Annexure 5. No material issues arose that would change the findings and recommendations of the ESSA.

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Annexures

Annexure	Title
1	Water and Sanitation Sector Menu of MTSP Activities
2	Electricity Sector Menu of MTSP Activities
3	Waste Sector Menu of MTSP Activities
4	Preliminary Screening of MTSP Results Areas
5	SCP National Treasury Meeting
6	Minutes of the Meeting with the Eight Metropolitan Stakeholders
7	Relevant legal framework on Environmental and Social Aspects of the MTSP
8	Summary of Green Drop Report Scores for 2023 (DWS, 2023)
9	Effluent quality recorded at the MSTP Wastewater Treatment Plants in 2022-2023
10	Summary of Recent Metro Waste Audit Findings / Recommendations
11	An Analysis on the Implications of the MTSP for Waste Pickers

ANNEXURE 1: Water and Sanitation Sector Menu of MTSP Activities

PforR MENU OF ACTIVITIES: WATER SUPPLY & SANITATION SECTOR *DRAFT AUGUST 21 2024*	
I. **GOVERNANCE & ACCOUNTABILITY**	
ACTIVITY/SUB-ACTIVITY	**EXPECTED RESULTS [potential indicators]**
1. **Develop and implement a Turnaround Strategy and PIAP with performance targets to strengthen the sector's governance**	
• Define mechanisms to protect the autonomy of the W&S business from erosion • Comprehensive reforms of the water sector to strengthen service delivery arrangements of the W&S sector	• Single point accountability achieved *(CEO fully responsible for HR, procurement, IT, fleet etc)* • Ring fencing of revenues achieved • Funds availability, assessment of the regulation process, and degree of public participation in the formulation of specific water projects • Separate audited financial statement for each trading service • Agreements between WSP and WSA established and operational
• **Improve accountability of W&S business management**	
• Develop/confirm a fit-for-purpose organogram to manage the W&S business • Prepare incentive frameworks and embed in HR policies, including performance incentives for both staff and contractors • Engage private sector for improving W&S service delivery based on principles of performance incentives • Improve efficiency in procurement processes	• Adoption of new organogram • Reduction in number of days/months from procurement initiation to contract issuance • Modification and implementation of HR policies
3. **Strengthen the M&E system to comprehensively track service delivery, operational and financial performance**	
• Develop utility systems and databases to collect performance data, including disaggregated performance data of service delivery of for various customer groups (including poor and vulnerable sections). • Develop and follow a protocol for regular reporting and disclosure of performance. • Develop and implement a Grievance Redress Mechanism and customer feedback mechanism. • Design and implement an annual customer survey to assess satisfaction with service delivery and involvement of women in identifying and addressing issues. • Prepare operational, financial performance and corporate compliance reporting mechanisms	• Increased number of customers satisfied with service • Information systems created and operational • Develop and implementation of GRM • Improvement in working operating ratio

• Develop a performance scorecard to evaluate based on a) customer service, b) financial performance and efficiency, c) organizational processes and modernization, and d) implementation of the investment plan.	
4. **Improve disclosure of W&S service performance**	
• Prepare and publish a detailed Annual Report, including Audited Financial Statements and Citizen Report Card results.	• Annual publication of the financial statements and annual report • Quantity and quality of freely accessible information concerning the water and sanitation system
• Publicly disclose audited financial statements.	
II.**RELIABILITY & OPERATIONAL PERFOMANCE**	
ACTIVITY/SUB-ACTIVITY	**EXPECTED RESULTS [potential indicators]**
1. **Rehabilitation, repair and expansion of existing water supply and sanitation systems**	
• Rehabilitation and/or expansion of production, pumping, treatment, and storage infrastructure; distribution and sewerage networks; standpipes; and household connections	• Increased supply hours (average hours per day) • Increased water availability (average liters/per capita/day) • Equity consideration for access to water and sanitation services
• Development of associated studies and works supervision.	
• Assets out of service and selected to be repaired as a priority	
• Works related to improving transmission and Capacity distribution network	
• Implementation of automation and digitization	
2. **Improvement of management and information systems**	
• Implementation of software for improved facilities for on-line payments, to improve billing and collection	• Drinking water quality *(Blue drop, % meeting requirement)* • Waste water effluent quality (Green Drop, % meeting requirements) • Service reliability *(% time availability which includes access)* • Customer database, asset management and maintenance management systems in place and operational • Reduction in Nonrevenue water (NRW in % from Blue Drop) • Improved collection rate % • Improved metering rate (customers metered, for water supply only) % • Assess affordability of the W&S services through share of W&S related expenses (monthly W&S bills and connection costs) of various household groups, with a special focus on the poorest quintile.
• Develop and track an index to measure operational efficiency	
• Reduction of Non-revenue water (NRW) through incentives to operators through their remuneration formula	
• Development of adequate information systems based on a water information system to help monitor and track climate relevant data and enhance decision-making and inform climate-informed policies and strategies.	
3. **Capacity building of W&S sector professionals**	

• Development of a specific curriculum to train local W&S professionals, including (i) the development of adequate information systems based on a water information system; and (ii) strengthening monitoring capacities of service delivery (interface with regional operators according to contractual provisions), including for the regional operators and other providers of water services, as well as the publication of service monitoring reports	• Degree of training of water managers, satisfaction in water departments, and transparency in contracting processes. • Degree of involvement of institutional and individual actors in interaction spaces for public engagement with water departments
• Implementation of capacity building for sustainable management of existing and future assets, emphasizing the participation of women in the provision of water supply services.	
4. **Implementation of service upgrades**	
• Organize continuous water supply initiatives in demonstration zones	• Increased number of customers satisfied with service • Digital monitoring systems to track and report service delivery and efficiency • Grievances satisfactorily resolved with seven days, % • Percentage of sewage blockage complaints addressed within 48 hours (%) • Energy Efficiency for wastewater treatment, pumping systems (both for water and wastewater) kWhr/m3
• Expand distribution network for 24/7 supply	
• Expand sewerage network and treatment capacity	
• Construct a water quality lab for more frequent and accurate quality monitoring.	
• Provide water storage reservoirs with water quality sensors and automated distribution arrangements.	
• Implement performance-based contracts to help improve and maintain service standards (including criteria linked to climate-related elements for efficient energy and water use).	
• Organize technical workshops and information dissemination campaigns for women entrepreneurs, women-owned businesses to encourage bids from localized women business owners for the water supply and sewer network to be added in uncovered areas.	
5. Improvement of asset management	
• Introduce comprehensive asset management systems to help categorize and rehabilitate existing bulk water assets and implement energy efficiency improvements *(Utilities of the Future program of the World Bank to provide support)*	• Implementation of comprehensive asset management • W&S sector digitalized • Increased young women in leadership positions in the W&S sector
• Digitalization of water supply and sanitation systems including electromagnetic/ultrasonic bulk meters, flow control valves, pressure reducing valves and measuring instruments like pressure gauges. *This system will also be compatible with the Supervisory Control and Data Acquisition (SCADA) system being provided for bulk water operation.*	
• Build critical digital assets using geospatial data like a Geographic Information System (GIS)-linked customer database, asset database, billing and collection database, IT applications for accounting, costing and budgeting and customer relations.	
• Recruit and train young women professionals in utilization and management of digital assets, systems and databases in the W&S sector	

III. **FINANCIAL PERFOMANCE**	
ACTIVITY/SUB-ACTIVITY	**EXPECTED RESULTS [potential indicators]**
1. **Improvement of W&S service sustainability**	
• Design and implementation of performance-based contracts to improve the quality and the sustainability of the water supply and sanitation services • Determine the cost of supply of W&S services • Development and application of tariffs and a tariff policy for sustainable and affordable water supply services • Develop agreements for costs and contributions for services/revenues between corporate and the W&S business • Develop short-, medium- and long-term investment plans that incorporate resilience and sustainability objectives • Carry out energy efficiency, NRW reduction and cost-recovery improvement • Consider the upgrade the existing mechanical meters to Smart Meters for automatic meter reading and real time monitoring of water consumption • Implement metering of connections and improved billing and collection systems • Implementation of key policy measures required for financial sustainability: (i) volumetric tariff for all customers, (ii) annual indexation and automatic adjustment of tariff for change in input costs and (iii) timely release of subsidies as budgeted.	• EBITDA margin % (for utility) R & M cost recovery. Excludes interest, principal repayments, depreciation and tax (if any). Revenues and costs should be on accrual basis. Revenue write off policy to recognise uncollected bills should be in place. Indication of level of debt and existing plan to reduce it. • Subsidy policy in place if tariffs are set below O & M cost recovery levels. (*Subsidies to be considered only if they are budgeted in advance and are regularly transferred to a ring fenced water supply account. Subsidies that are accounted for balancing the revenue and costs will not be considered in EBITDA calculations*). • Water and wastewater accounts audited independently and disclosed • % of budget on O&M *(8% benchmark)* • Operating cost coverage ratio • Collection ratio • Under-expenditure on capex (execution of % of last years' capex plan) • Cost reflective tariff - progress • % of budget officially assigned/dedicated to O&M
2. **Improvement of financing practices of the W&S sector**	
• Implement commercial principles for revenue management and cost recovery • Modernize accounting practices including (a) accounting, budgeting and cash management policies and systems, (b) migrating to industry standard accounting systems (Tally or equivalent) and (c) internal audit. • Financial training of water supply and sanitation professionals.	• Improved financing practices adopted in the sector • Energy cost reduction

ANNEXURE 2: Electricity Sector Menu of MTSP Activities

MENU OF ACTIVITIES: ENERGY SERVICES *Draft*	
GOVERNANCE & ACCOUNTABILITY	• Develop and approve a Turnaround Strategy including a Performance Improvement Plan (PIP) and a Funded Investment Plan (FIP), to help meet technical, operational and financial performance targets. The PIP will formally identify priority measures and help inform shareholders' medium-term commitments. The performance targets include, among other things, the rollout of smart meters, improved infrastructure protection mechanisms and streamlined maintenance processes.
	• Prepare incentive frameworks and embed them in HR policies. In particular: o develop an annual performance review linked to remuneration for staff, o identify skills deficiencies and future skill requirements through assessments and surveys, o develop customized training and mentorship programs for employees, o establish a feedback platform for employees.
	• Engage private sector for improving energy service delivery based on principles of performance incentives.
	• Improve procurement processes to increase efficiency and mitigate cost increases.
	• Strengthen existing M&E systems to comprehensively track service delivery, operational, financial, and customer satisfaction metrics. Develop centralized utility systems and databases to collect performance and billing data. Establish a protocol for regular reporting and disclosure of performance. The disaggregated performance of service delivery to different customer groups, including poor and vulnerable groups, will be collected.
	• Simplify administrative procedure and streamline operations by automating repetitive tasks and fostering collaboration across different departments and units.
	• Establish methods for setting well-defined and transparent tariffs.
	• Disclosure of performance: publish a detailed annual report, including audited financial statements and the results of the citizen report card. Develop a performance scorecard based on customer service, financial performance and efficiency, organizational processes and modernization, and the implementation of the investment plan.
	• Establish an independent business unit with integrated support services and a single point of management accountability to account for electricity service delivery, including: o the appointment of the Electricity Head to be responsible for the implementation of the Turnaround Strategy, o the establishment of the Turnaround Strategy Change Management Team to support the Head in implementing the strategy.
	• Increase the integration of renewable energy by aligning operational policies with national regulations and establishing a renewable energy department.
	• Improve project management processes by establishing a Project Management Office (PMO) to centralize project oversight, implementing standardized project management methodologies and tools, and by conducting regular project performance evaluation reviews.

	• Enhance customer engagement and response by: o upgrading customer contact center systems (Interactive Voice Response, chatbots, call-routing technologies), o organizing educational campaigns to inform customers about new billing processes, o implementing real-time customer feedback, o conducting annual customer surveys to assess satisfaction with service delivery, o supporting the inclusion of women in identifying and addressing issues.
OPERATIONAL PERFORMANCE	• Reduce discrepancies in customer billing by: o establishing smart meters across customer bases, o establishing regular audits and cross-checks to identify billing discrepancies.
	• Reduce technical and non-technical losses to 8%.
	• Reduce downtime and improve resolution of power outages by: o implementing outage management systems integrated with smart grids, o distributing maintenance teams strategically to cover larger regions efficiently, o analyzing historical outage data to fix common faults points.
	• Reduce operational inefficiencies and premature asset failure by implementing a comprehensive asset management system with predictive 74maintenance and minimizing work-in-progress delays.
	• Streamline maintenance processes to reduce downtime and improve asset performance by: o implementing a Condition-Based Maintenance (CBM) program, o developing a predictive maintenance schedule and deploying condition monitoring devices on critical assets, o training maintenance teams on CBM procedures and provide them with a digital maintenance manual, o optimizing stores inventory and spare parts management by implementing a predictive spare parts ordering system and by establishing partnerships with reliable suppliers.
	• Enhance infrastructure protection measures to mitigate risks of damage and theft. In particular: o implement integrated security solutions and surveillance cameras and alarm systems at critical infrastructure sites, o increase public awareness on infrastructure protection, o collaborate with local communities and law enforcement agencies to support reporting of suspicious activities, o implement design modifications, upgrade fencing and access control mechanisms, and explore innovative solutions (e.g. smart tagging) to deter theft and vandalism, o conduct regular security audits and assessments.
	• Promote the adoption of innovative technologies and sustainable practices to modernize infrastructure and address environmental concerns. In particular: o launch a pilot program to explore feasibility and benefits from the integration of renewable energy sources into the electricity network, o collaborate with research institutes and industry partners to identify emerging technologies such as smart grid or energy storage systems solutions to improve grid resilience, o implement initiatives to promote energy efficiency such as public awareness campaigns, incentives for energy-efficient appliances and demand-side management programs.
FINANCIAL	• Optimize the lifecycle management of assets by: o developing and implementing an asset management policy, and outline clear objectives, strategies and responsibilities respectively,

	○ investing in an Enterprise Asset Management System (EAMS) to centralize assed data.
	• Streamline cost recovery and improve financial oversight with an integrated financial dashboard, enhanced revenue protection programs and alignment of budgets with core businesses processes.
	• Engage with the National Treasury to ensure access to grant funding.
	• Revise business models to improve revenue generation ability and sustainability.
	• Enhance data quality and utilization to better inform decision-making in asset management. In particular: ○ upgrade existing data management systems, ○ train staff on data collection, analysis and interpretation techniques, ○ establish Key Performance Indictors (KPI) for maintenance, ○ develop dashboards and reporting tools to track and review KPIs in real-time, ○ implement data governance policies and procedures to ensure data protection, ○ establish role-based access control to restrict unauthorized access to the data, ○ conduct regular data audits and compliance assessments to maintain data quality.
	• Modernize accounting practices and publicly disclose its audited financial statements. In particular: ○ update accounting, budgeting and cash management policies and systems, ○ migrate to an industry standard accounting system (Tally or equivalent), ○ modernize internal audit practices.
	• Implement commercial principles for revenue management and cost recovery.
	• Implement metering of connections and improved billing and collection systems.

ANNEXURE 3: Waste Sector Menu of MTSP Activities

Indicator	Description	Verification Process	
		Method	Metric
Governance and Institutional Performance			
Contract Management	Percentage of contracts with valid Service Level Agreements, including Performance Reporting by service provider and related Penalty Provisions	Number of Valid, Signed Contracts, including Penalty Provisions / Total Number of Contracts	% of Number (Increase)
Vacancies	Vacant positions as a percentage of the total number of staff on the solid waste sector Organograms	Number of Vacant Positions / Total Number of Positions	% of Number (Decrease)
Data Reporting	Waste Data reported as per Waste Classification and Management Regulations and shared with Regulator or Minister	Assessment of Reporting of Data to Minister (Regulator's platform: SAWIS), as per Frequencies and Categories Regulated Composite Indicator: 1: Yes / No | 2: Quantitative Assessment of Submission Frequencies & Categories	1: Yes / No | 2: % Increase of Submissions x Completeness of Required Categories
Data Management	Efficient and accurate data collection in the tonnages of solid waste being handled (managed). This aligns with the need for infrastructure such as weighbridges. System of capturing the data should be live/daily reporting per facility. Web based dashboard reporting system is preferred. Person(s) at Metro to be responsible for such a role.	Composite Indicator: 1: Yes / No | 2: Qualitative Assessment of Reporting System & Confirmation of Data Management Personnel	% of Number (Increase)
Collection and Transportation Logistics Optimisation Study	Solid Waste Collection and Transport (incl. Long-Haul) Optimisation, ensuring efficient collection routes, maximum use of appropriate collection options, efficient positioning of transfer stations and any treatment/disposal facilities.	1: Completed Study (Yes / No) 2: Qualitative Assessment of Implemented Recommendations	1: Yes / No | 2: Implementation of Findings
Service Provision Institutional Model (Study)	Assessment of institution and creation of a Institutional Model to Confirm most suitable and applicable Business Case for Solid Waste sector Proactiveness/ Operational efficiency (in-house vs outsourced responsibilities, KPIs, Delegation Agreement, Contracts & Contract Management, Investments)	Investigation into and Development of a Service Provision Institutional Model 1: Completed Study (Yes / No) 2: Qualitative Assessment of Implemented Recommendations	1: Yes / No | 2: % Increase
Enforcement	Provision for Enforcement made in By-Laws (Littering, Illegal Dumping, Separation at Source, etc.)	Composite Indicator: 1: Yes / No (Qualitative) whether provision made in By-Law & 2: Quantitative Assessment of Incidents Submitted to Metro Enforcement (not prosecution)	1: Yes/No | 2: % Increase
Fleet & Plant Quality of Service	Structure in-place to ensure Skilled and Competent Individuals (Artisans) are available to the Solid Waste Sector for servicing and maintenance of fleet (Collection, Yellow Plant and Blue Plant - if applicable)	Organisational structure includes the identification of suitably skills person(s) whom are readily available to attend to repairs and maintenance of mechanical plant	1: Yes/No | 2: % Decrease in Vehicle Servicing Turnaround Times

Allocation of Key Roles and Responsibilities	Within the Solid Waste Sector, Metro to ensure that Suitably Qualified and Competent Persons have been Clearly allocated Clear Roles and Responsibilities for the following Key Functions: - Collection Fleet Management - On-site Plant and Equipment Management - Data Management - Environmental Management - Occupational Health and Safety - Waste Minimisation - PRO Management and Engagement Organisation and Structure to Clearly Allocate and make reference to Roles and Responsibilities associated with Key Functions within the Solid Waste Sector - Metro to avail internal agreement of commitment	% of Key Roles Filled and Commitments Provided	% Increase
Operational Performance			
Operational Weighbridges	All landfills and transfer stations to have operational weighbridge(s) (bi-annually calibrated and certified for trade), with back-up power supply and off-site data storage	% of Facilities compliant where weighbridge(s) have been operational for minimum 95% of time	% of Number (Increase)
Accessibility to Waste Services in Formal Areas	Coverage of Passive Collection Services to Public in Formal Areas (Drop-offs)	Decrease in Average Distance Travel by Public to Waste Receiving Services/Facilities [(OLD Distance - NEW Distance) / OLD Distance] x 100	% km Decrease
Accessibility to Waste Services in Informal Areas	Coverage of Passive Collection Services to Public in Informal Areas (Waste Containers, Skips, etc.)	Decrease in Average Distance Travel by Public to Waste Receiving Services/Facilities [(OLD Distance - NEW Distance) / OLD Distance] x 100	% km Decrease
#NAME?	Diversion of Materials from Disposal (Landfill) and which are being Beneficiated / Utilised - Show Inclusion of relevant PRO's into Planning and Intervention	% Increase in Quantity of Waste Materials Diverted - Based on WACS if no Baeline [(NEW Quantity Diverted - OLD Quantity Diverted) x OLD Quantity Diverted] x 100	% in Quantity (Increase)
E-Waste Diversion	Diversion of E-Waste from Disposal (Landfill) and which are being Beneficiated - Show inclusion of relevant PRO's into planning and intervention	% Increase in Quantity of E-Waste Recyclables Diverted - Based on WACS if no Baseline [(NEW Quantity Diverted - OLD Quantity Diverted) x OLD Quantity Diverted] x 100	% in Quantity (Increase)
Organic Diversion	Diversion of Organics Disposal (Landfill) - Show inclusion of the private sector involvement and associated investment (enabling environment).	% Increase in Quantity of Organic Waste Diverted - Based on WACS if no Baseline [(NEW Quantity Diverted - OLD Quantity Diverted) x OLD Quantity Diverted] x 100	% in Quantity (Increase)
Illegal Dumping	Formal record keeping of illegal dumping reported, together with dates and data of material dumped (general character, approximate volume/tonnage) plus location (for GIS mapping of hot spots)	% Decrease in Reports of Illegal Dumping (Requires that formal reporting service be established for public use) [(OLD No. of Reportings - NEW No. of	% of Number (Decrease)

		Reportings) / OLD No. of Reportings] x 100	
Facilities to have Operating License/Registration	To ensure that all Facilities by the Metro have been licensed or registered for operational use and the registration and/or license is valid.	% of Facilities who are legally registered/ licensed	% of Number (Increase)
Facility Compliance Rating Against License	Compliance Against License Conditions for ALL Licensed and Audited Facilities (Internal & External Audits)	Composite Indicator: % Increase in Average Rating across Facilities (Weight: Landfills = 80%, Transfer Stations = 20%) IF No. Non-Compliances >= No. Partial Compliance + No. Compliance results in VOID - Additionally, IF Directive Issued by Competent Authority for Site, that Site Compliance Contribution is VOID until Resolved (Requires Confirmation from Competent Authority)	1: Yes / No | 2: % Ratings (Increase)
Facility Preparedness	Optimised Facility Preparedness by ensuring that all: - Site Operating Plans are in-place & valid (less than 1 year old) - Environmental Management Plans are in-place, valid (less than 3-years old) & applicable (to most recent license/registration conditions) - Emergency Preparedness and Response Plans are in-place , valid (less than 1 year old) & applicable (to most recent license/registration conditions) For all Landfills & Transfer Stations	1: Yes / No 2: % Increase in Facilities with Updated and Valid Plans [(NEW No. of Updated & Valid Plans - OLD No. of Updated & Valid Plans) x OLD No. of Updated & Valid Plans] x 100	1: Yes / No | 2: % Increase
Landfill Operations	Improved Site Operations for Optimised Use of Airspace, Environmental Protection and on-site Safety to Staff, Customers and Public - requires the following monitoring (with frequency indicated): - Compaction Density Assessments (Bi-Annual), threshold: - Waste Age 0 - 6 months (>= 650kg/m^3) - Waste Age 0 - 1 year (>= 850kg/m^3) - Waste Age 1 - 5 years (>= 950 kg/m^3) - Waste Age > 5 years (>=1000 kg/m^3) - Slope Stability Assessments (Bi-Annual), threshold: - Factor of Safety for Non-Seismic Scenarios (>= 1.5) - Factor of Safety for Seismic Scenarios (>= 1.1) - Landscape Maintenance - Rehabilitation and Removal of Alien Vegetation - Occupational Health & Safety Assessments (Bi-Ennial), threshold: - As per Regulated Thresholds	Composite Indicator: Weighted Categories (all 25%) - Bi-Annual Compaction Density (% of Waste Samples (based on age) at acceptable Densities - Bi-Annual Slope Stability (% of Slopes at acceptable FoSs), min. 6 Slopes assessed / landfill IF previous assessment identified slopes at risk of failure and no effort to remediate observed = landfill is VOID & 0% automatically scored - Bi-Annual Landscape Maintenance (Increase / Decrease in Areas of Concern (Erosion, Embankments, Litter & Vegetation) - Occupational Health and Safety (% of Regulated Assessments / Surveys Undertaken)	% Increase

Landfill Airspace Availability (Ultimate & Current)	Ultimate: Minimum Remaining = 10 years Actual: Minimum Remaining = 8 years A calculation undertaken, using airspace modelling and consumption data (weighbridge/topographic surveys), plus estimated growth/reduction values in waste generation (population growth, diversion & beneficiation), to determine the remaining airspace (life) of all the disposal Facilities (cumulative - integrated system) available to the Metro (to ignore private Facilities).	Ultimate > 10 years & Actual > 8 years	% Increase
Progressive Rehabilitation, Closure and End-Use Plan	Development and Implementation of Progressive Rehabilitation, Closure and End-Use Plan for disposal sites, presenting the phased progressive rehabilitation of waste body, limiting water ingress (thus leachate production), environmental & social impacts, licensing and preparation for Closure and End-Use of Landfill which includes future responsibilities (Monitoring and Reporting).	Quantitative and Qualitative Assessments: 1: Yes / No | 2: Alignment with Sequencing of Events	Yes / No
Financial Performance			
Total Operating Cost per Tonne of Waste Disposed	A measure of overall cost efficiency that can be used to monitor performance improvement or benchmark against others. Cost to include total operating cost of the solid waste department, including depreciation and finance charges.	Annual operating expenditure (as reported in Schedule A2), divided by reported tonnage of waste disposed.	R/ton
Total Operating Cost for Collections per Tonne of Waste Collected	A measure of collection efficiency. Costs to include all collection services provided to households, informal and formal, whether provided by the municipality or contractors on their behalf. Includes transfer station and haulage costs, but excludes any disposal, separation or alternative treatment costs. Excludes any public cleansing, street sweeping and illegal dumping costs.	Annual operating expenditure for collections, divided by reported tonnage of waste collected.	R/ton
Total Operating Cost for Disposal per Tonne of Waste Disposed	A measure of disposal cost efficiency that can be used to monitor performance improvement or benchmark against others. Costs to include all disposal or alternative treatment costs, but exclude transfer stations, haulage and waste minimisation.	Annual operating expenditure for disposal, divided by reported tonnage of waste disposed.	R/ton
Total Service Charge Revenue per Tonne of Waste Disposed (Billing)	A measure of revenue coverage with overlap with cost coverage ratio, but useful for benchmarking (Monthly Fee for Collection / Removal and Transport) - Is the rate reflective	Annual service charges revenue for waste management (as reported in Schedule A4), divided by reported tonnage of waste disposed.	R/ton
Operating Cost Coverage Ratio	Measures the degree to which waste charges revenue (excluding subsidies and transfers from rates) covers operating expenditure	Annual service charges revenue for waste management (as reported in Schedule A4), divided by annual waste management expenditure (as reported in Schedule A2).	Unitless Ratio
Net Operating Surplus / Deficit	Measurement of Financial Viability as a Going Concern	Total Refuse Revenue less Total Refuse Expenditure/Total Refuse Revenue × 100	%

Growth in number of billed residential customers per 100 000 population	Measurement of revenue completeness. Most useful for benchmarking between metros, but incentivises adding customers to the billing database.	(Total number of residential customer accounts at financial year end - Total number of residential consumer accounts at previous financial year end) / total population x 100 000	customers per 100,000 population
Growth in number of billed non-residential customers per 100 000 population	Measurement of competitiveness with the private sector.	(Total number of non-residential accounts at financial year end - Total number of non-residential consumer accounts at previous financial year end)/ total population x 100 000	customers per 100,000 population
Cash from Operations (Free Cash Flow)	Measure of Cash Available for Investments - only applicable if separate income statements are produced	(Cash and Cash Equivalents - Unspent Conditional Grants - Overdraft) + Short Term Investment) / Monthly Fixed Operational Expenditure excluding (Depreciation, Amortisation, Provision for Bad Debts, Impairment and Loss on Disposal of Assets)	Months
Days of Cash on Hand	Liquidity Measure - Ability to cover costs and pay creditors	Cash and cash equivalents (Schedule A6) / (annual operating expenditure (Schedule A2) less depreciation and debt impairment) * 365	Days
Debtor Days After Provisions	Measure of Debt Management - Only Applicable if Solid Waste Department has control of Debtor Management	((Gross Debtors - Bad debt Provision)/ Actual Billed Revenue)) × 365	Days
Debt (Total Borrowings) / Revenue	Measure of manageable debt, but can also indicate space for borrowing - only to be used where specific debt is allocated to the solid waste function.	(Overdraft + Current Finance Lease Obligation + Non current Finance Lease Obligation + Short Term Borrowings + Long term borrowing) / (Total Operating Revenue - Operational Conditional Grants) x 100	%
Irregular, Fruitless and Wasteful and Unauthorised Expenditure / Total Operating Expenditure	Measure of Supply Chain Management Controls - only to be used if the Solid Waste department has control of SCM Processes	(Irregular, Fruitless and Wasteful and Unauthorised Expenditure) / Total Operating Expenditure x100	%
Capital Expenditure Budget Implementation	Measure of capital project implementation effectiveness - only to be used if the solid waste department has control of SCM processes.	Actual capital Expenditure / Budget Capital Expenditure x 100	%
Repairs and Maintenance as a % of Property, Plant and Equipment, Investment Property (Carrying Value)	Measure of adequate expenditure on asset maintenance	Total Repairs and Maintenance Expenditure/ Property, Plant and Equipment and Investment Property(Carrying value) x 100	%
Remuneration as % of Total Operating Expenditure	Measure of staffing efficiency (read together with contracted services)	Employee Related Costs /Total Operating Expenditure x100	
Contracted Services as % of Total Operating Expenditure	Measure of internal control and mitigating factor against staff numbers (read together with remuneration)	Contracted Services /Total Operating Expenditure x100	
Alternative Revenue / Total Revenue	Measures revenues from alternative sources, including landfill gas utilisation, recycling, composting, clean development mechanism, concessions as a percentage of total revenue	(Total revenue - service charge revenue - grants - contributions from rates) / Total revenue	%

Other / Cross-Cutting Issues			
Single Point of Accountability	Does the head of department report to the accounting officer, and does that person have control over the 7 areas outlined in the 7 boc utility framework?	Yes / No	Yes / No
Climate Change Resilience at Municipal Facilities	Emission Reduction through capture and processing (min. Flaring)	% Increase in Carbon Credits Reported and Associated Revenue Generated	% Increase in Carbon Credits & Revenue
Climate Change Resilience for logistics	Emissions calculation and monitoring of all fleet used in sector (operations vehicles used at disposal facilities, transfer facilities and collections), including those contracted out, based on actual vehicle usage (mileage) and vehicle type, plus planning to reduce emissions by selective fleet/type.	% Reduction in total carbon emissions specific to all operating fleet used in sector, year-on-year.	% Decrease
Alternative Energy	Combustion of LFG for Energy Production	% Increase MWh Generated from LFG	% Average MWh/Month (Increase)
Waste Characterisation Studies	Characterisation studies to be done on waste being managed. Intention is to understand the composition of the waste (material types) being managed and disposed/ transferred and that generated at household. Study to be done twice a year (wet/dry season).	Wet and Dry Season Waste Characterisation Studies for entire Metro, must not be older than 5 years	Yes / No
Awareness and Education of Waste Generators	Awareness and education campaigns to Educate and to Keep "Live" the topic of waste diversion from landfill, safe living environment, avoidance of waste generation at source, which must include avoidance of Illegal Dumping	Composite Assessment: Qualitative Assessment of Sector Investment and Effort based on Number of Education Campaigns for Landfill Avoidance and promotion of Separation at Source	% of Number (Increase)
Extended Producer Responsibility Framework	Producer Responsibility Organisation Engagement Framework, with formal record of meetings/sessions, together with agreed milestones (targets) for collaboration and promotion of waste collection and diversion.	Development of a PRO Engagement Framework with Business Conditions with PROs (to contain SLAs)	Yes / No
Enabling Environment for Alternative Waste Management	Engage with and allow for Enabling Environment with PROs to align market demand (and development of demand) with waste minimisation opoortunities at the Metro. Evidence being formal record of meetings/sessions, together with agreed milestones (targets).	Composite Indicator: 1: Evidence of Engagement & Collaboration to Enable Environment for Alternative Waste Management | 2: Increase in Collaborations	1: Yes / No | 2: % Number (Increase)
Separation at Source	Implementation of a Source Separation Programme *(by Metro/ via Contract or declaration by private recycler doing collection).*	Composite Indicator: 1: Yes / No | 2: Increase in No of Households which Service is Offered	1: Yes / No | 2: % Number (Increase)
SMME Development	Inclusion of private sector SMME to share in operation of collection systems and transfer facilities, promotes labour involvement and job creation potential.	Increase in Contracts with SMMEs	% of Number (Increase)
Informal Sector & Waste Picker Integration	Inclusion of Informal Sector and Waste Pickers (Reclaimers), by creating an Enabling Environment from which they may have Access to Materials and a Safer Working Environment	Qualitative Assessment: Evidence of increased integration of Informal Sector and Waste Pickers	Yes / No

Creation of enabling environment for private sector investment	Metro to create a business opportunity to allow for private sector investment into waste diversion and beneficiation projects.	Number of Contracts concluded with Private Sector which unlocks private sector investment	Number
Waste Flow and Service Delivery Reporting	Waste Quantity Reporting, as per the following criteria: - Tonnes of Municipal Solid Waste sent to Landfill/Capita - Tonnes of Municipal Solid Waste Diverted from Landfill/Capita Tonnes (Total) of Municipal Solid Waste Collected/CapitaService Delivery Reporting, as per the following criteria: - Percentage of Households with Basic Refuse Removal Services or Better - Percentage of Recognised Informal Settlements Receiving Basic Waste Removal Services - Percentage of Scheduled Waste Collection Service Points Experiencing Collection Delays of > 1 Day	% of Circular 88 Reporting Requirements being undertaken as per Deadlines prescribed (Tier 1 - Tier 3) SAWIS Reporting of data	% Increase

ANNEXURE 4: Preliminary Screeing of MTSP Results Areas

			Results Area 1: Water and Sanitation								
			Risks and impacts that would prohibit the activity (RA) from being undertaken under PforR								
	No.	PforR Results Area	Significant conversion or degradation of critical natural habitats or critical cultural heritage sites	Air, water, or soil contamination leading to significant adverse impacts on the health of ecosystems	Workplace conditions that expose workers to significant risks to health and personal safety	Land acquisition and/or resettlement of assets or nature that will have significant adverse impacts on affected people, or the use of forced evictions	Large-scale changes in land use or access to land and/or natural resources	Adverse E&S impacts covering large geographical areas, including transboundary impacts, or global impacts such as greenhouse gas (GHG)	Significant cumulative, induced, or indirect impacts	Activities that involve the use of forced or child labor	Marginalization of, discrimination against, or conflict within or among social including ethnic and racial groups
	1: Governance and Accountability										
	1.1	Develop mechanisms to protect WS business from erosion	x	x	x	x	x	x	x	x	x
	1.2	Undertake comprehensive reforms in the water sector to strengthen service delivery of W&S services	x	x	x	x	x	x	x	x	x
	1.3	Improve accountability of W&S business management									
	1.3.1	Develop fit for purpose responsibility organograms	x	x	x	x	x	x	x	x	x
	1.3.2	Prepare incentive programs for good performance	x	x	x	x	x	x	x	x	x
	1.3.3	Engage private sector to assist in efficient delivery	x	x	x	x	x	x	x	x	x
	1.3.4	Improve efficiency of procurement processes	x	x	x	x	x	x	x	x	x
	2: Financial Performance										
	2.1	Design and implement performance based contracts	x	x	x	x	x	x	x	x	x
	2.2	Develop tariff structure	x	x	x	x	x	x	x	x	x
	2.3	Develop short, medium and long term infrastructure investment plans and resilience and sustainability	x	o	o	o	x	x	o	x	x
	2.4	Carry out energy efficiency and NRW reduction and cost-recovery	x	o	o	o	x	x	o	x	x
	2.5	Improve billing collection system	x	o	o	x	x	x	o	x	x
	2.6	Consider smart meters for automatic monitoring	x	o	o	o	x	x	o	x	x
	2.7	Implement commercial financing practices and implement modern accounting practices	x	o	o	o	x	x	o	x	x
	3: Reliability and Operational Performance										
	3.1	Rehabilitate, repair and expand existing water supply and sanitation systems	x	o	o	o	x	x	o	x	x
	3.2	Improve management and information systems	x	x	x	x	x	x	x	x	x
	3.3	Reduce NRW through incentives to operators	x	x	x	x	x	x	x	x	x
	3.4	Develop and track an index to measure operational efficiency	x	x	x	x	x	x	x	x	x
	3.5	Develop and track water information systems to assist in climate resilience decision-making	x	x	x	x	x	x	x	x	x
	3.6	Build capacity in E&S sector professionals									
	3.6.1	Determine and implement qualification requirements	x	x	x	x	x	x	x	x	x
	3.6.2	Strengthening monitoring capacities	x	x	x	x	x	x	x	x	x
	3.6.3	Strengthening reporting	x	x	x	x	x	x	x	x	x
	3.6.4	Capacity building for sustainable management of existing and future assets	x	x	x	x	x	x	x	x	x
	3.6.5	increased participation of women in provision of water supply service	x	x	x	x	x	x	x	x	x
	3.7	Improve service upgrades									
	3.7.1	Expand distribution network	x	o	o	o	x	x	o	x	o
	3.7.2	Expand sewage treatment capacity	x	o	o	x	x	x	o	x	x
	3.7.3	Construct water quality lab	x	x	x	x	x	x	x	x	x
	3.7.4	Provide water storage reservoirs with automated water quality sensors	x	x	x	x	x	x	x	x	x
	3.7.5	Assist women entrepreneurs / businesses to participate in bidding for service provision in under-served areas	x	x	x	x	x	x	x	x	x
	3.8	Improve asset management									
	3.8.1	Introduce comprehensive asset management systems to help prioritise bulk water supply rehabilitation and energy efficiency improvements	x	x	x	x	x	x	x	x	x
	3.8.2	Digitalize bulk water and sanitation system data collection	x	x	x	x	x	x	x	x	x
	3.8.3	Use GIS-based systems for all spatial data bases	x	x	x	x	x	x	x	x	x
	3.8.4	Recruit and train young women professional for management of system assets and databases	x	x	x	x	x	x	x	x	x
	Key										
	x	The impact described will not arise or is highly unlikely to arise									
	o	The impact described could arise but is unlikely given the limited scale of the RA and subject to implementation of good international industrial practice (GIIP) - compliance with which may require some local capacity building and training									
	Note	A number of Results Areas are specifically designed to enhance positive outcomes in relation to the potential impacts described (e.g. social conflicts) and to enhance the capacity of the responsible institutions. This is not acknowledged in the table which is designed only to screen Results Areas for significant negative E&S risks and impacts									
	RESULTS AREA 2 AND 3 TO BE INCLUDED FOLLOWING UPDATE OF ACTIVITIES BY BANK TEAM IN EARLY FEBRUARY										

ANNEXURE 5: SCP National Treasury Meeting Presentation and Minutes

South Africa Metro Trading Services Program Program for Results

DRAFT

ENVIRONMENTAL AND SOCIAL SYSTEMS ASSESSMENT (ESSA)

Summary Presentation

January 15, 2025

Index

1. ESSA Risk Rating – Overview
2. Six Core E&S Principles
3. Key Findings and Recommendations

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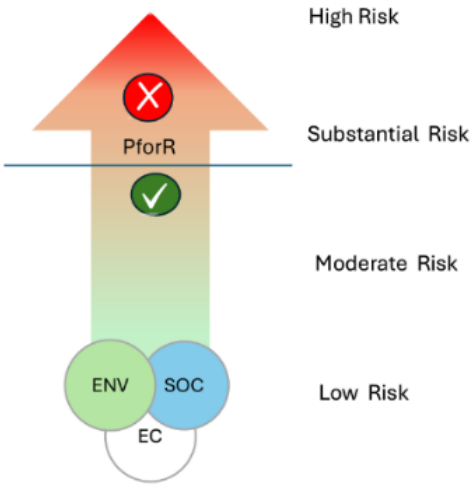
ESSA Risk Rating - Overview

- Purpose of the ESSA in PforR financing
- World Bank E&S Risk Categories – "High, Substantial, Moderate, Low".
- MSTP program risk rated as **"moderate"**, determined against the six Core Principles of the World Bank Policy and Directive for PforR.
- Risk to "physical cultural resources" not applicable. No envisaged greenfield infrastructure development.
- Biophysical impacts will be significant, but these are **overwhelmingly positive** and as such do not pose a risk.



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Activities not supported under PforR

Activities likely to have with high negative risks (including cumulative or induced risk) on:

- Critical natural habitats or critical cultural heritage sites
- Air, water, or soil causing human or ecological harm
- Workplace health and safety
- Land acquisition and/or resettlement
- Large geographical areas, including transboundary impacts, or global impacts such as greenhouse gas (GHG) emissions
- Forced or child labor
- Marginalization of, discrimination against, or conflict within or among, social (including ethnic and racial, vulnerable groups

Examples

- Power plants
- Major transport infrastructure (e.g: new highways, urban metro systems, railways, and ports)
- Mining and extractive industries
- Commercial logging
- Large-scale water (surface and groundwater) resource infrastructure, including (e.g: large dams, bulk water conveyance, activities negatively affecting water quality or availability)
- Manufacturing or industrial processing facilities

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Principle 2 – Natural Habitats

Program E&S management systems are designed to avoid, minimize, or mitigate adverse impacts on natural habitats resulting from the program. Program activities that involve the significant conversion or degradation of critical natural habitats are not eligible for PforR financing

- Impacts on natural habitats will be overwhelmingly positive
- Reduced wastage of water will delay the need for additional storage capacity, improving efficiency of use and reducing ecological impacts in often sensitive aquatic ecosystems
- Reduced pollution of river systems due to improved WWTW performance will enhance downstream ecological function. Eutrophication and other toxic pollutants released by urban sewage systems are a major cause of aquatic impacts on river systems
- Improved capability to implement the waste hierarchy will strengthen the circular economy, minimising resource wastage
- Support of the municipalities and primary plastic producers will enhance implementation of primary producer responsibilities in terms of plastic recycling
- Reduced wastage of electricity will improve efficiency of use, per capita, reducing overall demand with its direct and indirect environmental costs

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Principle 3 - Protection of Public and Worker Safety

Program E&S management systems are designed to protect public and worker safety against the potential risks associated with (a) the construction and/or operation of facilities or other operational practices under the program; (b) exposure to toxic chemicals, hazardous wastes, and otherwise dangerous materials under the Program; and (c) reconstruction or rehabilitation of infrastructure located in areas prone to natural hazards

- RSA has rigorous worker health and safety legislation (OHSA Act and COIDA).
- The metros generally align their approach to the requirements of the OHSA and COIDA.
- The MTSP reforms proposed are likely to improve accountability, making each service responsible for managing, monitoring and reporting on its own OHS performance, even in cases where it depends on other Metro departments for some of the inputs.
- The ability of the program to evaluate the effectiveness of OHS management improvement will depend on the proposed KPIs. It may be necessary to provide greater support to the weaker municipalities in this regard, and to make provision for staged benchmarks for improvement.

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Principle 4 - Land Acquisition and Loss of Access to Natural Resources

Program E&S systems manage land acquisition and loss of access to natural resources in a way that avoids or minimizes displacement, and assists affected people in improving, or at minimum restoring, their livelihoods and living standards.

- No greenfield infrastructure development is currently envisaged, or would be permitted under the PforR instrument rule, however minor displacement or loss of livelihood may be considered, depending on circumstances and the way it is managed.
- Displacement or livelihood impacts are most likely to be associated with network system expansion and, to a lesser extent, rehabilitation and repair of MTSP infrastructure.
- South Africa has legislation in place to ensure that alternatives to displacement are considered prior to project authorization, and that vulnerable people without formal residential rights are not arbitrarily evicted (PIE). As displacement or livelihood impacts are likely to be very limited, the risk is considered moderate.

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Principle 5 - Indigenous Peoples and Vulnerable Groups

Program E&S systems give due consideration to the cultural appropriateness of, and equitable access to, program benefits, giving special attention to rights and interests of Indigenous Peoples and to the needs or concerns of vulnerable groups

- In the context of South Africa, the indigenous groups, as defined in the World Bank, are not applicable
- However, there are other groups such as women, undocumented foreigners, retired workers and unemployed youth, who do not meet the Indigenous Peoples criteria but are present in the MTSP areas and may need additional support to benefit from the Program.
- The most likely activity where support would be needed is associated with the waste pickers. Some municipalities will have limited capacity to translate the intent of the current waste picker integration guidelines into actions that will protect and benefit the vulnerable.
- Although vulnerable households enjoy access to subsidies for water, sanitation and electricity these are unevenly applied across the metropolitan areas. Although not explicit in the current format of the program, an embedded universal approach across the municipalities to subsidies/free services and a common matrix for measurement of satisfactory implementation potentially has vulnerability consequences.

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Principle 6 - Social Conflict

Program E&S systems avoids exacerbating social conflict, especially in fragile states, post-conflict areas, or areas subject to territorial disputes

- The requirement is to avoid exacerbating social conflict, especially in fragile states, post-conflict areas, or areas subject to territorial dispute.
- South Africa is not a post-conflict areas or subject to territorial disputes.
- However, there are aspects of the proposed activities that, if not managed, have the potential to replicate or promote inherent social conflicts. An example are reported dispute between waste pickers and municipal security staff to protect the landfill site against perceived threats by waste pickers. Although not at odds with a reformist agenda, the lack of alignment between the vision expressed by some municipal officials and a waste picker integration approach could replicate conflict for resources in the waste sector. Against a background of poverty,/social tensions and increased opportunity for elite capture this could increase social conflict in competition for waste-generated resources and revenues.
- An unintended consequence of improved security of water supply could be increased social conflict linked to the so called “water tanker mafia” with a sabotage agenda. Better security of water supply could increase conflict between these criminal elements and municipal staff who combine with the community members who try to protect the infrastructure.

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Key Findings and Recommendations

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Key Findings and Recommendations

- The environmental and social impact of the MTSP will be **overwhelmingly beneficial**. The program directly addresses the root causes of the failure of the three metropolitan trading service sectors to deliver a service which is efficient, equitable, and environmentally and socially sustainable.

- The project team wishes to avoid MTSP reforms that place unnecessary **additional monitoring and reporting burdens** on the metros where existing performance indicators, already applied by the metros, are satisfactory. There will be some rationalization needed, since these reporting requirements consolidate various environmental and other performance indicators into a risk-based metric that may duplicate or conflict with other MTSP metrics.

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- Key performance indicators must be **clearly defined and measurable**, and wherever possible, avoid overlap with other KPIs. In cases where recognized scientific methodologies are required to provide accurate, credible, results these should be specified to provide consistency across metros. Where South African norms and standards are applicable, these are to be preferred. It is recommended that the sector documentation for each metro's services includes **supporting definitions for the KPIs**.

Key Findings and Recommendations

- There are **no overarching or universal social metrices that coincide with the program**. Different metros have varying indicators for determination of indigency. A discussion with the NT as well as the metros as to a process for synchronization of measures of indices so as to ensure that free basic water, sanitation and electricity access is equitable as well as sustainably applied should be considered.

- The development of a common approach that is **consistent with the guidelines for waste picker integration** into the formal waste management process is recommended. This should be developed with active participation of all of the participating metros.

- Some activities undertaken by the Metro Trading Services require licenses and permits which may include conditions of approval. Managing policy and legal compliance will be more effective if these **requirements are consolidated into a register**, developed and maintained for each metro service.

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Key Findings and Recommendations

- A **staged approach to environmental and social compliance** should be adopted to avoid disincentivizing the metros in the initial period of the 6-year tenure of the grant. Much of the E&S improvement (demonstrated by outcomes indicators) will be dependent on reform in the institutional and financial components of the project (demonstrated by input indicators) for effect to be in place.

- Service provision is the most public facing of municipal functions. While there are differences between the metros in their ability and willingness to capture and address concerns and complaints, all would benefit from **improved communication strategies** about their service. A program wide grievance mechanism to be adopted by all metros for the purposes of the services being considered could be considered.

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Key Findings and Recommendations

- All trading services must develop and implement an **Environmental and Social Management System** (ESMS), following IFC guidelines and a recognized international standard such as ISO 14001.

- External audit teams are to include **environmental and social specialists** who are competent to judge whether the applicable data supporting KPIs is credible, and that performance benchmarks have been met.

- Key performance indicators must be clearly defined and measurable, and wherever possible, avoid overlap with other KPIs. In cases where recognized scientific methodologies are required to provide accurate, credible, results these should be specified to provide consistency across metros. Where South African norms and standards are applicable, these are to be preferred. It is recommended that the sector documentation for each metro's services includes supporting definitions for the KPIs in addition to any interim benchmarks that are determined to allow for phased improvements in compliance.

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ANNEXURE 5: SCP National Treasury Meeting Minutes

Date: 20 January 2025

Atendees:

Sheenagh Bruce	World Bank
Sibongile Mazibuko	National Treasury
Anthea Stephens	National Treasury
Sydney Maesela	National Treasury
Juanita Whitfield	World Bank
Aimonchok Tashieva	World Bank
Collen Masango	World Bank
Mark Wood	Consultant World Bank
Greg Huggins	Consultant World Bank
Neil McCloud	National Treasury
Diego Juan Rodriguez	World Bank

Meeting notes:

- **Meeting Introduction:** Collen facilitated the meeting, introducing the bank team and consulting team members, including Juanita Whitfield, Diego Juan, Sheenagh, and others.
- **Purpose of the Session:** Johanna Martina explained the purpose of the session, which was to provide an overview of the key findings of the environmental and social systems assessment prepared by consultants Mark Wood and Greg Huggins.
    - **Session Purpose:** Juanita explained that the session aimed to provide an overview of the key findings from the environmental and social systems assessment (ESSA) prepared by consultants Mark Wood and Greg Huggins. The goal was to gather input on the findings before presenting them to the metros.
    - **Consultants' Role:** Juanita highlighted that the consultants, Mark Wood and Greg Huggins, prepared the ESSA and would present the draft findings. The team sought feedback on the findings to refine the presentation for the metros.
- **Presentation Overview:** Mark Wood and Greg Huggins presented the environmental and social systems assessment, discussing the context, risks, and recommendations for the P4R project.
    - **ESSA Context:** Mark Wood provided an introduction to the ESSA, explaining its purpose within the P4R financing framework. He emphasized that the ESSA is not an environmental impact assessment but focuses on the acceptability of the proposed program.
    - **Risk Categories:** Mark discussed the risk categories used in the ESSA, highlighting the distinction between high, substantial, moderate, and low risks. He explained that high-

risk programs are not eligible for P4R financing, while moderate and low-risk programs are.

- **Exclusions:** Mark outlined activities typically excluded from P4R programs, such as those impacting critical natural habitats or involving large-scale water infrastructure. He provided examples to illustrate these exclusions.
- **ESSA Principles:** Mark explained the six principles used in the ESSA to assess the program, including environmental and social sustainability, natural habitats, public and worker safety, and social conflict. He detailed how the program aligns with these principles.

- **Environmental and Social Risks:** Mark Wood highlighted the importance of financial and institutional reform for the success of the program and discussed the environmental risks associated with the program, including the management of civil and electrical rehabilitation works.
  - **Financial Reform:** Mark emphasized that financial and institutional reform is crucial for the program's success. He noted that without these reforms, the expected benefits, including environmental and social improvements, are unlikely to materialize.
  - **Environmental Risks:** Mark discussed the environmental risks associated with the program, focusing on the management of civil and electrical rehabilitation works. He noted that these risks are expected to be relatively minor and manageable through good engineering practices.
  - **Performance Indicators:** Mark highlighted the importance of performance indicators in determining the program's success. He mentioned ongoing discussions with the design team to ensure the indicators are meaningful, measurable, and avoid duplication.
- **Social Risks and Benefits:** Greg Huggins discussed the social risks and benefits of the program, including potential displacement, the integration of waste pickers, and the need for consistent measures of indigency across municipalities.
  - **Potential Displacement:** Greg Huggins addressed the potential for minor displacement or loss of livelihood due to infrastructure development, particularly in informal settlements. He emphasized that proper management can mitigate these risks.
  - **Waste Pickers:** Greg discussed the integration of waste pickers into the formal waste management system. He noted that different municipalities have varying capacities to implement guidelines, and a common approach is needed to protect and benefit vulnerable groups.
  - **Indigency Measures:** Greg highlighted the need for consistent measures of indigency across municipalities. He pointed out that different definitions and applications of subsidies for water, sanitation, and electricity can lead to inequities and sustainability issues.

- **Recommendations:** Mark Wood and Greg Huggins provided recommendations, including the need for clear performance indicators, a common approach to waste picker integration, and the development of environmental and social management systems.
    - **Performance Indicators:** Mark and Greg recommended that performance indicators be clearly defined and measurable, avoiding overlap with other KPIs. They emphasized the importance of consistency across metros and the use of recognized scientific methodologies.
    - **Waste Picker Integration:** They recommended developing a common approach to waste picker integration, involving active participation from all metros. This approach should align with existing guidelines to ensure protection and benefit for vulnerable groups.
    - **Management Systems:** They suggested that trading services develop simple environmental and social management systems to manage activities under the program. Existing systems can be adapted to include the program's requirements.
    - **Staged Compliance:** Mark and Greg recommended a staged approach to environmental and social compliance to avoid disincentivizing metros. They noted that improvements would depend on the program's financial and institutional reforms.
- **Discussion and Questions:** Anthea and Neil raised questions about the implications of the findings and recommendations for the P4R process, and the timing of the process given the undefined nature of the projects.
    - **Anthea's Question:** Anthea asked about the implications of the findings and recommendations for the P4R process, specifically whether they would be requirements or recommendations. The bank team clarified that the recommendations are not embedded as requirements in legal agreements but are part of the ESSA document.
    - **Neil's Question:** Neil inquired about the timing of the process, given that the projects are not yet defined. The bank team explained that the ESSA assesses the capacity and systems to handle the program's risks and that high-risk projects are not expected to be financed downstream.
- **Next Steps:** The team agreed to share the draft presentation and make any necessary changes before the session with the metros, and to continue discussions on the concerns raised by Neil and Mark.

Follow-up tasks:

- **Presentation Sharing:** Share the draft presentation with CSP team for comments and changes before the meeting with metros. (Juanita)
- **ESSA Recommendations:** Discuss and finalize the approach to reflect thresholds and boundaries in the ESSA document with the broader team. (Mark, Greg Huggins)

- **ESSA Presentation:** Modify the introduction of the ESSA presentation to ensure clarity on the inclusion of large projects. (Mark)
- **ESSA Document:** Develop the final table in the ESSA document to include measures, responsible parties, deadlines, and completion indicators. (Mark)
- **ESSA Discussion:** Take the discussion on the receptiveness of counterparts to various requirements offline with the team. (Aimona)

ANNEXURE 6: Minutes of Meeting with the Eight Metropolitan Stakeholders Date: 21 January 2025

To be included once recording is available from National Treasury

ANNEXURE 7: Relevant legal framework on Environmental and Social Aspects of the MTSP

Policy/Legislation/ Procedure/Plan/Guideline	Provisions	Relevance
National Policies, Legislation and Regulations		
The Constitution of the Republic of South Africa (Act 108 of 1996)	Chapter 2 Section 24 – enshrines environmental rights. Section 24 sets out the protection of the right of every person to a healthy environment. This includes environmental protection from pollution and degradation, and other aspects related to the environment that may cause harm to the health and wellbeing of citizens. The Constitution requires all organs of state to take legislative and other measures to give effect to environmental rights. It further contains objectives related to local government in terms of ensuring the provision of services to communities in a sustainable manner and to promote a safe and healthy environment. It clearly allocates the duty for air pollution, noise pollution, refuse removal, refuse dumps and solid waste and cleansing to local governments (municipalities). Section 25 of the Constitution addresses issues of property rights and lays the ground for just expropriation of property in terms of the law. It states that, expropriation shall be subject to compensation, the amount of which and the time and manner of payment of which have either been agreed to by those affected or decided or approved by a court. The amount of the compensation and the time and manner of payment must be just and equitable, reflecting an equitable balance between the public interest and the interests of those affected, having regard to all relevant circumstances.	The Constitution is relevant as it enshrines environmental rights and requires all organs of state to ensure legislation and other measures are put in place to ensure environmental protection.
National Environmental Management Act (Act 107 of 1998) amended	The NEMA is the overarching act for environmental matters in South Africa. It provides for co-operative environmental governance based on the principles set out in the Constitution that everyone has the right to an environment that is not harmful to his or her health and wellbeing, it further enables the administration and enforcement of other environmental management laws. Chapter 1 of NEMA contains environmental management principles for environmental management in South Africa and applies to organs of the state that may significantly impact on the environment. It sets out the application of the mitigation hierarchy of avoid, minimize, mitigate and offset and the need for municipalities to ensure	The act is relevant. It provides the framework for environmental management in all spheres of the government. It sets out the preparation of management plans to delineate and align responsibilities and oversight. It further requires environmental risks to be identified and mitigated through the relevant instruments

	that their Integrated Development Plans comply with the principles set out in Chapter 1 of NEMA. Chapter 3 requires the preparation of environmental implementation and management plans at National and provincial level. The purpose of the environmental implementation plans is to coordinate and harmonize environmental policy, plans, programs and decisions to minimise duplications. It describes the policies, plans and programs that may significantly affect the environment and how the various entities will ensure compliance with norms and standards. NEMA further sets out requirements for enforcement of compliance through the Environmental Management Inspectorates appointed in all spheres of the government and or through the establishment of environmental by-laws for municipalities setting out measures to audit, monitor and ensure compliance, reporting and furnishing of information to provincial and national governments.	required as per the EIA regulations.
EIA Regulations of 2014 (as amended) and associated listed activities	The purpose of the EIA Regulations is to regulate the procedure and criteria related to the preparation, evaluation, submission, processing and consideration of, and decision on, applications for environmental authorisations for the commencement of activities, which requires the preparation of an environmental impact assessment, in order to avoid or mitigate detrimental impacts on the environment, and to optimise positive environmental impacts. The regulations contain a list of activities, which are preserved to have a potential to cause an adverse impact on the environment, for which an environmental impact assessment need to be prepared and submitted to the relevant environmental authority.	Activities will be undertaken within urban perimeters, and within existing footprint of infrastructure, therefore it is unlikely that the activities will trigger a listed activity which requires the preparation of an environmental impact assessment. However, the act is still regarded relevant, and activities will need to be screened against the listed notices. Most activities within urban areas, specifically associated with municipal services are exempted from EIA processes except for waste water treatment plants which requires a basic assessment for 2,000 to 15,000 cubic meters through put and a full EIA for 15,000 cubic meter through put
National Water Act (Act 36 of 1998)	Provides for the protection, use, development, conservation, management, and control of water resources in a sustainable and equitable manner. It stipulates that the National government is the custodian of water resources in South Africa, while	The act is relevant as it provides for the provision of conservation and protection of water

	responsibilities for water services are delegated to municipalities under the Water Services Act (Act 108 of 1997).	resources at a national level.
Water Services Act (Act 108 of 1997)	To provide a regulatory framework for local authorities to supply water and sanitation services in their respective areas. The responsibility for water services is delegated to district and metropolitan municipalities (Water Service Authorities). Among others, the responsibility of water service authorities is to prepare water services development plans to progressively ensure efficient, affordable, economical and sustainable access to water, develop by-laws and standards (quality limits, monitoring and reporting) and manage performance, and promote consumer education and communication on aspects of health and hygiene, water conservation and demand management etc.	The act is relevant as it mandates metros to protect and conserve water resources as part of their duty as water service authorities.
National Environmental Management: Waste Act (Act 59 of 2008)	A municipality must exercise its executive authority to deliver waste management services, including waste removal, waste storage and waste disposal services, in a manner that does not conflict with section 7 or 8 of the Act. Each municipality must exercise its executive authority and perform its duty in relation to waste services, including waste collection, waste storage and waste disposal services, by— ▪ adhering to all national and provincial norms and standards; ▪ integrating its waste management plans with its integrated development plans; ▪ ensuring access for all to such services; ▪ providing such services at an affordable price, in line with its tariff policy referred to in Chapter 8 of the Municipal Systems Act; ▪ ensuring sustainable services through effective and efficient management; ▪ keeping separate financial statements, including a balance sheet of the services provided. In exercising its executive authority a municipality may furthermore, amongst other things, set— ▪ local standards for the separation, compacting and storage of solid waste that is collected as part of the municipal service or that is disposed of at a municipal waste disposal facility; ▪ local standards for the management of solid waste that is disposed of by the municipality or at a waste disposal facility owned by the municipality, including requirements in respect of the avoidance and minimisation of the generation of waste and the re-use. recycling and recovery of solid waste;	The Act is relevant as the Program will support the improvement of waste service delivery in the metros.

	▪ local standards in respect of the directing of solid waste that is collected as part of the municipal service or that is disposed of by the municipality or at a municipal waste disposal facility to specific waste treatment and disposal facilities; and local standards in respect of the control of litter. **Designation of waste management officers -** Each municipality authorised to carry out waste management services by the Municipal Structures Act, 1998 (Act No. 117 of 1998), must designate in writing a waste management officer from its administration to be responsible for co-ordinating matters pertaining to waste management in that municipality. **Integrated Waste Management plans** - Municipalities are required to prepare and submit and integrated waste management plan to the MEC for approval. The approved integrated waste management plan must be included in the municipal Integrated Development Plan. The Waste act sets out specific activities in Category A and B for which an environmental impact assessment need to be undertaken and a waste licence obtained prior to undertaking of the activity.	
National Environmental Management: Air Quality Act (Act 39 of 2004)	The act requires that municipalities prepare an air quality management plan as part of their IDP. Metropolitan and district municipalities are responsible for the administration of atmospheric emissions licensing systems. Municipalities are required to comply with national standards in monitoring atmospheric emissions, while their performance in implementation will be monitored by the provinces. They may draft bylaws, identify substances or mixtures in the ambient air that may present a threat to health or the environment and set local emission standards for these (which may not be lower than national or provincial standards). **Designated air quality officer:** Each municipality must designate an air quality officer who must coordinate air quality management matters within the national framework. Where municipalities do not have the capacity to administer atmospheric emission licensing systems, the function will be implemented at Provincial level.	The act is relevant as it allocates the responsibilities of air quality monitoring to the municipalities. This will be applicable to activities such as air quality monitoring at landfill sites.
National Environmental Management: Biodiversity Act (Act	The Act provides for the management and conservation of South Africa's biodiversity within the framework of the National Environmental Management Act, 1998; the protection of species and ecosystems that warrant national protection; the sustainable use of indigenous biological resources; the fair and equitable sharing of benefits	Activities will be undertaken within urban perimeters, and within existing footprint of infrastructure, therefore it is unlikely that the activities will impact on any biodiversity sensitive areas.

	arising from bioprospecting involving indigenous biological resources. It requires the preparation of an environmental implementation or environmental management plan at provincial and local government levels and for municipalities to incorporate biodiversity planning and protection of listed ecosystems in its Spatial Development Framework and IDP.	
National Heritage Resources Act (Act 25 of 1999)	The Act provides several tools for the management of heritage resources, including grading, surveys, heritage registers, and the designation of heritage areas. It sets out the responsibility for cultural heritage management and protection at all three spheres of the government. Municipalities are entrusted with the protection of Grade III cultural heritage – heritage resources that have not been graded or which are of local significance and value. They are required to undertake heritage surveys and to identify and map heritage resources of potential significance. They are required to submit an inventory of heritage resources, which revising planning or zoning schemes or their spatial development frameworks. Protection of cultural heritage need to be incorporated in by-laws and municipal planning (IDP).	Activities will be undertaken within urban perimeters, and within existing footprint of infrastructure, therefore it is unlikely that the activities will impact on any structures of cultural heritage. However, the act is still regarded as relevant and where needed a notice of intent will need to be submitted to the Heritage authority.
Hazardous Substances Act (Act 15 of 1973) and its Regulations	Provides for the control of substances which may cause injury or ill-health to or death of human beings by reason of their toxic, corrosive, irritant, strongly sensitising or flammable nature or the generation of pressure thereby in certain circumstances, and for the control of certain electronic products. Provides for the division of such substances or products into groups in relation to the degree of danger. Provides for the prohibition and control of the importation, manufacture, sale, use, operation, application, modification, disposal or dumping of such substances and products.	The Act is relevant as municipal workers and contractors may be exposed to potentially harmful substances during as part of the operations, refurbishment, and installation of the infrastructure.
Occupational Health and Safety Act (Act 85 of 1993) and its regulations.	Requires employers to i) identify potential safety and health hazards and risks in the workplace; ii) ensure the workplace is free of hazardous substances that may cause injury, damage, or disease, iii) inform workers of potential hazards, iv) put measures in place to avoid, substitute or mitigate health and safety hazards and risk and provide necessary personnel protective equipment as relevant.	This act is relevant as municipal workers may be exposed to health and safety hazards and risks. The refurbishment and installation of supporting infrastructure may pose a health and safety hazard and risk to contractors that need to be mitigated as set out in this act and its associated regulations.
Compensation for Occupational Injuries and	The COID Act makes provision for compensation for disablement caused by occupational injuries or	This Act is relevant as municipal workers may be

Diseases Act (Act 130 of 1993)	diseases sustained or contracted by employees in the course of their employment, or for death resulting from such injuries or diseases.	exposed to health and safety hazards and risks that may cause injuries, diseases and/or death. The refurbishment and installation of supporting infrastructure may pose a health and safety hazard that may cause injuries, diseases and/or death to contractors for which compensation under the act can be claimed.
Municipal Systems Act (Act 32 of 2000)	The Act sets out the rights and duties of municipal councils in terms of ensuring community environmental rights are upheld. It sets out the duty of the municipalities to provide municipal services in an environmentally sustainable manner while promoting a safe and healthy environment and maximizing environmental benefits. The Act further requires the municipality to assess expected effect of municipal services on the environment and on human health and wellbeing and safety, and allocate sufficient human, financial and other resources necessary for provision of municipal services in an environmentally sustainable measure. It allows for the alignment of municipal Integrated Development Plans with national and provincial plans and strategies.	The Act is relevant as it requires municipalities to assess environmental impacts and to consider environmentally sustainable aspects in its planning and provision of municipal services.
Municipal Structures Act (Act 117 of 1998) amended	Allocates duties and responsibilities between the different tiers of local government: **Metropolitan municipalities (Category A)** are assigned all environmental functions. **Local municipalities (Category B)** are responsible for all environmental functions not assigned to districts. **District municipalities (Category C)** are responsible for solid waste disposal sites, in so far as it relates to- ▪ The determination of a waste disposal strategy; ▪ the regulation of waste disposal; ▪ The establishment, operation and control of waste disposal sites, bulk waste transfer facilities and waste disposal facilities for more than one local municipality. ▪ Responsible for water services as defined in the Water services act.	The Act is relevant as it re-enforces the responsibilities for environmental protection and provide clarity about the specific responsibilities of each category of municipality.
Spatial Planning and Land Use Management Act (Act 16 of 2013)	The act requires municipalities to prepare a Spatial Development Framework. The Spatial Development Framework must include a strategic assessment of the environmental effects and opportunities within the municipal area, including	This Act is relevant as it requires municipalities to incorporate aspects of environmental protection into its overall planning

	the identification of environmental sensitivities, high potential agricultural land and coastal areas as relevant.	
National Frameworks and Strategies	Various frameworks and strategies have been prepared at national level with the aim to ensure coordination and harmonization of environmental matters in government spheres to ensure the protection of environment. ▪ National Framework on Sustainable Development (2008) ▪ National Waste Management Strategy (2011) ▪ The Environmental Impact Assessment and Management Strategy for South Africa (2014) ▪ National Water Resource Strategy (2004) ▪ Climate Change Response Strategy (2004) ▪ National Framework for Sustainable Development (2006) ▪ National Strategy for Sustainable Development (2010) ▪ National Framework for Air Quality Management (2007)	The strategies and frameworks are relevant as it sets out the responsibility of the municipalities to integrated aspects of environmental protection in their SDF and IDF.
The Promotion of Administrative Justice Act (Act No. 3 of 2000) (PAJA)	The Promotion of Administrative Justice Act (PAJA) requires that organs of state follow fair administrative procedures in their dealings with the public. These procedures focus on the right to make representation as opposed to the right to be consulted. The Act is applicable generally and creates a default position where a specific law does not have any such provisions	The Act is relevant and a crucial piece of legislation that ensures that administrative actions are conducted fairly and justly, protecting the rights of individuals and promoting good governance. PAJA is applicable to municipal actions as municipalities are considered "organs of state" under PAJA, and their actions are subject to the principles of lawful, reasonable, and procedurally fair administrative action. When municipalities make decisions or take actions that affect individuals' rights, they must comply with the requirements set out in PAJA
Prevention of Illegal Eviction from and Unlawful Occupation of Land (Act 19 of 1998) (PIE)	PIE provides for the prohibition of unlawful eviction, gives procedures for the eviction of unlawful occupiers and repeals the prevention of Illegal Squatting Act, 1951. The act generally prevents anyone being evicted from their home, or have their home demolished without an order of court made after considering all the relevant circumstances. In this case, the law should regulate	This Act is relevant should municipalities be required to alienate land for the purposes of infrastructure development and the land is occupied illegally.

	the eviction of unlawful occupiers from land in a fair manner, while recognising the right of landowners to apply to a court for an eviction order in appropriate circumstances. Special consideration should be given to the rights of the elderly, children, disabled persons and particularly households headed by women. If an unlawful occupier has occupied the land in question for more than six months, an order for eviction can be granted when it is just and equitable to do so and when alternative accommodation is provided.	
The South African Housing Code of 2009	The Code outlines specific requirements for municipalities regarding the provision of temporary emergency accommodation. Key aspects relevant to this include: Municipalities must follow the guidelines and policies set out in the Housing Code to provide temporary emergency housing. Municipalities are responsible for applying for emergency housing grants and managing the funds allocated for temporary emergency accommodation. Municipalities, along with provincial and national departments, have defined roles in the implementation of emergency housing projects. There are specific criteria to determine who qualifies for temporary emergency accommodation, including individuals and families displaced by disasters or evictions. The Housing Code provides detailed guidelines for the implementation of emergency housing projects, including planning requirements and general guiding principles. The requirements ensure that municipalities can effectively provide safe and adequate temporary emergency accommodation to those in need.	This Policy is relevant should municipalities be required to alienate land for the purposes of infrastructure development and the land is occupied illegally.

Annexure 8: Summary of Green Drop Report Scores for 2023 (DWS, 2023)

For the purposes of the present analysis of the DWS Green Drop results, the Cumulative Risk Rating (CRR) is presented, which is the cumulative risk, based on four indicators, associated with individual WWTWs in the metros. These indicators are (i) design capacity of the WWTW (the larger the works, the greater the risk) (ii) operational flow as a % of capacity (iii) number of non-compliant effluent quality parameters at point of discharge into the environment (parameters include pH, EC, SS, COD, NH3-N, NO3-N, O-PO4, E.coli/Faecal coliforms) (iv) number of technical skills gaps (supervision, operation, maintenance). The CRR scoring legend is as follows:

%CRR/CRR$_{max}$ Deviation	90 – 100% Critical Risk WWTW's	
	70 - 90% High Risk WWTW's	
	50-70% Medium Risk WWTW's	
	Less 50% Low Risk WWTW's	

The table presents the interim 2023 results for the MTSP metros.

Metro	Waste water treatment plant (WWTP)	CRR	Design capacity	Operational capacity	Effluent quality non-compliance			Technical Skills Compliance		
					Micro-biological	Physical	Chemical	Process controller	Supervisor	Maintenance team
Unit of measurement		%	Kl/d	(% inflow/ design)	%	%	%	%	%	%
Buffalo City	Berlin	68,8	2 000	46,5	19,2	57,9	58,8	50,0	100,0	100,0
	Bhisho	61,5	800	0,0	24,2	100,0	100,0	0,0	100,0	100,0
	Breidback	80,0	212	0,0	4,0	NMR	NMR	0,0	100,0	100,0
	Central	73,3	5 000	0,0	40,0	88,9	7,9	100,0	0,0	100,0
	Dimbaza	57,1	7 000	79,9	0,0	93,0	85,1	0,0	100,0	100,0
	East Bank	42,3	40 000	48,3	0,0	100,0	100,0	33,0	0,0	100,0
	Gonubie	50,0	18 000	17,3	0,0	100,0	86,8	67,0	0,0	100,0
	Kayser's Beach	82,4	115	0,0	0,0	41,7	25,0	50,0	100,0	100,0
	Kidds Beach	58,8	375	80,0	50,0	76,5	56,3	0,0	100,0	100,0
	Mdantsane	84,6	24 000	0,0	0,0	78,4	55,5	25,0	100,0	100,0
	Potsdam	95,5	9 240	0,0	0,0	0,0	0,0	33,0	100,0	100,0
	Reeston	31,8	10 000	6,7	12,5	84,8	94,3	100,0	100,0	100,0
	Schornville	75,0	4 800	0,0	3,0	87,1	54,3	0,0	100,0	100,0
	West Bank	96,3	40 000	0,0	0,0	0,0	0,0	33,0	0,0	100,0
	Zwelitsha	71,4	9 300	71,5	5,0	82,4	38,6	33,0	100,0	100,0
City of Cape Town	Athlone	69,4	105 000	81,2	0,0	48,1	16,7	60,0	100,0	66,7
	Bellville	68,8	75 000	57,2	59,3	61,5	32,1	100,0	100,0	66,7
	Borcherd's Quarry	81,5	38 000	103,2	86,5	44,8	19,3	100,	100,0	66,7
	Camps Bay Outfall	52,9	5 000	36,8	0,0	96,1	91,0	0,0	100,0	66,7
	Cape Flats	62,2	20 000	53,5	0,0	67,5	34,3	100,0	100,0	66,7

	Fisantekraal	57,7	24 000	54,2	3,8	71,1	89,4	67,0	100,0	66,7
	Gordon's Bay	50,0	17 280	19,5	88,7	83,7	74,7	20,0	100,0	66,7
	Green Point Outfall	48,1	40 000	49,1	0,0	92,3	99,5	50,0	100,0	66,7
	Groot Springfontein	70,6	10	0,0	0,0	100,0	100,0	0,0	0,0	66,7
	Hout Bay	40,0	10 780	49,3	0,0	97,1	96,3	0,0	100,0	0,0
	Klipheuwel	69,2	90	277,8	98,2	100,0	100,0	0,0	0,0	66,7
	Kraaifontein	47,6	12 500	42,4	89,3	100,0	59,6	67,0	100,0	66,7
	Llandudno	42,9	640	24,8	93,6	40,4	80,2	0,0	100,0	0,0
	Macassar (Strand)	66,7	35 000	86,9	97,9	55,8	32,5	50,0	100,0	66,7
	Melbosstrand	59,1	5 400	50,6	80,2	61,7	55,6	50,0	100,0	66,7
	Miller's Point	38,5	60	6,7	33,3	94,9	100,0	50,0	100,0	0,0
	Mitchell's Plain	63,0	35 000	70,0	77,4	86,3	34,0	67,0	100,0	66,7
	Oudekraal	64,7	30	76,7	100,0	81,9	60,4	0,0	100,0	66,7
	Philadelphia	64,7	86	73,3	93,9	30,9	64,4	0,0	100,0	66,7
	Potsdam (Milnerton)	74,1	47 000	94,0	0,8	35,5	29,9	100,0	100,0	66,7
	Scottsdene	72,7	12 500	55,2	58,6	80,8	45,3	100,0	100,0	66,7
	Simon's Town	52,9	4 700	35,1	100,0	75,0	41,0	50,0	100,0	66,7
	Wesfleur Atlantis	63,6	8 000	0,0	71,4	100,0	73,8	100,0	100,0	0,0
	Wesfleur Industrial	86,4	6 000	0,0	73,0	62,2	73,3	0,0	100,0	0,0
	Wildevoelvlei	72,7	14 000	58,8	19,6	5,8	38,1	100,0	0,0	66,7
	Zandvliet	71,0	72 000	113,2	90,7	74,5	36,7	100,0	100,0	0,0
City of Ekurhuleni	Ancor	72,7	15 000	230	51,2%	80,2	60,8	100,0	100,0	100,0
	Benoni	31,8	7 500	65,3	92,7	98,4	95,1	100,0	100,0	100,0
	Carl Grundlingh	36,4	5 250	83,4	94,0	99,2	93,6	100,0	100,0	100,0
	Daveyton	43,5	19 000	55,4	95,1	99,6	94,9	100,0	100,0	100,0

	Dekema	55,6	31 000	67,4	81,9	83,5	64,5	100,0	100,0	100,0
	Esther Park	35,3	1 400	58,6	79,2	96,7	93,2	100,0	100,0	100,0
	Hartebeestfontein	46,9	63 000	86,6	79,7	99,5	84,1	100,0	100,0	100,0
	Herbert Bickley	50,0	15 100	135,2	85,3	96,7	92,6	100,0	100,0	100,0
	JP Marais	31,8	15 000	73,7	91,2	99,9	98,4	100,0	100,0	100,0
	Jan Smuts	81,8	6 100	151,6	91,5	91,9	75,7	33,0	100,0	100,0
	Olifantsfontein	84,4	65 000	153,1	51,0	59,7	48,7	100,0	100,0	100,0
	Rondebult	27,3	20 000	50,7	88,1	97,2	94,2	100,0	100,0	100,0
	Rynfield	54,5	10 000	114,6	79,2	99,0	82,5	100,0	100,0	100,0
	Tsakane	50,0	20 000	79,4	84,7	94,7	90,4	100,0	100,0	100,0
	Vlakplaats	81,3	55 000	219,4	35,3	81,0	40,5	100,0	100,0	100,0
	Waterval	83,3	170 000	228,5	87,1	95,6	76,1	100,0	100,0	100,0
	Welgedacht	46,9	95 000	85,9	72,4	99,4	94,3	100,0	100,0	100,0
City of Johannesburg	Bushkoppie	75,0	200 000	117,8	59,8	97,8	67,8	50,0	100,0	100,0
	Driefontein	43,8	55 000	76,4	95,9	99,9	94,6	100,0	100,0	100,0
	Ennerdale	66,7	8 000	191,8	98,6	96,2	96,2	50,0	100,0	100,0
	Goudkoppies	58,3	150 000	90	0,0	70,1	7,4	100,0	100,0	100,0
	Northern Works	59,6	405 000	79	76,1	92,3	66,6	100,0	100,0	100,0
	Olifantsvlei	48,8	250 000	62	3,6	99,1	94,7	100,0	100,0	100,0
City of Tshwane	Babelegi Ind. Area	76,5	2 300	100,0	0,0	65,4	68,2	50,0	100,0	66,7
	Baviaanspoort	75,0	60 000	103,3	1,4	65,9	36,6	100,0	100,0	66,7
	Bronkhorstspruit	64,7	5 000	100,0	0,0	78,0	50,4	50,0	100,0	66,7
	Daspoort	65,6	55 000	68,0	31,4	82,7	51,3	100,0	100,0	66,7
	Ekangala	63,6	10 000	100,0	20,0	72,2	27,8	50,0	100,0	66,7
	Klipgat	62,5	55 000	58,2	0,0	82,5	41,1	50,0	100,0	66,7

	Northern Works	78,4	150 000	107,2	0,0	51,0	25,0	50,0	100,0	66,7
	Rayton	70,6	1 200	100,0	0,0	71,2	30,7	0,0	100,0	66,7
	Refilwe	70,6	2 200	100,0	0,0	72,7	48,8	0,0	100,0	66,7
	Rietgat	63,0	27 000	62,4	7,4	67,9	30,5	0,0	100,0	66,7
	Rooiwal	68,8	54 500	100,0	7,1	69,4	17,7	50,0	100,0	66,7
	Sandspruit	68,2	20 000	100,0	0,0	42,2	28,6	50,0	100,0	66,7
	Summerplace	60,0	300	100,0	14,0	96,5	84,6	50,0	100,0	66,7
	Sunderland Ridge	65,6	95 000	76,8	0,0	47,3	30,7	100,0	100,0	66,7
	Temba	59,1	12 500	100,0	7,0	98,2	61,1	50,0	100,0	66,7
	Zeekoegat	65,6	85 000	82,4	0,0	68,9	39,3	100,0	100,0	66,7
City of eThekwini	Amanzimtoti	66,7	27 000	73,3	74,5	76,5	66,5	100,0	100,0	66,7
	Cato Ridge	60,0	950	9,4	69,8	66,7	65,6	0,0	0,0	66,7
	Central	54,1	135 000	39,7	0,0	55,8	4,7	20,0	100,0	66,7
	Craigieburn	80,0	1 000	132,0	51,8	93,3	82,0	0,0	0,0	66,7
	Dassenhoek	35,3	5 000	18,2	80,0	93,3	99,3	100,0	0,0	66,7
	Dbn Water RP	100,0	47 500	0,0	0,0	0,0	0,0	0,0	0,0	0,0
	Fredville	41,2	2 000	24,4	36,7	99,3	95,2	100,0	0,0	66,7
	Genazzano	58,8	1 800	39,8	85,3	93,2	78,6	50,0	100,0	66,7
	Glenwood Road	83,3	40	0,0	75,0	97,8	NMR	0,0	0,0	66,7
	Hammarsdale	55,6	27 500	19,0	9,4	35,7	42,9	100,0	0,0	66,7
	Hillcrest	58,8	1 200	65,7	44,0	77,3	55,7	50,0	0,0	66,7
	Isipingo	54,5	18 800	58,2	22,6	100,0	88,3	100,0	100,0	66,7
	Kingsburgh	50,0	7 800	73,1	31,7	97,3	87,0	50,0	0,0	66,7
	KwaMashu	59,4	65 000	97,5	8,6	69,6	55,0	50,0	100,0	66,7
	KwaNdengezi	64,7	2 400	70,8	43,2	90,7	60,4	50,0	0,0	66,7

	Magabeni	73,3	800	52,5	82,1	72,0	62,0	50,0	0,0	66,7
	Mpumalanga	40,9	6 400	35,3	90,4	99,1	79,6	100,0	100,0	66,7
	New Germany	54,5	7 000	17,8	19,6	76,2	62,5	0,0	0,0	66,7
	Northern	46,9	70 000	43,0	22,4	69,0	51,8	60,0	0,0	66,7
	Phoenix	59,3	40 000	76,4	0,0	75,9	56,9	100,0	100,0	66,7
	Southern	66,7	23 000	82,6	0,0	30,3	36,4	100,0	100,0	66,7
	Tongaat Central	81,8	12 500	150,0	87,7	85,8	73,8	67,0	100,0	66,7
	Umbilo	48,1	23 200	45,7	27,9	78,6	63,8	100,0	0,0	66,7
	Umdloti	52,9	3 000	18,2	65,9	98,3	78,1	100,0	100,0	66,7
	Umhlanga	72,7	6 800	150,0	36,7	84,6	56,7	0,0	0,0	66,7
	Umhlatuzana	59,1	14 800	52,0	23,9	87,2	57,3	25,0	100,0	100,0
	Umkomaas	73,3	1 000	51,9	47,4	94,7	85,0	0,0	0,0	66,7
	Verulam	45,5	12 500	4,6	64,3	83,6	82,8	100,0	100,0	66,7
Mangaung	Bainsvlei	82,4	5 000	72,0	0,0	52,4	22,2	14,0	0,0	0,0
	Bloemdustria	100,0	2 000	0,0	0,0	0,0	0,0	0,0	0,0	0,0
	Bloemspruit	75,0	56 000	64,3	0,0	0,0	0,0	29,0	0,0	0,0
	Botshabelo	63,6	20 000	100,0	0,0	64,5	35,5	100,0	0,0	0,0
	Dewetsdorp	88,2	2 000	100,0	0,0	0,0	0,0	0,0	0,0	0,0
	N-E Works	59,3	45 000	28,9	0,0	65,9	22,0	100,0	0,0	0,0
	Northern Works	63,6	6 000	83,3	0,0	88,3	78,3	0,0	100,0	0,0
	Soutpan WWTWs	100,0	1 000	0,0	0,0	0,0	0,0	0,0	0,0	0,0
	Sterkwater	86,4	20 000	175,0	0,0	75,0	37,5	100,0	0,0	0,0
	Thaba Nchu	68,2	6 000	100,0	0,0	65,9	41,3	0,0	0,0	0,0
	Vanstadensrus	86,7	300	100,0	0,0	0,0	0,0	0,0	0,0	0,0
	Welvaart	72,7	6 000	91,7	0,0	63,0	37,0	0,0	0,0	0,0

	Wepener	64,7	5 000	100,0	0,0	66,7	77,8	50,0	0,0	0,0
Nelson Mandela Bay	Cape Receife	59,1	9 000	80,2	8,3	77,8	59,1	50,0	100,0	100,0
	Despatch	50,0	8 860	33,9	66,7	97,2	47,9	25,0	0,0	100,0
	Driftsands	40,7	22 000	41,1	25,0	97,2	69,3	50,0	0,0	100,0
	Fishwater Flats	56,8	132 000	82,3	29,6	60,7	63,8	100,0	100,0	100,0
	Kelvi Jones	63,0	24 000	56,3	75,0	38,9	58,3	100,0	0,0	66,7
	KwaNobuhle	86,4	9 000	0,0	66,7	83,3	77,1	50,0	100,0	100,0
	Rocklands	73,3	180	0,0	100,0	91,7	66,7	0,0	0,0	100,0

ANNEXURE 9: Effluent quality recorded at the MSTP Wastewater Treatment Plants in 2022-2023 (modified from DWS, 2023)

Metros / No. of WWTWs	No. of WWTPs with average microbiological compliance (%)				No. of WWTPs with average physical compliance (%)				No. of WWTPs with average chemical compliance (%)			
	0%	1–50%	51–99%	100%	0%	1–50%	51–99%	100%	0%	1–50%	51–99%	100%
Buffalo City (15)	7	8	-	-	2	1	8	3	2	3	7	2
City of Cape Town (26)	6	3	15	2	-	6	16	4	-	11	12	3
City of Ekurhuleni (17)	-	1	16	-	-	-	17	-	-	2	15	-
City of Johannesburg (6)	1	1	4	-	-	-	6	-	-	1	5	-
City of Tshwane (16)	9	7	-	-	-	2	14	-	-	11	5	-
eThekwini (28)	4	13	11	-	1	2	24	1	1	3	23	-
Mangaung (13)	13	-	-	-	5	-	8	-	5	6	2	-

Explanation of Scores: *Each WWTW is scored in Green Drop based on its water quality results in relation to its permit conditions. For each WWTW, Green Drop calculates the % score for each water quality parameter for the period in question. For example: Sewage Treatment Works A submits 10 monitoring results per determinant for four parameters, namely COD, NH3-N, NO3-N, O-PO (40 results). Thirty are compliant (within the permit condition/license condition limits), 10 are not. The % score for chemical parameter compliance is therefore 75%. Table shows total number of instances that a score is achieved, combined for all WWTWs in one metro. This provides an overall (average) reflection of performance*

ANNEXURE 10: Summary of recent Metro Waste Audit Findings/Recommendations

Metro	Waste Management Facility / Date of Audit	Audit Score (%)	Key Non-Compliances with Permit / License Conditions and recommended actions (for some metros)
Tshwane	Soshanguve *Jul 22*	71	• Cover waste • Repair broken fences • Apply for new license
	Ga-Rankuwa *Jul 22*		• No records of surface water quality monitoring • poor data records generally • poor management control
	Onderstepoort *Jul 22*	76	• Possible air emission exceedances • No measure of methane gas emitted • No background water quality monitoring • Poor management control • Poor record keeping
	Hatherley *Jul 22*	53	• No measure of methane gas emitted or other air pollutants • No background water quality monitoring • No monthly monitoring • E Coli found in leachate water • Poor management control • Poor record keeping
	Bronkhorstspruit *Jul 22*	48	• No measure of methane gas emitted or other air pollutants • No background water quality monitoring • No monthly monitoring • Poor management control • Poor record keeping
Mangaung	Southern Landfill *Feb 24*	17	• Weigh bridge U/S • Fleet availability poor • Security issues – fences destroyed by vagrants • Offices without water and power since 2016 • No surface or groundwater monitoring
	Northern Landfill *Feb 24*	41	• Waste quantities not measured • Fleet availability poor • No surface or groundwater monitoring

Metro	Waste Management Facility / Date of Audit	Audit Score (%)	Key Non-Compliances with Permit / License Conditions and recommended actions (for some metros)
Johannesburg	Robinson Deep *Sep 24*	66,5	• Large quantities of uncovered and uncompacted waste • Accumulation of waste in stormwater trenches • Poor traffic management at entrance • Semi-functional compactors • Infrastructure (traffic control lights, roads) in poor condition • Concerns about slope stability – non-compliant with design • Poor leachate management and clean water drainage control • Spillage of waste outside of footprint area
	Marie-Louise *Sep 24?*	68,6	• Large quantities of uncovered and uncompacted waste • Accumulation of waste in stormwater trenches • Semi-functional compactors • Poor leachate management and clean water drainage control • Cell liners not constructed in accordance with GN636 National Norms and Standards for Disposal to Landfill • Spillage of waste outside of footprint area • Extensive litter problems • Height increase not based on engineering design and risks landfill stability • Large areas on top of landfill not being covered with intermediate cover, resulting in increased penetration of rainfall and leachate generation • No daily waste disposal cells, resulting in increased haphazard disposal and greater leachate generation • Illegal release of leachate into the environment • Erosion on 'rehabilitated' landfill slopes • Uncontrolled access present in several areas • Only some monitoring boreholes functional on site • No firebreaks around landfill gas infrastructure. Accumulated waste around landfill gas infrastructure is a fire/explosion hazard • Weighbridges not functional • General maintenance of infrastructure is poor • A landfill fire occurred during the audit
	Goudkoppies *Sep 24?*	65,7	• CCTV cameras at the facility were not in functional condition. • Leachate seeps from the waste body, even during the dry season. • Silt and litter mixed with leachate inside and adjacent to uncompleted contaminated run-off trenches.

Metro	Waste Management Facility / Date of Audit	Audit Score (%)	Key Non-Compliances with Permit / License Conditions and recommended actions (for some metros)
			• Vegetation adjacent to the palisade fence around the leachate pond is causing damage to the fence, as well as to concrete-contaminated run-off trenches. • An informal settlement located near the landfill has a large amount of litter scattered around informal sorting areas. This settlement falls within the designated buffer zone of the landfill. • Landfill standpipe damaged and leaking, resulting in damage to roads and potable water wastage. • Water diversion from the landfill in an uncontrolled manner results in erosion, with waste and silt accumulating in run-off collection systems. • Some manhole rings around landfill gas wells are poorly stacked and sloping sideways. • Waste pickers are working in unsafe conditions amongst reversing waste collection vehicles and landfill plant. • No separation and processing of garden waste occurs on the landfill. • Only a few methane gas probes remain on-site. • Recyclable materials are dumped in the vegetated area, increasing the risk of veld fires near, and on the landfill. • Fires may spread to areas where waste is un-compacted and uncovered. • Uncontained leachate overflowing from leachate ponds has the potential to pollute the Kliprivier. • Tyres disposed of at the landfill are a fire hazard
Cape Town	Vissershok South *May 24*	90,3	Observations only • Fence damage in some areas allowing unauthorized access • Landfill gas extraction plant not operational. Contractor appointed • Daily landfill cells not being defined and working face not being optimally compacted as a result • Landfill operations allow ponding which generates excessive leachate • Tyres stockpiled at the facility are a fire hazard without measures such as firebreaks.
	Vissershok North *May 24*	90,7	Observations only • The facility is not operational yet. Due to construction of the new N7 road intersection, security is breached in places with a risk of theft or vandalism of the new Class B liners (site security is in place) • The accumulation of silt in the stone base layer will have to be cleared before the geotextile is laid • New screening vegetation is to be established as soon as the security fences are re-installed • Plastic accumulated on part of the site, with Council approval, to be donated to a non-profit organization to mitigate environmental risks, including escape of micro-plastics into the environment.

Metro	Waste Management Facility / Date of Audit	Audit Score (%)	Key Non-Compliances with Permit / License Conditions and recommended actions (for some metros)
	Swartklip Transfer Station *Oct 23*	94,7	Observations only • Informal settlement encroaching on the facility was noted on the southern border • An Environmental Management Programme was not available during the time of the audit inspection as the EMPr is currently under review • Odour control satisfactory • Security personnel stationed 24/7
	Kraaifontein IWMF G:L:B- *Oct 23*	90,1	• Weatherproof, durable and legible signs were displayed at the facility entrance, however the information may be difficult to read from a vehicle. • Security personnel are stationed at the facility 24/7 with K9 units patrolling the facility during the night. The onsite security personnel are assisted by the CCT law enforcement agency. • One of the incoming weighbridges at the facility was not operational due to upgrades being implemented. • The facility fencing was in the process of being upgraded from concrete palisades to precast concrete fencing. • Hazardous waste at the facility was not managed to a satisfactory degree as leaked oil was noted in the bunded area. • Site staff indicated that what is assumed to be asbestos was noted at the facility and was not in the hazardous waste storage area. • Builders rubble containers at the public drop-off area were overfilled, resulting in spillages. • Containers used for the disposal and transportation of general waste at the public drop-off facility were overfilled. • Recyclable material containers were not placed at the right angles to the drop off facility retaining walls results in waste spillage behind the containers. • Odour control measures in the transfer station were satisfactory in suppressing excess odour pollution.
	Tygerberg IWMF *Feb 24*	87,7	• Weatherproof, durable and legible signs were displayed at the facility entrance; however, the information may be difficult to read from a vehicle. • Security personnel are stationed at the facility 24/7 with K9 units patrolling the facility during the night. • All four of the facility weighbridges leading to the transfer station were in operational condition. • The operation of all the facilities were sufficient and conducted in a neat and orderly manner. • Odour control measures in the transfer station were satisfactory in suppressing excess odour pollution. • Uncovered asbestos was observed at the household hazardous waste facility.

Metro	Waste Management Facility / Date of Audit	Audit Score (%)	Key Non-Compliances with Permit / License Conditions and recommended actions (for some metros)
			• Overfilled skips with plate glass were observed at the public drop off facility. • Stormwater channels were overgrown with vegetation and filled with silt.
	Athlone Refuse Transfer Station *Oct 23*	97,1	• Tyres stored in a manner that can cause a fire hazard- also for the adjacent building. • Tyres exposed to the rain are also likely to provide breading area to mosquitoes. • Waste buildup on apron, which is resulting in (i) access to emergency equipment being obstructed and (ii) steel columns with plinths not being clearly visible. • Section or public road in front entrance damaged (potholes) due to waste truck manoeuvring. • Incoming long-haul trucks required to weigh on the 17-m outgoing weighbridge, which is causing traffic congestion. • Incoming and outgoing boom gates damaged. • Refuelling facility not in compliance with environmental and safety standards. • Front-end-loaders causing damage to WTS apron. • Recyclable material stockpiled randomly, making it difficult to control. • Public drop-off facility for disposable waste unsafe and not user friendly. • Public drop-off facility for C&DW waste unsafe and not user friendly. • Leachate / contaminated runoff generated at the garden waste drop-off / chipping • facility. • Curtains between WTS apron and compaction area is creating an obstruction and a • safety hazard. • Limited space in the WTS operator's compartment. • Areas where there is a risk of waste falling from the conveyors accessible to workers. • Signage on flammable liquid store removed. • No bund walls in areas where lubricants are stored. • Illegible signage and unsafe access to used oil collection container. • Large numbers of fluorescent tubes stockpiled in an unsafe manner.
	Coastal Park WDF *May 24*	87,5	• Weatherproof, durable and legible signs were displayed at the entrance to the site. However, the landfill Classification is not in compliance with the landfill classification system specified in GNR 636. The information may be difficult to read from inside a vehicle. • A gate at the weighbridge is damaged, creating a potential safety risk. • Contaminated runoff is not separated from the leachate (in accordance with the engineering design), resulting in the leachate being significantly more. The fact

Metro	Waste Management Facility / Date of Audit	Audit Score (%)	Key Non-Compliances with Permit / License Conditions and recommended actions (for some metros)
			that there are, despite progress made along the side slopes, still large parts of the landfill that are not rehabilitated results in more water infiltration and the generation of leachate. • The landfill is reportedly exceeding the approved (licenced) height by 7m, with the upper surface not domed to the required 2% gradients. The intention is for the CCT to have that waste excavated and transported at high cost for disposal on the new piggyback lined cell. Considering that the IAPs are not expected to lodge objections on visual grounds due to the increased height, it is recommended that the waste not be excavated from its current position due to the high costs associated with the excavation and transport of the waste and the potential impact of the waste excavation on the surrounding environment (odours, scattered waste and windblown litter). • Waste is not being optimally compacted due to an overload of waste for the single workface (with 1 landfill compactor and 1 bulldozer). A waste disposal rate of 40 000 tons or more justifies the operation of an *independent* 2nd waste disposal face (like the at Vissershok South). • Litter and vegetation obstruct flow in trenches and stormwater channels. Drainage is to be improved. • Silt and sand accumulating in the leachate pond resulted in the need for the pump system to be upgraded. Although silt is still expected to accumulate in the leachate pond, it will, for the remainder of the landfill's operational life, not have an impact on the new leachate outlet level. There is however a concern that the new leachate pump outlet level will prevent the maintenance of the required freeboard in the leachate pond during periods of heavy rain. • Windblown litter was observed on rehabilitated parts of the landfill. • There is informal housing in the buffer zone, with residents residing in the area entering the landfill illegally. • The number of dwellings seem to have gradually increased • Tyres are to be stockpiled in a dedicated area until a formal treatment/disposal system is implemented by DFFE. Such stockpiling should be done in compliance with the Waste Tyre Regulations, 2017. • Security spikes on the top of the concrete wall are flattened, leading to unauthorised entry to the landfill. • It is further to be ensured that concrete wall panels used for security are not of the hollow core type. • Vegetation on the rehabilitated slopes is generally well established although some erosion was observed
eThekwini	Marianhill Landfill Site	90	The site only accepts garden refuse, cover material and builders rubble. • The silt chamber must be de-silted to allow sufficient remaining holding capacity.

Metro	Waste Management Facility / Date of Audit	Audit Score (%)	Key Non-Compliances with Permit / License Conditions and recommended actions (for some metros)
	Feb 24		• The source of leachate escaping from Header Station A must be identified and repaired. • Sources of contamination at the site exit must be identified and rectified. • There is no stability report available – an annual report is recommended • Annual surveys are not conducted to determine the useful life of the landfill- an annual report is recommended • The severely damaged v-drain must be repaired to allow the "clean" water system to operate as designed • All applicable boreholes must be fitted with locking bolts.
	Buffelsdraai Landfill Site *Sep 24*	86	• Contamination from operation of the landfill found in 4 downgradient boreholes • Surface water quality results at 4 monitoring site downstream of the landfill indicate downstream contamination resulting from leaching from the landfill • CH4 and CO2 levels at borehole and building monitoring points were within the standard • All drains are to be maintained in a clean silt-free condition • Engineering advice must be obtained to determine measures that can be implemented to ensure as little as possible contaminated stormwater is generated on-site to reduce the amount of liquid entering the contaminated stormwater pond. • Leachate and contaminated stormwater must be completely separated. Additional cover and capping should be applied onto existing compacted waste and shaped to prevent surface leachate flow thus reducing the amount of liquid entering the leachate containment facility. The bunded wall around the leachate containment facility must also be repaired. • A freeboard of half a metre must be maintained for contaminated stormwater dam to prevent overtopping. • The drainage system must be unblocked to ensure the free flow of stormwater from the waste body minimising the formation of standing pools of water. • The entrance to the waste body should be reshaped to ensure clear separation between "clean" and "dirty" stormwater. • Litter picking must continue to take place in the area around the concrete storage area. A litter fence be installed around the edge of the concrete storage area to capture wind-blown waste • The gas extraction system must be repaired and brought back online.

Metro	Waste Management Facility / Date of Audit	Audit Score (%)	Key Non-Compliances with Permit / License Conditions and recommended actions (for some metros)
			• Daily cover should be applied to waste at the end of each working day as per the minimum requirements for waste disposal by landfill. • All boreholes are fitted with lockable caps.
	Bisasar Road Landfill Site *Jan 23*	76,2	• The "clean" v-drain identified on site must be unblocked to enable full operation of the stormwater network along the access road. • All vegetation growth in the "dirty" v-drains must be removed to prevent any further blockages. • The maximum permitted elevation after rehabilitation is 122masl which is below the current maximum elevation of the landfill. Settlement is critical to ensure compliance. • Replace the stolen sign at the entrance to the site. if necessary, place the sign within the gated area of the site. • Repair the broken portion of the fence. Continue frequent perimeter fence inspections. • Submit an updated operations plan to the Department or provide evidence that such a report was submitted to the Department. • Apply daily cover to fully cover the waste at the end of each working day. • Utilise a movable fence around the site or submit a relaxation request to the Department. • Provide evidence that the investigation on the dispersion of odours and other air quality and nuisance variables report was submitted to the Department. • Apply for the rezoning of the site and initiate discussions with property owners to obtain written agreements • Implement a dust monitoring plan for the site which should include passive dust bucket monitoring. • Cordon off boreholes BH D4 N, BH D4 A, LFG9 and LFG11 for health and safety reasons. • Ensure that all boreholes and sample points are accessible for sampling • Fit all boreholes locking bolts.
Ekurhuleni	Weltevreden Landfill Site *Mar 24?*	No Score	Site temporarily closed. • The electricity cable to the site has been stolen and the windows in the guardhouse have been vandalised. • Signage must be erected on Main Reef Road showing the direction and distance to the landfill. • Site access to be controlled to prevent illegal access and dumping • Stolen site palisade fencing to be replaced with a more effective solution • The leachate dam area is to be secured to prevent unauthorized access • Waste at the working face must be compacted and covered daily • All reclaimers must have PPE and must sort and store bags in a designated area

Metro	Waste Management Facility / Date of Audit	Audit Score (%)	Key Non-Compliances with Permit / License Conditions and recommended actions (for some metros)
			• Spotters at the PDF must ensure that waste is disposed in the correct skips • Garden waste must be chipped and placed on slopes • Drip trays must be used for vehicles in the unbunded areas, which must be regularly maintained • Housekeeping must be undertaken at the workshops • Fire equipment must be serviced • Appoint engineers to design a contaminated water management system, and establish it once the approved by the relevant authorities. • Direct all leachate to the lined leachate dam, while the contaminated stormwater is routed to the contaminated stormwater dam. • Report waste stream details quarterly on the Gauteng Waste Information System • Report all incidents to GDARD and follow up with an CAP • Maintain a complaints and Response register • Undertaken bi-annual water quality monitoring • Maintain an extraction and flaring system in accordance with regulations • Update the landfill committee details and undertake regular meetings.
	Simmer and Jack Landfill Site *Mar 24*	54,3	• Leachate is flowing and pooling in unlined areas. • The site does not have clearly defined stormwater drains directing clean water. • Phase 7 still lacks lined drains, and the stormwater dam, are not built to the specifications of the norms and standards. • Water drains into a clay-lined dam, and leachate is pooling at the toe of Cell 7. • Operational documents have not been updated, and EMPr and license conditions have not been adhered to. • Sections of the fence have been stolen a tthe southwestern boundary. • Uncovered waste was noted at Cells 5, 6 and 7. • Uncovered waste was noted at the boundary fence along Main Reef Road. • There is no evidence of in-house and on-site COE and Sungu Sungu's staff training. • The gas flaring system is not operational. • Groundwater, stormwater and surface water monitoring was not done for the 2022-23 year. • Investigative monitoring required per the GDARD Directive issued on 28 April 2023 has not been done. • There is no existing leachate pumping system. • There is no information on water chemical analyses for 2022-23. • There is no evidence indicating that reporting on GWIS is done.

Metro	Waste Management Facility / Date of Audit	Audit Score (%)	Key Non-Compliances with Permit / License Conditions and recommended actions (for some metros)
			• There is no evidence that CoE has reported failings to comply with operational aspects such as daily compaction, covering waste, and not undertaking gas and water monitoring. • The screening berm installed at Cell 7 is low; hence, wind-blown litter was noted at the slopes. In addition, waste can be seen from the road. • The site notice board does not meet the CoE specifications. • There is traffic congestion, especially at the working face and the road leading to the working face. Some trucks accessing the site do not adhere to the speed limit. • CoE states that it is not financially viable to issue all reclaimers with PPE. Therefore, COE must inform GDARD that they cannot comply with this condition. • Some waste bags were noted near the edge of the working face, resulting in wind-blown litter on the slopes. • The skips at the drop-off zone must be emptied, and the tyres and plant must be removed. • All minor repairs must be done at the workshop, and tyres not in use must be moved offsite. • There is no functional weather station or wheel washbay. • Spills were noted at the workshop, and there was no spill toolkit nor were there drip pans under stationary plant.
	Platkop Landfill Site *Mar 24*	61,6	• There is no evidence of COE engaging with landowners to ensure that further development does not occur within the buffer. • Overgrown vegetation on stone pitching in the drains around Phase 1 reduces the efficiency of the drains • The level issue concerning the drains near the leachate sump cannot be ascertained as the area has overgrown vegetation. • The burnt liner at the leachate dam has not been repaired/ replaced. • Litter was noted near the working face (including drains). • The backlog of waste and litter indicates that operational documents are not adequately implemented. • There is no evidence that the annual submission of the map and records concerning asbestos has been done. • No signs (100m intervals) have been erected on the boundary fence to indicate associated hazards of accessing the landfill where asbestos has been disposed. • The direction and distance sign near the N3 is not visible. • Sections of the paved road have subsided. The gravel road is potholed. • Sections of the fence are broken along R550 and N3.The entrance gate is broken. • There is a backlog of uncovered waste.

Metro	Waste Management Facility / Date of Audit	Audit Score (%)	Key Non-Compliances with Permit / License Conditions and recommended actions (for some metros)
			• No weather station exists. Trucks do not use the wheel washbay to dislodge waste from tyres. • Soil compaction was noted around the workshop yard. • There is no evidence that COE does regular staff training. • Groundwater, stormwater and surface water monitoring was not done for the 2022-23 year. • Borehole data has not been updated • There is no evidence that quarterly reporting is done on GWIS. • A stakeholder list was not provided to the auditors, and no meetings have been held
	Rietfontein Landfill *Mar 24*	No Score	Site temporarily closed. • An Infrastructure Condition Assessment should be undertaken to identify the maintenance needs of all on-site infrastructure essential for the site's effective operation. • Regular grass-cutting must be done. • Signs must be erected along Tonk Meter and Vlakfontein Street, indicating the route and distance to the landfill. These signs must conform to the requirements of the Road Ordinance • The general site notice board must be updated when new information exists. • COE must maintain the road leading to the working face regularly. • Access control measures must be effectively implemented • The tariff board must be updated to show the current tariffs. • The fuel storage area must be secured to prevent unauthorised entry. • Illegally dumped waste and the waste in the skips must be collected from the respective areas and disposed of adequately. If it is disposed of at Rietfontein, COE must compact and cover it to minimise odour, vermin, wind-blown litter and the generation of elevated quantities of leachate. • Access control must be effectively implemented to restrict unauthorised access • The slopes at Cell 4 must be stabilised and maintained to promote run-off without excessive erosion • Waste must be compacted and covered to reduce leachate generation, and remediation measures must be implemented where the leachate flows in unbund/unlined areas. • All drains must be regularly maintained to promote water movement to designated containments. • The water from the contaminated dam must be treated to ERWAT standards to ensure disposal into the sewer system. This will assist in lowering the water levels. • The leachate pump system must be reinstated and secured. • Investigative monitoring must be done in areas near the leachate detection system, and remediation measures must be implemented where required. • The site must be reopened to ensure that all issues noted at the contaminated dam, leachate and sub-soil manholes are addressed. • Waste stream records must be maintained and reported quarterly on the GWIS.

Metro	Waste Management Facility / Date of Audit	Audit Score (%)	Key Non-Compliances with Permit / License Conditions and recommended actions (for some metros)
			• All incidents must be reported to GDARDE, and an Action Plan must be compiled to indicate how they will be addressed. • A Complaints and Response Register must be kept, indicating comments raised and how they were responded to. • Bi-annual water monitoring must be undertaken to ensure that landfill operations do not contaminate water resources. • To be proactive and to minimise contamination of soil and groundwater monitoring, quarterly monitoring of isotopes and bi-annual pressure testing must be done, and findings must be addressed. • Gas monitoring must be undertaken quarterly, and recommended measures must be implemented. • The need to decommission the extraction and flaring system in Area A and re-establish it in Area C must be documented and timeframes indicated. • Details of the landfill committee must be updated, and meetings must be undertaken regularly. This will also assist with disseminating information to the affected communities, thereby avoiding community unrest. • COE are expected to establish and maintain a site file to ensure compliance with the landfill documentation requirements. They must keep records of inspections, monitoring results, design documents, plans, operational procedures, and notices.
	Rooikraal Landfill *Mar 24?*	Not Scored	Site temporarily closed • Signs must be erected along Barry Marais Road, indicating the route and distance to the landfill. These signs must conform to the requirements of the Road Ordinance. • The general site notice board must be updated when new information exists. • COE must maintain the road from the working face to the dams. • The tariff board must be updated to show the current tariffs. • Installing a fence around the site and having security personnel at the gate are meant to strictly control access to the landfill and prevent unauthorised access and illegal dumping. As such, the gate at the dams and the fence must be replaced. • The waste at the working face and on slopes must be compacted and covered. In addition, adequate plant must be provided to address the backlog. • All reclaimers should sort and store bags in a designated area. In addition, the waste not reclaimed must be returned to the working face at the end of the day. • Disposal of waste at the PDF must be prohibited since the landfill is not operational. • Garden waste must be chipped and placed on slopes. • Fire is one of the more severe risks that a landfill faces, and it can cause serious damage to infrastructure and create health and air quality problems. Expediting the appointment of the operator

Metro	Waste Management Facility / Date of Audit	Audit Score (%)	Key Non-Compliances with Permit / License Conditions and recommended actions (for some metros)
			will minimise illegal dumping, thereby controlling the emergence of fires. This will also ensure that firebreaks are created and maintained. • The City' should note that maintenance of the firebreaks should be undertaken even though the site is not operating. In addition, there should always be a functioning fire extinguisher in areas that are being utilised, and the burnt liner should be replaced. • Grass, soil and litter in the drains must be removed, and regular maintenance must be undertaken to ensure the functionality of the infrastructure. • The liner must be replaced. • Short- and long-term measures must be implemented to maintain the required freeboard, 0.8m. As per the Technical Advisor's report for March 2021, the following measures should be implemented: • The existing contaminated runoff and leachate dams should be surveyed and redesigned to adjust the dam's embankment and the inlet canal elevations to ensure all runoff is collected and stored in the dams. • The leachate pump system should be reinstated and secured so that leachate can be discharged to the sewer in compliance with the ERWAT requirements. • Waste stream records must be maintained and reported quarterly on the GWIS. • According to Permit Condition 3.11f, h, and i, any incident that may/has caused groundwater pollution should be reported within 24 hours of the incident occurring. As such, the leachate overflow should have been reported to GDARD. • A Complaints and Response Register must be kept, comments and responses. • Gas and water monitoring must be undertaken quarterly, and recommended measures must be implemented. • Missing/damaged probes should be replaced as non-venting results in fires. • The extraction and flaring system should be operated and maintained according to the relevant regulations. • Details of the landfill committee must be updated, and meetings must be undertaken regularly. This will also assist with disseminating information to the affected communities, thereby avoiding community unrest. • COE are expected to establish and maintain a site file to ensure compliance with the landfill documentation requirements. They must keep records of inspections, monitoring results, design documents, plans, operational procedures, and notices

ANNEXURE 11: An Analysis on the Implications of the MTSP for Waste Pickers

Overview

This Annexue will focus on the solid waste management component of the Project, with a specific outlook on the relationship between the informal waste pickers and the relevant solid waste management plans and by-laws of their respective metropolitan municipalities. This document aims to analyse the following key areas:

1. The solid waste management policies and by-laws of eight South African metropolitan municipalities.
2. The implications, both positive and negative, that the aforementioned plans and by-laws have on waste pickers.
3. An assessment of gaps between the respective South African metros policies on solid waste management and the implications they have on waste pickers; against the World Bank's Environmental and Social Framework.

The first section of the document provides a concise gap analysis on the South African metros approach to waste pickers in comparison with the World Bank's Environmental and Social Framework. The gap analysis focuses on four key metrics of each metro and provides a brief assessment of gaps and recommendations to improve upon.

The second section of this document provides a list of key organizations and bodies that have been established to support and advocate for waste pickers in South Africa.

The third section of this document provides an analysis on the South African municipalities and their respective solid waste management policies and the role and recognition the waste pickers play within them.

Gap Analysis of South African Metropolitans Approach to Waste Pickers

This section provides a gap analysis of South African metropolitans solid waste management policies and implementation of inclusion of waste pickers against the World Banks Environmental and Social Framework. The gap analysis is overleaf in Table A5.1 below.

Table 1 – GAP analysis

Metro	Solid Waste Management Policy and By-laws	Social Inclusion	Access to Registration	Formal Support	Community Engagement	Gaps to International Good Practice and Recommendations
City of Cape Town	Integrated Waste Management Policy (IWMP) Waste Management By-law 2009	Limited social inclusion; informal waste pickers not formally recognized.	No formal registration system for informal pickers; only authorized service providers are registered.	Minimal formal support for waste pickers; prioritizes formal contractors.	Limited engagement with waste pickers in policy development.	**Gaps:** Overall, there is limited inclusion, no formal registration, minimal community health safeguards. **Recommendation:** Establish formal inclusion and registration systems for informal waste pickers to ensure health, safety, and social protections as per World Bank standards.
eThekwini	eThekwini Solid Waste Policy Waste Management By-law 2016	Formal contracts prioritize service providers over waste pickers, restricting their roles.	No formal registration system specifically for informal pickers; limited registration under authorized contracts only.	Formal support limited to service providers; informal pickers lack access to formalized support and benefits.	Limited community engagement with waste pickers for policy discussions and service planning.	**Gaps:** No social safeguards or formal pathways for inclusion. **Recommendation**: Develop a registration and health safety framework for waste pickers, provide protective equipment, and ensure equal access to social benefits in alignment with World Bank standards.

Metro	Solid Waste Management Policy and By-laws	Social Inclusion	Access to Registration	Formal Support	Community Engagement	Gaps to International Good Practice and Recommendations
Buffalo City	Buffalo City IWMP Waste Management By-law 2017	Informal waste pickers lack formal inclusion and acknowledgment in policies.	No specific registration framework for informal waste pickers.	Minimal support for waste pickers; informal pickers remain unrecognized in service planning.	Limited engagement with waste pickers; little policy input or awareness campaigns specifically targeting them.	**Gaps:** Absence of social and economic protections. **Recommendation:** Adopt an inclusive waste management approach by registering informal pickers, supporting cooperative models, and providing health and safety training in line with World Bank guidelines.
City of Tshwane	Tshwane IWMP Waste Management By-law 2016	Limited inclusion; informal pickers face barriers due to preference for formal waste contractors.	Strict registration limited to authorized waste management contractors; waste pickers not formally included.	Formal support directed toward service providers; informal pickers excluded from benefits like PPE and training.	Minimal engagement; few initiatives to involve waste pickers in planning or community recycling awareness.	**Gaps:** Lack of environmental and social support safeguards. **Recommendation:** Introduce registration, protective gear, and cooperative models to align with World Bank standards for labour and working conditions in waste management sectors.
Nelson Mandela Bay	IWMP 2016-2020 Waste Management By-law 2010	Formal inclusion restricted; waste pickers included only within contracted service providers.	No dedicated registration system for waste pickers; only for formal service providers.	Limited support focused on contracted recyclers; informal pickers lack structured benefits and safety measures.	Limited engagement with informal pickers, though public recycling campaigns are present.	**Gaps:** Limited adherence to occupational health standards and social engagement. **Recommendation:** Allow waste pickers formal access to resources and social protections, provide PPE, and incorporate waste pickers

Metro	Solid Waste Management Policy and By-laws	Social Inclusion	Access to Registration	Formal Support	Community Engagement	Gaps to International Good Practice and Recommendations
						into the formal economy per World Bank ESF standards.
Mangaung	Mangaung IWMP Solid Waste Disposal By-law 2015	Informal pickers not acknowledged formally in policies; minimal social inclusion.	No registration for informal waste pickers; only formal service providers recognized.	Limited support; no formal benefits or recognition given to informal waste pickers.	Minimal community engagement specifically with waste pickers, limited recycling awareness campaigns.	**Gaps:** Absence of social safeguards and protective measures. **Recommendation:** Formalize roles for waste pickers, implement social protection standards, and develop community awareness as encouraged in the World Bank ESF and SWM standards.
City of Johannesburg	Johannesburg Waste Management Policy Waste Management By-law 2013	Limited inclusion; priority given to formal service providers over waste pickers.	No formal registration available for informal waste pickers.	Limited support; no structured assistance for informal pickers beyond existing public services.	Limited engagement with waste pickers in policy-making; some public awareness campaigns on recycling.	**Gaps:** Limited access to formal employment benefits and social safeguards. **Recommendation:** Provide waste pickers with protective equipment, legal registration, and stable income models in line with World Bank SWM and social protection standards.

Metro	Solid Waste Management Policy and By-laws	Social Inclusion	Access to Registration	Formal Support	Community Engagement	Gaps to International Good Practice and Recommendations
Ekurhuleni	Ekurhuleni IWMP Waste Management By-law 2016	Waste pickers not formally included; limited acknowledgment in by-laws and policies.	No registration process for informal pickers; only formal service providers are recognized.	No structured formal support; focus remains on formal waste contractors.	Minimal engagement with informal pickers; limited recycling awareness and community involvement initiatives.	**Gaps:** No recognition or health and safety measures for informal pickers. **Recommendation:** Establish social safeguards, health protections, and inclusive registration to align with World Bank ESF and solid waste management best practices.

South African Waste Picker Associations

This section provides an overview of the South African Waste Picker Associations and the various roles they play.

South African Waste Pickers Association (SAWPA)

SAWPA was constituted in 2009 as a national movement to represent waste pickers across all nine provinces in South Africa[56].

Roles:

- Advocacy: Promotes the recognition and integration of waste pickers into formal waste management systems.
- Support: Provides resources and training to improve the livelihoods and working conditions of waste pickers.
- Networking: Facilitates connections among waste pickers to share experiences and strategies.

African Reclaimers Organization (ARO)

Based in Johannesburg, ARO is a collective of waste reclaimers working to assert their rights and improve their working conditions. ARO is a membership-based democratic organisation of reclaimers working with reclaimers in residential areas and landfills[57].

Roles:

- Representation: Serves as a voice for reclaimers in policy discussions and negotiations with municipal authorities.
- Integration Efforts: Works towards the formal inclusion of reclaimers in the city's waste management plans.

Hlanganani MaAfrika Waste Picker Cooperative

Hlanganani MaAfrika Waste Picker are a cooperative that brings together waste pickers to collectively improve their economic opportunities[58].

Roles:

- Economic Empowerment: Provide a platform for waste pickers to pool resources and access better markets for recyclables.
- Capacity Building: Offer training and support to enhance the skills and knowledge of its members.

Ikageng Ditamating

Ikageng Ditamating are an organization focused on supporting waste pickers through various initiatives. Previously operated as two separate groups – Ikageng was made up of women and older men collecting

[56] https://wastepickers.org.za/about/

[57] https://www.africanreclaimers.org/

[58] https://globalrec.org/organization/hlanganani-maafrika-waste-picker-cooperative/

paper and plastic and Ditamating was made up of younger men collecting metals. It was decided to unify and agreed that as a common organization all reclaimers would be able to collect all materials with profits to be shared equally[59].

Roles:

- Support Services: Provides assistance to waste pickers in areas such as health, safety, and financial management.
- Advocacy: Engages in efforts to influence policies in favour of waste pickers' rights and recognition.

International Alliance of Waste Pickers

The International Alliance of Waste Pickers are a global network that includes South African organizations, representing waste pickers worldwide[60].

Roles:

- Global Advocacy: Promote the rights and recognition of waste pickers on an international platform.
  Resource Sharing: Facilitate the exchange of knowledge and best practices among waste picker organizations globally.

Analysis of South African Municipalities Solid Waste Management Policies and the Implications for Waste Pickers

City of Cape Town

Western Cape Integrated Waste Management Plan 2023-2027

The Western Cape Department of Environmental Affairs and Development Planning recognises the role of the informal sector, specifically the waste pickers, in diverting waste from landfill sites and the Cape Town Department has embarked on a support programme for small and micro-waste entrepreneurs since 2015/16. A need was identified to assist municipalities with their waste services procurement specifications in a manner that supports access of these small and micro-waste entrepreneurs (wastepickers and wastepreneurs) to municipal tenders or to recyclable material. Therefore, during 2021, a procurement specialist was appointed to develop four procurement plans, including strategies and specifications, that would include and integrate wastepreneurs into the waste management system.[61] The City of Cape Town's Integrated Waste Management Plan (IWMP) and Waste Management By-laws provide a framework for waste management, focusing on waste minimization, recycling, and safe disposal practices. Although the IWMP acknowledges the importance and the contributions of waste pickers to

[59] https://globalrec.org/organization/ikageng-ditamating/

[60] https://globalrec.org/

[61] Department of Environmental Affairs and Development Planning (2023) Western Cape Integrated Waste Management Plan. chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.westerncape.gov.za/eadp/sites/eadp.westerncape.gov.za/files/atoms/files/WC%20IWMP%202023-2027.pdf

recycling efforts and the circular economy, it does not yet have a comprehensive framework for their formal integration into the city's waste management system.

The City of Cape Town's solid waste management policies are designed to manage waste generation, collection, disposal and recycling in a sustainable manner. These policies aim to reduce landfill waste, promote recycling, and support the development of a circular economy. However, the policies have both positive and negative impacts on waste pickers, who operate within the city's informal waste collection and recycling systems.

The following sections of this analysis provide a breakdown of Cape Town's policies and by-laws on solid waste management and aim to look at the implications involved for waste pickers.

Key Solid Waste Management Policies and By-Laws and Their Impacts on Waste Pickers:

Integrated Waste Management Plan (IWMP)

The City of Cape Town has an Integrated Waste Management Plan that outlines the city's waste management strategy, focusing on waste reduction, recycling and overall improvement waste management infrastructure.

Positive Impacts on Waste Pickers in the City of Cape Town:

1. Increased Recycling Opportunities: The emphasis on waste diversion from landfills and recycling creates more opportunities for waste pickers to collect recyclables such as plastics, paper and metals, which can be sold for income and support the livelihoods of the waste pickers.
2. Collaboration/ Registration Potential: Cape Town's focus on integrating recycling into its formal systems opens up the possibility for waste pickers to collaborate with formal waste management companies, cooperatives, or municipal recycling programs.

Negative Impacts:

1. Formalization Threat: As the city formalizes recycling processes, with more efficient separation-at-source systems and private contractors, waste pickers may lose access to valuable materials or face restrictions on the spaces where they previously operated, such as landfills or collection points.

2. Competition: The implementation of formal recycling programs could lead to competition between waste pickers and more formalized actors, such as waste management companies or automated recycling systems. In this particular case, an increase in competition could lead to social tension and division amongst the waste pickers

Separation-at-Source Program

The City of Cape Town has introduced a separation-at-source program, where households are encouraged to separate recyclable materials from general waste which allows for easier recycling.

Positive Impacts:

1. Access to Cleaner Recyclables: The separation of waste at source will result in cleaner and higher-quality recyclables being available to waste pickers, making their work easier and increasing the potential value of materials they collect.
2. Opportunities in Recycling Centre's: The city operates recycling centers where waste pickers can potentially sell collected materials, providing a more structured marketplace for recyclables.

Negative Impacts:

1. Reduced Waste Collection Opportunities: As households and businesses become more responsible for sorting recyclables, waste pickers may find less valuable material available on streets, landfills, or communal waste bins, reducing their income.
2. Marginalization from Formal Systems: If the city outsources the collection and processing of recyclables to private companies or formal waste management services, waste pickers might be excluded from these operations unless proactive efforts are made to integrate them.

Waste Minimization and Recycling By-Law (2009)

This by-law mandates that all residents and businesses in Cape Town reduce their waste and recycle as much as possible. It also imposes penalties for illegal dumping and improper waste handling on its citizens.

Positive Impacts:

1. Positive Recycling Culture: By encouraging the recycling of waste, this policy promotes a culture where recyclables become more abundant, increasing the availability of materials for waste pickers.
2. Formalization of Waste Management: The by-law could create formal opportunities for waste pickers to participate in the waste recycling economy by becoming integrated into formal waste management programs or cooperatives.

Negative Impacts:

1. Restrictions on Informal Waste Picking: Enforcement of proper waste handling and the penalization of informal waste activities could make it more difficult for waste pickers to access certain areas or bins, especially in wealthier neighbourhoods where formal collection services are more strictly enforced.
2. Criminalization of Waste Pickers: Waste pickers could face penalties for scavenging if the by-law is interpreted strictly, thereby threatening their livelihood.

Landfill Diversion Targets

Cape Town has set targets to divert waste from landfills and promote recycling, composting, and waste-to-energy programs.

Positive Impacts:

1. Increased Demand for Recycling: The diversion targets increase the city's focus on recycling, which aligns with waste pickers' activities, allowing them to play a key role in waste recovery.
2. Creation of New Jobs: If waste-to-energy plants or composting facilities are established, there may be new opportunities for waste pickers to participate in more formalized aspects of waste management.

Negative Impacts:

1. Loss of Access to Landfills: Waste pickers often collect valuable recyclables at landfill sites. As landfill diversion initiatives reduce the amount of waste going to landfills, waste pickers may lose access to important income-generating materials.
2. Displacement: If landfill sites are restricted or closed as part of waste diversion efforts, waste pickers who operate there may face economic displacement without sufficient livelihood restoration programs in place. This is a rather large social implications and measures should implemented in order to avoid displacement where possible and align with the World Bank's ESF principles.

Formal Recycling Programs (Drop-off Facilities)

Positive Impacts:

1. Direct Access to Recyclables: Waste pickers could benefit from accessing materials at these drop-off facilities or even for negotiating agreements to collect and sort recyclables from these sites.
2. Potential for Formal Jobs: As Cape Town expands formal recycling infrastructure, there is potential for waste pickers to be employed in sorting or transporting recyclables at these facilities.

Negative Impacts:

1. Increased Competition from Formal Proponents/ Employees in the Waste Sector: Waste pickers may face competition from formal employees or private contractors at these facilities, limiting their ability to collect valuable recyclables.
2. Access Barriers and Restrictions to Market Entry: Waste pickers may be restricted from accessing drop-off facilities or certain recycling points if formal actors take control of these areas.

An Overview of Impacts on Waste Pickers in the City of Cape Town:

1. Social Marginalization and Exclusion: Formal recycling programs and the privatization of waste management services could marginalize waste pickers if they are not integrated into these formal systems. Waste pickers may lose access to materials and collection points and could reducing their income. As aforementioned, an increase in competition could also lead to an increase in tensions amongst waste pickers.
2. Economic Displacement: Policies such as landfill diversion and the closure of dumpsites could economically displace waste pickers who depend on these sites for their livelihoods. Displacement should be forecasted and mitigated where possible.
3. Legal and Regulatory Barriers: Whilst Cape Town recognizes the role waste pickers play within the circular economy, the strict enforcement of by-laws could lead to the criminalization of waste pickers' activities, especially if they are seen as operating outside formal systems.
4. Waste Picker Payments: It has been reported that not all entities have paid waste pickers their fair share for their work. The entities responsible for paying waste pickers need to ensure that waste pickers are adequately compensated.

Ethekwini

eThekwini's waste management planning and strategic objectives aims to focuses on reducing greenhouse gas emissions and extending the lifespan of its landfills through recycling and waste-to-energy projects. The city has initiated organic waste composting projects and localized waste processing centers, such as the Buffelsdraai Landfill, which is undergoing transformation into a sustainable waste facility. However, whilst waste pickers play a significant role in informal recycling, they are not fully integrated into the formal waste management strategy.

The municipality has developed programs aimed at waste minimization and recovery, as well as localized waste processing centers. Specific initiatives include the following below:

1. **Waste Minimization:** eThekwini's policies encourage waste separation at the source and recycling to reduce the overall volume of waste ending up in landfills.
2. **Organic Waste Composting:** Composting projects for organic waste aim to decrease methane emissions from landfills and produce a beneficial byproduct for soil enrichment.
3. **Waste-to-Energy Projects:** The municipality has invested in converting waste into energy, notably through anaerobic digestion and other technologies, to manage waste while producing renewable energy.
4. **Localized Waste Processing:** eThekwini's Buffelsdraai Landfill, for example, is a project that includes a Material Recovery Facility (MRF) and explores sustainable waste management practices to support recycling at a large scale.

Whilst these policies are proactive in nature, in practice, waste pickers in ethekwini often operate within the informal sector and lack formal integration into the municipality's waste management framework and as a result, whilst there are obvious positive impacts of the metro's solid waste management strategy, there also negatives regarding waste pickers.

Positive Impacts on Waste Pickers:

1. Increased Access to Recyclable Materials: eThekwini's recycling initiatives generate significant volumes of recyclables, which waste pickers can collect and sell. In the central areas of Durban, waste pickers gather a large quantity of paper, cardboard, and other recyclables that would otherwise end up in landfills. The collection of these materials play a vital role in sustaining their livelihoods and encourage recycling.
2. Environmental and Economic Contributions: By collecting recyclables, waste pickers reduce the volume of waste needing disposal, which aids eThekwini's landfill diversion goals and reducing waste management costs for the municipality overall.
3. Waste Picker Integration: Due to the fact there are opportunities for expansion and Projects like waste-to-energy, there are opportunities within the metro to formally recognize waste pickers, who could offer more stable access to recyclables and possibly formal employment.

Negative Impacts on Waste Pickers

1. Minimal Formal Recognition: In the eThekwini metro, waste pickers remain largely unrecognized within the formal waste management system. This exclusion limits their access to waste collection points and quality recyclables, forcing them to operate in rather unsafe conditions.

2. Income Instability: Waste pickers earnings tend to fluctuate with recyclable material prices. Without official partnerships, recognition, inclusion or support, they remain vulnerable to market changes, which can severely impact their livelihood.
3. Health and Safety Risks: Operating informally, waste pickers lack access to protective gear and proper equipment, which exposes them to various health risks associated with handling waste. Subsequently, without designated spaces for waste sorting, waste pickers often have to rely on working in hazardous environments.
4. Stigmatization and Negative Perceptions: Waste pickers face social stigma and sometimes experience prejudice from residents and businesses, which directly hinders their access to waste materials and effects their social standing within the community.

Specific Issues with Waste Pickers in eThekwini

On 12 July 2023, one person was declared deceased and 17 others injured after the eThekwini municipal landfill site security guards located at the Buffelsdraai landfill site, North of Durban Verulam, shot them. “Looking for food and recyclable materials became a daytime nightmare for the waste pickers of Buffelsdraai. Although the circumstances of what caused the incident have not been concluded nor confirmed, it is clear that the nature of the violent tactics used against waste pickers is now ever increasing in South Africa”. Unfortunately, the nature of what happened is in stark contradiction to the requirements of the Waste Act of 2008 that recognises the critical role waste pickers play in the recycling economy and compels municipalities to integrate waste pickers into their municipal waste management systems, in a systematic and well defined manner.

This illustrates the lack of recognition, hostility and social exclusion that waste pickers are faced with. Although the issue of restriction is not only prevalent in the metro of eThekwini, it is a direct indication of waste pickers lack of formal recognition and inclusion in the waste management process.

Buffalo City

Buffalo City Metropolitan Municipality (BCMM) has developed solid waste management policies aimed at promoting environmental sustainability and effective waste management. These policies are guided by the National Environmental Management: Waste Act (NEM) and the municipality's Integrated Waste Management Plan (IWMP). The IWMP outlines strategies for waste minimization, recycling and responsible disposal practices.

Key Characteristics of BCMM’s WM Policies:

1. Waste Minimization and Recycling: BCMM encourages waste reduction at the source and promotes recycling initiatives to divert waste from landfills. The municipality has established buy-back centers and drop-off points to facilitate recycling efforts.
2. Integrated Waste Management: The IWMP emphasizes a comprehensive approach to waste management, including collection, transportation, treatment and disposal, ensuring that waste is managed in an environmentally effective manner.
3. Community Engagement and Education: BCMM conducts awareness campaigns and educational programs to inform residents about proper waste management practices and the importance of recycling.

Positive Impacts on Waste Pickers:

1. Income Opportunities: The establishment of buy-back centers and recycling drop-off points provides waste pickers with avenues to sell collected recyclables, offering a source of income and sustaining the livelihoods of the waste pickers within BCMM.
2. Recognition and Inclusion: BCMM has created a medium term goal to establish a database of waste pickers within the metro, which assists in the implementation of programs aimed at integrating them into the formal waste management system[62].

Negative Impacts on Waste Pickers:

1. Limited Formal Integration: Despite efforts to recognize waste pickers, many still operate informally without adequate support or protection, leading to unstable income and exposure to health and safety risks. Whilst BCMM has made reference to integrate and formalize waste pickers, it appears that not much progress has been made up to now.
2. Regulatory Challenges: The municipality's waste management by-laws impose restrictions on informal waste collection activities, potentially limiting waste pickers' access to recyclable materials.

Key Regulatory Changes:

1. Integrated Waste Management By-law: BCMM introduced an Integrated Waste Management By-law to regulate waste collection, separation, storage, processing, treatment, recycling, reuse and disposal. This by-law emphasizes formal waste management practices and the use of authorized service providers[63].
2. Formalization of Waste Services: The municipality has moved towards formalizing waste collection and recycling services, often through contracts with private companies or municipal services, which may exclude informal waste pickers.

The Negative Impacts of the Regulatory Changes and BCMM's By-Laws:

1. Restricted Access to Waste materials: The formalization of waste services can limit waste pickers access to recyclable materials, as waste is directed towards authorized service providers and facilities, reducing the availability of materials that waste pickers rely on for income.
2. Legal and Operational Challenges: The by-law may impose restrictions on informal waste collection activities, potentially subjecting waste pickers to fines or legal action if they operate without authorization. This creates an environment where waste pickers must navigate complex regulations, often without the resources or support to comply.

[62] chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.buffalocity.gov.za/CM/uploads/documents/20210311111635944 23802Aug2021RevisedDraftIWMP_BCMv2.pdf

[63] chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.buffalocity.gov.za/CM/uploads/documents/20210311111635944 260Bylaw-Presentation202100210APRIL.pdf

3. Marginalization from Formal Economy: By prioritizing formal waste management systems, waste pickers could be excluded from participating in the formal economy, missing out on benefits such as stable income, health and safety protections.

City of Tshwane

Tshwane's solid waste management policies aim to promote environmental sustainability and efficient waste handling. These policies are outlined in the Integrated Waste Management Plan and Tshwane's Waste Management By-law, which emphasize waste minimization, recycling and responsible disposal practices.

Tshwane has implemented an Integrated Waste Management Plan focusing on recycling, waste reduction and the promotion of composting for organic waste. A key feature is the city's separation-at-source program, which mandates waste segregation for both residential and commercial sources. However, waste pickers who contribute significantly to recycling and the circular economy remain informal, which limits their access to waste sources and security in their work. Integration through formal partnerships will improve recycling effectiveness and offer more stable employment for waste pickers and ensure the restoration of their livelihoods.

Breakdown of Tshwane's Waste Management Policies:

1. Waste Minimization and Recycling: Tshwane encourages residents and businesses to reduce waste generation and participate in recycling programs. Initiatives include separation-at-source programs and the establishment of recycling facilities to divert waste from landfills.
2. Integrated Waste Management: Tshwane's IWMP adopts a solid approach, encompassing waste collection, transportation, treatment and disposal which ensures thorough environmentally waste management practices.
3. Public Education and Awareness: The municipality conducts campaigns to educate the public on proper waste management practices, aiming to foster a culture of environmental responsibility.[64]

Tshwane's Waste Management By-law regulates waste management activities within the municipality. While the by-law aims to ensure proper waste handling and environmental protection, it does not explicitly address the role of waste pickers. This omission of the group can lead to challenges for waste pickers, as their activities may be considered unauthorized under the by-law, and can expose them to potential penalties.

Positive Impacts of Tshwane's Waste Management Policies and By-Laws on Waste Pickers:

1. Increased Access to Recyclable Materials: The city's emphasis on recycling generates a steady stream of recyclable materials, providing waste pickers with opportunities to collect and sell these items, thereby earning a livelihood.

[64] chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://uir.unisa.ac.za/bitstream/handle/10500/25647/dissertation_mokebe_t.pdf?sequence=1&isAllowed=y

2. The Possibility of Forml Integration: The waste management framework presents opportunities for waste pickers to be integrated into the formal waste management system, potentially offering more stable income and improved working conditions.

Negative Impacts of Tshwane's Waste Management Policies and By-Laws on Waste Pickers:

1. Limited Formal Recognition: Despite their contributions, many waste pickers operate informally and lack official recognition, which can lead to unstable income and exposure to health and safety risks.
2. Regulatory Challenges: The Waste Management By-law may impose restrictions on informal waste collection activities, potentially limiting waste pickers' access to recyclable materials and subjecting them to fines or legal action if they operate without authorization.
3. Unauthorized Waste Collection: The by-law may prohibit individuals from collecting waste without proper authorization or permits. Waste pickers, operating informally, may not possess such permits, rendering their activities illegal under the by-law.
4. Access to Waste Materials: The by-law restrict access to waste materials by designating certain areas or facilities for waste collection and processing, limiting waste pickers' ability to collect recyclables from these locations and could potentially lead to economic displacement.
5. Transportation of Waste: Regulations stipulate specific requirements for transporting waste, such as the use of authorized vehicles or adherence to particular routes. Waste pickers, often using informal means of transport, may not comply with these requirements, leading to potential fines or legal action.
6. Health and Safety Standards: The by-law imposes health and safety standards for waste handling, including the use of protective equipment and adherence to hygiene protocols. Waste pickers, who lack efficient resources, may not meet these standards, resulting in non-compliance and potential penalties.
7. Environmental Protection Measures: Regulations may include provisions to prevent environmental pollution, such as prohibiting the sorting of waste in unauthorized areas. Waste pickers, sorting waste in public spaces, may violate these provisions and as aforementioned, may face penalties.

Nelson Mandela Bay

The Nelson Mandela Bay Municipality (NMBM) Integrated Waste Management Plan (IWMP) outlines a comprehensive approach to waste management, aiming to formalize recycling operations and improve waste management practices at landfill sites like Arlington and Koedoeskloof.[65]

NMBM's Waste Management Policies:

1. Waste Minimization and Recycling: The municipality encourages residents and businesses to reduce waste generation and participate in recycling programs and the circular economy.

[65] chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.nelsonmandelabay.gov.za/DataRepository/Documents/final-nmbm-iwmp-2016-2020.pdf

Initiatives include separation-at-source programs and the establishment of recycling facilities to divert waste from landfills.

2. Integrated Waste Management: NMBM's IWMP adopts a comprehensive approach, encompassing waste collection, transportation, treatment and disposal, adhering to environmental regulations and compliance.

Positive Impacts on Waste Pickers:

1. Formalized Recycling Operations: The NMBM has introduced contracts to formalize recycling at landfill sites. Service providers manage the recycling process, which includes employing and overseeing waste pickers. This arrangement offers waste pickers employment opportunities, along with a safer work environment through structured management and supervision.
2. Health and Safety Improvements: By requiring waste pickers to wear personal protective equipment (PPE) and work in designated areas, the municipality aims to reduce health risks and improve overall safety on landfill sites.
3. Awareness Campaigns: Initiatives such as the "All Hands on Waste" campaign promote public awareness around recycling and waste management. This can indirectly benefit waste pickers by increasing the amount of recyclable material separated from general waste by residents, thus improving the quality and availability of recyclables.

Negative Impacts on Waste Pickers:

1. Reduced Access to Recyclable Materials: The formalization of recycling activities limits waste pickers' access to landfill sites. With controlled access, many informal recyclers may be restricted from scavenging, thereby reducing their income opportunities.
2. Restrictions on Informal Operations: The NMBM's by-laws strictly control who can access and remove waste from disposal sites. Unauthorized waste removal is prohibited, limiting informal pickers' ability to collect recyclables independently, and potentially leading to legal penalties if they violate these restrictions.
3. Safety and Security Constraints: Though the policy mandates that waste pickers work only in designated areas, it also indicates that working conditions on landfill sites remain hazardous. Informal collectors who manage to access restricted areas may face dangers, including accidents from moving vehicles or compactors on site.

Mangaung

Mangaung faces challenges due to limited landfill space and operational funding, but the metro's waste management policies still prioritize recycling and waste diversion. The city encourages recycling, but implementation is inconsistent, and waste pickers often operate without official recognition or support. Formalizing their role within Mangaung's waste strategy could reduce landfill pressure and improve recycling outcomes. Waste pickers inclusion would also provide safer, more reliable work environments for them.

Manguang's IWMP promotes waste minimization by focusing on reducing waste generation at the source. This includes initiatives to encourage recycling and material reuse, thereby decreasing the amount of waste that requires disposal. In line with this, the municipality has put efforts into enhancing its waste

collection and transportation services to ensure timely and reliable waste removal across all areas, including underserved and rural communities. Safe waste disposal is another priority, with the municipality committing to environmentally compliant disposal methods that mitigate negative impacts on both public health and the environment.

Public awareness and education are central to the IWMP's objectives. The municipality actively conducts campaigns to educate residents and businesses about proper waste management, the importance of recycling, and the overall benefits of reducing waste. By raising awareness, Mangaung aims to build a culture of responsible waste practices within the community[66].

Applicable Plans and By-Laws

Manguang Integrated Waste Management Plan

Manguang's IWMP serves as a strategic framework for managing waste within the municipality. While the plan acknowledges the presence of informal waste pickers, it does not provide a formal framework for their integration into the municipal waste management system. This lack of formal recognition means that waste pickers operate without official support or inclusion in municipal waste management strategies.

Manguang Waste Management By-laws

The metro's Waste Management By-laws, promulgated in 2013, establish regulations for waste handling, collection and disposal within Mangaung. These by-laws aim to promote sustainable development and environmental justice through sound waste management practices. However, similarly to the IWMP, the by-laws do not specifically address the role or integration of waste pickers. This omission leaves waste pickers without formal recognition or protection under municipal regulations.

Positive Impacts on Waste Pickers:

1. Formal Inclusion: Manguang's IWMP's recognition of waste pickers' role opens the door for future formal inclusion, which could provide stability, improved working conditions, and legal recognition. Formalizing waste picker roles could also lead to benefits like designated work areas and predictable access to recyclables.
2. Health and Safety Standards: By focusing on safer waste disposal practices, the IWMP indirectly promotes safer working environments. Should waste pickers be granted formal access, they could benefit from improved health and safety standards, such as personal protective equipment (PPE) and access to sanitation facilities.

Negative Impacts on Waste Pickers:

1. Conditional Access: Without formal recognition, waste pickers may not have reliable access to collection points or recycling facilities. Manguang's IWMP's waste management approach could unintentionally marginalize waste pickers, making it difficult for them to access recyclables if access is limited to registered or authorized personnel.

[66] chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.mangaung.co.za/wp-content/uploads/2022/05/ANNEXURE-C-Draft-IWMP-05.2022.final_.pdf

2. Restriction of Access and Economic Uncertainty: The focus on formal service providers negatively impacts waste pickers. As a result, waste pickers might face reduced access to valuable recyclables, which could lead to a loss of income. This dependency on unpredictable access to recyclables will create economic uncertainty for those who rely on waste collection as their primary source of livelihood.
3. Marginilization: With more funding and operational efficiency targeted toward formal waste management providers, informal waste pickers could be sidelined. As formal providers gain access to resources and materials, waste pickers might struggle to compete, reducing their role and influence in the waste management process.
4. Poor Economic Empowerment and Representation: Whilst buy-back centers and cooperatives should generally benefit waste pickers, without explicit provisions in Manguang's IWMP, they may not have access to these supportive structures. This absence limits their opportunities for economic empowerment, skill development, and integration into the formal economy.

City of Johannesburg

Johannesburg's solid waste policy is centered on extensive recycling programs, landfill diversion and environmental responsibility. The city mandates waste separation for residential and commercial entities and has set up several recycling centers. Despite these initiatives, waste pickers often operate informally, limiting their access to steady recyclables and leaving them exposed to unsafe conditions.

Johannesburg's IWMP acknowledges the role of informal waste pickers, also known as reclaimers, in the waste management system. The plan includes initiatives aimed at integrating waste pickers into the formal waste management processes, recognizing their contributions to recycling and waste diversion[67]. Johannesburg's Waste Management By-laws, promulgated in 2013 and revised in 2021, establish regulations for waste handling, collection, and disposal within Johannesburg. These by-laws include provisions for the establishment of waste picker associations and outline the roles and responsibilities of waste pickers in the municipal waste management system. The by-laws aim to promote sustainable development and environmental justice through sound waste management practices.

Despite these initiatives and attempts to formally recognize waste pickers, challenges such as limited resources, coordination issues and the need for continuous capacity building persist and restrict Johannesburg from fully integrating waste pickers. The city continues to work towards addressing these challenges by fostering stronger partnerships with waste picker associations and other stakeholders to create a more inclusive and efficient waste management system.

Positive Impacts on Waste Pickers:

1. Waste Picker Empowerment Program: Johannesburg initiated a Waste Picker Empowerment Program in 2010, with an aim to understand waste picker activities. It also importantly aimed to understand their needs and challenges. The program initiated a training and skills development program, focusing on helping waste pickers transition from waste pickers to entrepreneurs.

[67] chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://wiredspace.wits.ac.za/server/api/core/bitstreams/16d78839-4fda-447f-bbe8-61e6858c5f60/content

2. Education and Awareness: Johannesburg has undertaken campaigns to educate and raise awareness on the importance and contribution waste pickers make with regards to waste management, recovery and recycling.
3. Encouragement of Waste Pickers Associations: Johannesburg has encouraged waste pickers to form cooperatives and associations. The city's policies enable them to work within a structured framework. This organization allows waste pickers to collectively access resources, negotiate better working conditions and secure more consistent income opportunities.

Negative Impacts on Waste Pickers:

1. Limited Scope of Integration and Recognition: Despite the framework for formalizing waste pickers, actual integration is limited, and many waste pickers still operate informally without consistent access to resources. As a result, a significant portion of waste pickers remains outside the formal system, continuing to face economic and social insecurity.
2. Dependency on Cooperative Models: While cooperative models offer benefits, they may not suit all waste pickers, particularly those who value independence. Cooperatives also require organizational skills and management experience, which some waste pickers may lack. This dependency on cooperatives may exclude some waste pickers who struggle to meet these requirements.
3. IWMP's Restriction of Access: The IWMP's formalization efforts may inadvertently limit waste pickers' access to recyclables. When waste collection and sorting are formalized under structured contracts, waste pickers who are not formally recognized or part of cooperatives may lose access to valuable materials, impacting their income.
4. Limited Community Engagement: Waste pickers are not consistently involved in policy-making, which means their specific needs and challenges may be overlooked. Without regular engagement, waste pickers may feel marginalized, and policies may fail to address the realities of their day-to-day work effectively.

Ekurhuleni

The Ekurhuleni metro promotes waste minimization through recycling and reducing dependency on landfill sites. Policies encourage household waste separation, and the metro has invested in expanding MRFs to process recyclables. Yet, like the other metros that have been discussed, waste pickers in Ekurhuleni remain mostly informal, facing variable access to recyclables and unreliable income. Their inclusion within Ekurhuleni's waste framework could improve recycling rates and offer waste pickers a secure role within the system, supporting both environmental and economic goal.

Ekurhuleni's IWMP serves as the metro's framework for managing waste within the municipality and also emphasizes waste minimization, recycling and sustainable disposal practices. It does acknowledge the role of informal waste pickers in the waste management system and includes initiatives aimed at integrating them into formal waste management processes, recognizing their contributions to recycling and waste diversion. Ekurhuleni's Integrated Waste Management By-laws, promulgated in 2021, establish regulations for waste handling, collection and disposal within Ekurhuleni. These by-laws include provisions for the

regulation of informal recyclers, aiming to promote sustainable development and environmental justice through sound waste management practices[68].

The inclusion of waste pickers in both the IWMP and the Integrated Waste Management By-laws signifies the metro's recognition of their role in waste management. This formal acknowledgment provides waste pickers with opportunities for integration into the formal waste management system, access to resources and potential improvements in working conditions. However, challenges, such as significant capacity and implementation challenges, remain in fully implementing these provisions and ensuring that waste pickers are effectively integrated and supported.

Positive Impacts on Waste Pickers:

1. Recognition of Waste Pickers in the Circular Economy: Ekurhuleni's IWMP and by-laws acknowledge the contributions of waste pickers to recycling and waste diversion, offering formal recognition that enhances their legitimacy within the waste management system. This recognition can help improve public perception of waste pickers and reduce stigma.
2. Opportunities for Formal Integration: Ekurhuleni's plan includes provisions for the potential formal integration of waste pickers into the municipal waste management framework. If effectively implemented, this could provide waste pickers with structured roles, access to resources, and more stable income opportunities.
3. Supportive Regulations: By regulating informal recyclers, the by-laws provide waste pickers with a structured operating framework that may offer them clearer guidelines and protections in their work, such as designated zones or permissions to collect recyclables legally.

Negative Impacts on Waste Pickers:

1. Restrictions on Access Points: Ekurhuleni's by-law states that: "No informal recycler may sort-out and repackage items anywhere at a public place other than the places that have been designated by the Municipality for informal recycling; provided that such designated places shall be kept tidy and clean at all times." This legally limits the waste pickers to specific sites and could have implications on their income and livelihood.
2. Incomplete Implementation of Formal Support: Whilst the IWMP and by-laws recognize waste pickers, the actual implementation of support mechanisms is limited. Without tangible benefits like PPE, access to formal sorting areas, or reliable income support, many waste pickers may still operate informally and remain economically vulnerable.
3. Lack of Direct Engagement in Policy Development: Waste pickers are not consistently involved in policy-making processes, which may result in policies that do not fully address their needs or reflect their on-the-ground experiences. This lack of engagement can limit the effectiveness of policies meant to support them.

[68] chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/https://www.ekurhuleni.gov.za/wp-content/uploads/2021/10/Integrated-Waste-Management-By-laws.pdf