ADDENDUM TO GUIDANCE NOTE 4:
Performance Improvement Action Plan (A3-PIAP)

DOCUMENT GN4-Annexure 1: Technical Indicator Description and Minimum Commitments Definition Sheets

Purpose	To provide additional guidance to metropolitan municipalities regarding the completion of Annexure 3: Performance Improvement Action Plan (A3: PIAP) by updating the Indicator definition sheets.
Scope	The scope of the reform includes water & sanitation, electricity & energy, and solid waste management services of metropolitan municipalities for both cohorts.
Phasing	Six metros are participating in Cohort 1, with the first year of reform being the 2025/26 financial year for each of Water and Sanitation (W&S) and Electricity & Energy (E&E). Cohort 2 comprises the remaining metros that will enter the W&S and E&E programme in the 2026/27 financial year, together with all eight metros entering for Solid Waste Management (SWM).
Target audience	Metro leadership and officials who are responsible for the management of trading services and shared services that support the delivery of the trading services (engineering, financial, and shared services such as billing & revenue, customer relations, human resources, etc.)
Must be read together with	• Guidance Note #3: MTSR Institutional Arrangements (issued 9 September 2024) • Guidance Note #4 Addendum: Completing the A3-PIAP (as issued 28 February 2025) • Guidance Note#5: Implementation of Minimum Commitments for MTSR (November 2025) • All legislation referred to in guidance notes.

1. History of issue of Indicator and Commitment descriptions:

Issue 1, November 2024: Original indicator list

Issue 2, February 2025: Introduction of the minimum commitments and provision of a planning year for the balance of the accountability, financial and operational indicators (Water and Sanitation, Energy and Electricity).

Issue 3, October 2025: Addition of Solid Waste Management operational indicators.

Issue 4, January 2026: ***THIS ISSUE***: The grant reform design is iterative and thus requires updating from time to time. The main changes in the indicator definitions from the previous version issued (October 2025) are:

i) Clarity added on performance interpretation for each commitment and indicator;

ii) Addition of evidence required for each commitment and indicator;

iii) Alignment with C88 indicators including new C88 indicator numbers and refinement of technical indicator details.

2. Conclusions: Next Steps

Additional updates and Guidance notes will be issued as required.

Metros requiring further information or support in relation to the contents of this Guidance Note 4, Annexure 1 should direct their enquiries to:

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February 2026

OVERVIEW

Performance areas	Ref	Minimum commitments & performance indicators	End of YR-0	End of YR-1	End of YR 2-6	Weights	
Accountability Performance Minimum commitments	M1	SPoMA Service Compact	binary	binary	binary		
	M2	SPoMA Appointment	binary	binary	binary		
	M3	SPoMA Organisational structure	binary	binary	binary		
	M4	SPoMA Delegations	binary	binary	binary		
	M5	Financial Model and Business & Investment Plan	binary	binary	binary		
	M6	Budget Support of Business & Investment Plan	binary	binary	binary		
	M7	Financial Transparency – separate AFS	binary	binary	binary		
	M8	Support for management of organisational change	binary	binary	binary		
Accountability Performance Performance Indicators	A1	Customer surveys	n.a.	binary	scalable	2	10
	A2	Financial Accounting – *m*SCOA compliance	n.a.	binary	scalable	2	
	A3	Public Procurement Transparency	n.a.	binary	scalable	2	
	A4	Capital Budget Execution	n.a.	binary	scalable	2	
	A5	Core Technical & Management Capacity	n.a.	binary	scalable	2	
Financial Performance Performance Indicators	F1	Financial Viability OCCR	n.a.	binary	scalable	5	30
	F2	Cash Collection rate	n.a.	binary	scalable	5	
	F3	Operational Cash Flow	n.a.	binary	scalable	5	
	F4	Customer Debt management – debtors days	n.a.	binary	scalable	5	
	F5	Infrastructure Capex	n.a.	binary	scalable	5	
	F6	Self-Financing ratio	n.a.	binary	scalable	5	
Operational Performance Performance Indicators Water & Sanitation	W1	Water Security – input volume % raw water allocation	n.a.	binary	scalable	5	60
	W2	Drinking Water Systems Blue Drop	n.a.	binary	scalable	5	
	W3	Waste Water Treatment Systems Green Drop	n.a.	binary	scalable	5	
	W4	Wastewater % of samples compliant with license	n.a.	binary	scalable	5	
	W5	Water Network – mains failures frequency / 100 km	n.a.	binary	scalable	5	
	W6	Sewer Network – blockages frequency / 100 km	n.a.	binary	scalable	5	
	W7	Physical Water Loss – Infrastructure Leakage Index	n.a.	binary	scalable	5	
	W8	Water Service Complaints Response % in 48 hours	n.a.	binary	scalable	5	
	W9	Sewer Service Complaints Response % in 48 hours	n.a.	binary	scalable	5	
	W10	Non-Revenue Water (NRW)	n.a.	binary	scalable	10	
	W11	Metering Performance	n.a.	binary	scalable	5	
Operational Performance Performance Indicators Electricity & Energy	E1	Bulk Commercial Metering Performance	n.a.	binary	scalable	5	60
	E2	Vending Efficiency % of metering operational	n.a.	binary	scalable	5	
	E3	Automated Meter Reading Coverage	n.a.	binary	scalable	5	
	E4	Repairs Efficiency	n.a.	binary	scalable	5	
	E5	Electricity losses as % of electricity purchased	n.a.	binary	scalable	30	
	E6	Network effectiveness ASIFI	n.a.	binary	scalable	5	
	E7	Network effectiveness ASIDI	n.a.	binary	scalable	5	
Operational Performance Performance Indicators Solid Waste Management	S1	Service collection coverage - formal	n.a.	binary	scalable	5	60
	S2	Service collection coverage - informal	n.a.	binary	scalable	5	
	S3	Service reliability	n.a.	binary	scalable	5	
	S4	Functional weighbridge infrastructure	n.a.	binary	scalable	15	
	S5	Waste minimisation	n.a.	binary	scalable	15	
	S6	Environmental compliance	n.a.	binary	scalable	5	
	S7	Climate change mitigation	n.a.	binary	scalable	5	
	S8	Landfill Airspace Monitoring	n.a.	binary	scalable	5	

Guidance Notes & Resource Documents referred to here are available at https://mfma.treasury.gov.za/Guidelines/Documents/Trading%20Services

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ACCOUNTABILITY PERFORMANCE
MINIMUM COMMITMENTS

Indicator	**M1 SPoMA Service Compact**
Performance Area	Service Compact.
Cross Reference	M2, M3, M4.
Definition	The Service Compact between Service Authority (Metro) and the trading service[1] • Specifies Internal Business Unit / Municipal Owned Entity decision • Provides for the transfer of Metro obligations and responsibilities in terms of law (both municipal and sector legislation) to its Service Provider as agent to execute these services on its behalf and within the scope of applicable municipal legislation. The Metro discharges its responsibilities in terms of its Service Compact including that of the (previously) shared services[2]. • Defines and structures the service role that the new utility business must execute on behalf of its parent body (the metro).
Purpose	The new utility business becomes responsible for full financial and managerial operation of the trading service and shall be accountable to the accounting officer of the metro. The compact amongst others will define reporting and other obligations and responsibilities between the parties.
Key Components	The service compact defines the execution requirements in both municipal and applicable sector legislation from service authority to service provider and includes the service provider's role ito the IDP, license requirements, specific service delivery requirements, free basic services, tariff setting etc. It sets the division of responsibilities across value chains (including decision-making and operational performance), investments, performance metrics, consequence management, information sharing, oversight meetings etc.
Calculation Formula	Binary. (Council commitment to service compact, approval, implementation and retention of service compact).
Performance Interpretation	**Benchmark: Service Compacts reflects and re-enforces SPoMA.** By end of Y0: Council Commitment to service compact By end of Y1: Council approval of service compact By end of Y2 – Y6: Implementation and retention of service compact.
Evidence	• Copy of council approved Service Compact (Y1) • Evidence of Council approval. (Y1) • Report from City Manager and SPoMA confirming implementation and retention of compact (Y2-Y6)
Definition of Success	Service compact committed to, approved by council and implemented as per targets. Signed into operation by City Manager. Retention of compact.
Benefits	Clearly defined division of responsibilities across value chains for service authority to service provider with clear performance and accounting metrics. Transparent expectation of service delivery and sustainability targets. Clear accountability for sustainable service delivery.

[1] Regarding Municipal Services Act, Municipal Finance Management Act, & other mandates transferred; and services and standards required.

[2] Shared services refer to financial management, customer services, supply chain management, human resources, fleet, IT systems & support, and other shared services as per indicator M4.

Indicator	**M2 SPoMA Appointment**
Performance Area	TS Leadership.
Cross Reference	M1, M3, M4 (see Guidance Notes 1 and 3), M5.
Definition	The appointment of a chief executive of the trading service with an appropriate job description, reflecting all delegated powers and responsibilities, and an appropriate performance contract.
Purpose	To ensure properly authorised executive leadership of the trading service.
Key Components	Acknowledgement of enhanced and additional functions, competencies, requirements, responsibilities and obligations of the executive officer of the new business unit that will have all elements of the classical utility business under their jurisdiction, as applicable for the particular TS. • The TS leadership position will oversee all the elements of the utility value chain, expanding from the current (mostly infrastructure related) responsibilities. • Since this job description (incorporating commercial as well as technical and managerial skills) in almost all cases differs from what is currently applicable, filling the new SPoMA post requires a formal recruitment process. • Such process should be (1) open and transparent; (2) designed and executed to ensure that a person with the necessary commercial, technical and managerial experience and stature is appointed; (3) appropriately timed to align with other accountability minimum access conditions. • The appointees performance contract should focus on achievement of targets regarding the trading services reform as expressed in A3: PIAP (M7) as well as other statutory targets such as SDBIP.
Calculation Formula	Binary.
Performance Interpretation	**BENCHMARK: Commitment by metro, appointment of new executive officer of utility business, per annual targets**. By end of Y0: Commitment to appropriate appointment process as outlined By end of Y1: New appointee in place By end of Y2–Y6: Appointee supported to remain in place.
Evidence	• SPoMA Job Description (Y1) • SPoMA appointee profile and qualifications (Y1) • SPoMA performance contract (Y1) • Letter of appointment (Y1) • Report from City Manager confirming appointment and explaining any change for good reason (resignation, etc.), (Y2-Y6)
Definition of Success	Scoping and redefinition of ex HOD/ Executive officer Job description and role for new business unit, commitment thereto, appointment and retention of executive role for business unit as SPoMA.
Benefits	Ensure definition and recruitment of right competencies and skills to run TS (under Model 2) as a full trading business (or under Model 3 as Municipal Owned Entity) in a sustainable manner.

Indicator	**M3 SPoMA Organisational Structure**
Performance Area	Organisational Structure.
Cross Reference	M1, M2, M4 (see Guidance Notes 1 and 3).
Definition	See Guidance Note 3. An appropriate organisational structure, described in an organizational chart, is established and maintained to support the delegations and effective business functioning of the Trading Service as SPoMA.
Purpose	To create an organisational structure for a capable, professional and effective utility along best practises that has all the required functions of the classical value chain in one business for service delivery enhancement.
Key Components	A single organisational structure with all elements of *the infrastructure and commercial value chain,* with the necessary *supporting business processes and systems* under an appropriate capable and professional management and governance framework. It shall have measurements of performance KPI's of the targeted conditions of accountability, financial and operational performance as part of the structural arrangement.
Calculation Formula	Binary, but scalable for implementation. Appropriate organisational structure along the classical utility value chain and 7-box model.
Performance Interpretation	**Benchmark = organisational structure which support the delegations and effective functioning of the trading service as SPoMA** By end of Y0: Council Commitment to revising and approving org structure to support SPoMA delegations By end of Y1: Council approves org structure as required By end of Y2-Y6: Implementation and retention of org structure as required.
Evidence	• Copy of council approved Organisational structure (Y1) • Evidence of approval by Council or City Manager under Council delegation (Y1) • Report approved by City Manager and SPoMA confirming progress and retention of structure (Y2-Y6)
Definition of Success	SPoMA is supported by effective org structure and reporting lines along the classical value chain of the particular utility, as required. Approved by council and signed off by City Manager.
Benefits	An effective organisational structure along the full value chain requires a coherent, non-fragmented delivery structure, SPoMA accountability and will ensure an appropriate operational utility management structure for sustainability and service delivery.

Indicator	**M4 SPoMA Delegations**
Performance Area	Delegations.
Cross Reference	M1, M2, M3 (see Guidance Notes 1 and 3).
Definition	Business Unit (Model 2): Delegations means the delegations/ passing of the authority for the financial management, operational and management control of all shared services for the effective operation of the Trading Services (TS) as a Single Point of Accountability (SPoMA) Business. Municipal Entity (Model 3[3]): Same but SPoMA accounts to Board.
Purpose	To ensure that the responsibilities and functions pertaining to/or supporting operational, financial management and overall management of the Trading Service are fully accounted for within that Trading Service SPoMA. This requires delegation by the City Manager of all the shared service responsibilities to the SPoMA to operate the Trading Service business enabling the SPoMA to be responsible for the effective execution of these services in support of the TS as a single business unit.
Key Components	Financial and operational management of HR, SCM, revenue, fleet management, IT, customer service, real estate, security and operational and safety requirements[4]. The SPoMA may determine how to discharge its responsibilities in terms of its Service Compact *(Indicator M4*) regarding the shared services.
Calculation Formula	Binary. (All shared services as applicable captured in the formal delegation document[5] of the metro (as required in MFMA C80) and approved by council. Signed delegation from City Manager to HOD/ Executive officer of TS in place).
Performance Interpretation	**Benchmark: Formal delegation commitment by Council, delegations in place in target year, retention in place over remainder of period.** By end of Y0: Council commitment for delegations for full SPoMA By end of Y1: Delegations in place By end of Y2-Y6: Delegations remain in place.
Evidence	• Copy of council approved Delegations Document (Y1) • Evidence of approval by Council or City Manager under Council delegation (Y1) • Report approved by City Manager and SPoMA confirming implementation and retention of delegations (Y2-Y6)
Definition of Success	• Formal delegations part of metro delegations and delegation policy • SPoMA has full accountability for service performance with all the related shared services delegated under its control. • Service Delivery Agreements (SDA) between Service Provider and Trading services for all services in place, self-executed or contracted out as applicable as per target year signed by both parties. • Full accountability with HOD/ Executive officer of TS.
Benefits	All delegation and shared services responsibilities rest in the new business unit and can be accounted for and managed as a SPoMA ensuring effective service delivery of complete business for sustainability.

[3] Model 3 (MoE): ensure appropriate Water Service Provider (WSP) responsibilities and/ or Electricity Service as applicable

[4] Including appropriate accountabilities iro Occupational Health and Safety Act and other RSA social protection & environmental legislation, and licenses

[5] NB see indicator A2: Delegations, segregation of duties & organisational structure must be embedded in the financial system configuration

Indicator	**M5 Financial Model and Business & Investment Plan**
Performance Area	Business and Investment Planning.
Cross Reference	M6.
Definition	**Submission of annual Trading Services business and investment plan, which has been supported and prioritised by means of a utility financial model** to ensure business financial sustainability, turnaround and improvement.
Purpose	The annual business and investment plans need to be supported by a financial model to ensure a robust PIAP (A3) that supports sustainability and business turnaround. The model will be used to inform strategic financial and business decisions for business turnaround/ performance improvement; and to target and focus investments for turnaround/ performance improvement.
Key Components	• Multi-year utility financial model reflecting the utility characteristics and requirements, to underpin utility reform priorities and strategy development • Annual business plan and budget incorporating a long-term strategic perspective, and medium-term capital and operational planning. • Data development programme to ensure that trading services management has access to all the financial and operational data required for effective utility management • initially to inform A3-PIAP v2 for 2026/27 onwards, and then to track performance and build on to the model over remainder of period as the trading service improves. • The source of financial information that feeds the financial model must be consistent with *m*SCOA classification system.
Calculation Formula	Binary. Comprehensive business plan **supported by financial model outcomes and indicators.**
Performance Interpretation	**Benchmark: Annual trading service business plan as defined** By end of Y0: Council commitment to production and approval of a business and investment plan for the utility By end of Y1 By end of Y1: Council approves turnaround and reform business plan and budget By end of Y3 – Y6: annual submission & approval of revised business plans **NB:** The business plan must be funded and reflected in Council budgets per indicator M5.
Evidence	• Copy of council approved BIP (Y1-Y6) • Evidence of Council approval (Y1-Y6) • LGBA advisory letter to CM (Y1-Y6) (IVA need not agree)
Definition of Success	A full annually updated business and investment plan based on a financial model for each trading service with a multi-year focus.
Benefits	The financial model will underpin the investment plans to ensure targeted and robust business and investment strategies to result in business performance improvement. It provides transparency and focused investment strategies across all areas of the SPoMA business (not for infrastructure alone). Multi-year focus of the model will ensure correct tracking and targeting of investment of whether utility performance improvement is still on track and will be used in mid-term review A3: PIAP.

Indicator	**M6 Budget support of Trading Service business and investment plan**
Performance Area	Budget Support.
Cross Reference	M5.
Definition	The metro budget supports the Financial Model and Business & Investment Plan (M7).
Purpose	The metro budget must be structured to provide the required funding for its utility businesses (different trading services). This includes own metro funding, borrowings/loans, equitable share allocations, funding from operations, the allocation under DORA, other grants and other allocations the metro received from NT and/ or other bodies annually or from time to time. Metro budget allocations need to align with Financial Model and Business & Investment Plan to ensure financial sustainability in service delivery.
Key Components	Supportive framework of policy commitments by metro for MTS improvement as expressed in increasing capex budgets, appropriate transition and change management cost allocations; re-investment of TS operational surpluses, co-funding, etc.
Calculation Formula	Binary.
Performance Interpretation	**BENCHMARK: Planned trading services opex and capex for each FY, as reflected in A3-PIAP costing and funding sheets, are evident and reflected in corresponding metro budgets for that financial year.** By end of Y0: Council commitment to supporting the budgetary and funding implications of the business plan and budget By end of Y1: Council budget for Y2 reflects and is consistent with M7. By end of Y2 – Y6: Council budgets and AFS continuously reflect and are consistent with M7.
Evidence	• Report approved by City Manager and SPoMA confirming budget support of BIP (Y1-Y6) • LGBA advisory letter to CM (Y1-Y6) (IVA need not agree)
Definition of Success	Business plan developed under M7 should be substantially evident in the metro budget from the Y2 onwards.
Benefits	Investment will be as per the Business and Investment plan that will be based on a financial model (M7) for utility sustainability.

Indicator	**M7 Financial Transparency – separate AFS**
Performance Area	Financial Transparency.
Cross Reference	A2.
Definition	Model 2: Full separate MTS AFS, published within aggregated metro AFS, per specimen template (MFMA circular July 2024) (the easiest way to comply with M6 is to ensure A2 is achieved) Model 3: Full separate published trading services financial statements, also consolidated into Metro AFS **Models 2 and 3: including 'flows and balances statement' per below.**
Purpose	Full financial transparency is essential for trading services reform • To track financial performance of the utility service itself (without being hidden within overall municipal performance) • To monitor trading services recovery improvement and ongoing sustainability • To ensure the TS is performing according to its business and investment plan • To generate key performance indicators for purposes of disbursement, C88, and license/ regulatory reporting.
Key Components	• Full trading service AFS each year (statements of financial performance, financial position, and cash flow with notes and tables as regulated) • Corresponding annual report for each trading services • Statement of Metro Trading Services Flows and Balances, to comprise at least o Grant shares: Equitable share, USDG, incentive grants, ISDG, HSDG, other o Cost of shared and internal services (shared costs & activity-based costing) such as revenue, treasury, facilities management, HR, city manager & Council, etc. o Contributions & subsidies: contributions by trading service (including any dividends) to metro rates account, subsidies paid by metro to trading services o Cash balances: Trading services cash balances held by metro, amounts invoiced on behalf of trading service, proceeds not yet paid over, etc. NB: Assessment of this indicator will necessarily be based on **unaudited** financial information as submitted to the AG and simultaneously to the assessor.
Calculation Formula	Binary
Performance Interpretation	**Benchmark: Preparation of full Trading Services AFS per year per specimen formats issued by NT, accompanied by an annual report** By end of Y0: Council Commitment to preparation of Trading Services AFS separately By end of Y1: Separate TS AFS and annual report produced and published as regulated By end of Y2-Y6: separate TS AFS and AR produced as regulated.
Evidence	• Pre-audited financial statements and flows & balances statement (between service authority and service provider[6]) for relevant trading service, as at 31 August (Y1-Y6) • In addition, the following must be submitted to NT (which may happen after IVA timeframes as per regulated dates in the MFMA) (Y1-Y6) o Audited Financial Statements including ▪ Statement of financial position ▪ Statement of financial performance ▪ Cash flow statements o Annual report
Definition of Success	Full reporting as defined.
Benefits	Provide financial transparency of TS- utility business performance as a ringfenced business.

[6] See Guidance Note 5

Indicator	**M8 Support for management of organisational change and increased delivery**
Performance Area	Change and Delivery Management Capacity.
Cross Reference	M1, M2, M3, M4.
Definition	Additional capacity in place that responds to requirements outlined in Annexures A1: Institutional Road Map and A2 (Business & Investment Plans) • Capacity to support the process of managing organisational change including staff engagements, communications, detailed design, capacity enhancement (filling critical vacancies and beyond), key documentation, service compact and other activities, to manage and facilitate planned changes • Capacity to manage the increased TS capex envisaged, including engineering project and contract management capacity.
Purpose	• To create and establish the necessary capacity to support migration from to a new organisational structure under the SPoMA. • Significant additional investment will be undertaken, and the utility will need the additional capacity to successfully execute this additional investment.
Key Components	• Additional management capacity whether contracted in or recruited, change management, communications and filling of critical vacancies for service delivery.
Calculation Formula	Binary.
Performance Interpretation	**Benchmark: Additional capacity that responds to requirements outlined in Annexures A1 (Institutional Road Map) and A2 (Business & Investment Plans), as further developed, is in place:** By end of Y0: Council Commitment to put additional capacity in place that responds to requirements outlined in A1 and A2 By end of Y1: Effective change management & project implementation support, with approved change management plan in place By end of Y2 – Y6: implementation and continued refinement of the plan **NB1:** The costs and funding of the additional change management and project management capacity must be incorporated into the metro budget per M5. **NB2:** The additional change management and project management capacity is required to implement the business plan (M7), yet must be put in place parallel to that business plan being developed.
Evidence	• Change Management Plan approved by City Manager and SPoMA (Y1) • City Manager report on support to the Change Management Plan (Y1) • Report approved by City Manager and SPoMA confirming implementation and refinement of plan (Y2-Y6) • LGBA advisory letter to CM (Y1-Y6) (IVA need not agree)
Definition of Success	• Additional capacity in place during Y1, to help plan and start preparing to implement in Y2 • Additional capacity regarding, as required in the particular case: (a) planning, driving, leading institutional change; (b) business turnaround strategy; (c) communication and stakeholder engagement; (d) negotiating and formalising new value chain contractual arrangements (e) recruiting, contracting, and managing additional project management capacity, as required.
Benefits	A well thought through and robust change management plan is critical to the transformation of the trading service. Capacity and change support is necessary as the organisation will be in flux, new functions will be added and shared services will be incorporated to create the SPoMA business.

ACCOUNTABILITY PERFORMANCE
PERFORMANCE INDICATORS

Indicator	**A1 Customer Surveys**
Performance Area	Customer Surveys.
Cross Reference	-
Definition	Customer service satisfaction surveys are undertaken annually and reflect progress towards the benchmark.
Purpose	Customer surveys provide a measurable feedback mechanism or data point that can be used to assess the effectiveness of customer satisfaction, identify trends in customer feedback, and derive actionable insights. All metros already conduct annual surveys of customer satisfaction, and generate headline results per trading service Using the historical results of these surveys, metro trading services should plan and execute actions to improve these results, as part of the business and investment plan (M7). a) Surveys assist trading service businesses to monitor and evaluate customer behaviour, sentiment, and experience. b) They provide the business units with quantifiable insights into customer experiences and can help track performance over time.
Key Components	a) Actual customer satisfaction result as % of planned customer satisfaction result for the year
Calculation Formula	Actual improvement of trading service customer satisfaction result, as % of planned trading services customer satisfaction result, per year.
Performance Interpretation	**Benchmark at least 70% customer satisfaction result (per trading service), improving year on year** By end of Y0: By end of Y1: Customer satisfaction improvement plan incorporated in business plan; substantive targets set for Years 2 – 6 By end of Y2–Y6: Improvement in headline result: progress against plan.
Evidence	• Customer satisfaction improvement plan (Y1) • Report approved by SPoMA of results of customer satisfaction survey (Y2-Y6)
Definition of Success	Feedback from surveys used to guide key business decisions and improved customer interface to eventually improve customer satisfaction thereby improving customer sentiments towards service payments.
Benefits	Surveys provide independent opinion to assist in identifying areas of improvement, highlighting strengths, and guiding future decision-making processes.

Indicator	**A2 Financial Accounting - *m*SCOA compliance**
Performance Area	Financial Accounting.
Cross Reference	M5.
Definition	The *m*SCOA compliance technical indicator evaluates a Trading Services Business Unit or Entity's alignment with the prescribed standards for financial accounting, reporting, and internal controls (minimum business processes and system requirements) as articulated in Annexure B of MFMA Circular No. 80.
Purpose	*m*SCOA compliance ensures that the business unit's financial systems, processes, and reporting mechanisms meet the requirements outlined in the Minimum Business Processes and Systems Requirements (MBPSR). Such compliance re-enforces the Metro Trading Service Reform programme by offering the easiest and only feasible way for metros to achieve financial transparency requirements (M5).
Key Components	Major requirements of MFMA Circular No. 80 include that • Delegations, segregation of duties & org structure should be embedded in the configuration of the integrated system solution • AFS Module / sub-system to should seamlessly integrate to core integrated system solution used by the Metro (no manual integration) • Generation of audited data strings (PAUD, AUDA, RAUD) from integrated system solution.
Calculation Formula	City Manager (Accounting Officer) certificate of *m*SCOA compliance, confirmed / counter-signed by NT *m*SCOA team.
Performance Interpretation	**Benchmark: full compliance with *m*SCOA requirements** By end of Y0: Baseline position By end of Y1: CM plan of *m*SCOA compliance, countersigned by *m*SCOA team By end of Y2–Y6: CM certificate of *m*SCOA compliance (against target), countersigned by *m*SCOA team.
Evidence	• CM certificate of *m*SCOA implementation plan including targets, countersigned by mSCOA team (Y1) • CM certificate of *m*SCOA compliance, countersigned by *m*SCOA team (Y2-Y6)
Definition of Success	Improved financial transparency, accountability, and management, contributing to more efficient and effective trading service performance.
Benefits	1. Transparency leading to trust between the trading service business and the parent municipality including the public. 2. Confidence on good governance and evidential integrity of financial governance.

Indicator	**A3 Public Procurement Transparency**
Performance Area	Public Procurement Transparency.
Cross Reference	-
Definition	This measures the degree to which the Trading Service Business Unit adheres to best practices in ensuring transparency in its procurement process. This includes openness in tendering, decision-making, and reporting, aiming to reduce corruption, promote competition, and ensure the effective use of public resources.
Purpose	To assess the transparency of Trading Service procurement processes, ensuring that they are conducted with integrity, fairness, and openness. Procurement transparency depends upon clear and accessible tender documentation, public access to information, bid evaluation transparency, conflict of interest management, more use of e-procurement systems, audit and oversight Mechanisms. whistleblower protections, compliance with Legal and Regulatory Frameworks, and stakeholder Engagement and Feedback.
Key Components	At a minimum, this indicator requires compliance with statutory regulations regarding procurement transparency: that all TS tender opportunities are advertised, and bidders' lists, tender awards and contracts signed are all published according to regulations. Trading Services should however take steps to improve their procurement transparency beyond the minimum. **Such steps should include use of a reliable e-procurement portal[7] as regulated, and comprehensive disclosure of all procurement information, presented in an accessible manner, on a well-maintained, up-to-date website.**
Calculation Formula	Plan implementation.
Performance Interpretation	**Benchmark: full transparency** By end of Y0: By end of Y1: Baseline to be set with trading service business plans and targets for improvement in trading services procurement transparency By end of Y2 – Y6: implementation of the plan.
Evidence	• Report approved by SPoMA on baseline and plan to achieve full transparency (Y1) • SCM performance claim report approved by SPoMA linking to functioning data (Y2-Y6)
Definition of Success	Improved financial transparency, accountability, and management, contributing to more efficient and effective trading service performance.
Benefits	Transparency leading to trust between the trading service business and the parent municipality including the public. Confidence on good governance and evidential integrity of financial governance.

[7] Such as www.eTenders.gov.za portal as per guidance in Circular 83

Indicator	**A4 Capital Budget Execution**
Performance Area	Project implementation effectiveness.
Cross Reference	-
Definition	This measures how effectively an organization or public sector entity manages and executes investment projects to achieve its objectives.
Purpose	Effective performance of trading services depends on effectively executed procurement and project implementation processes.
Key Components	Capital Budget Execution is measured by the percentage of the capital budget agreed in the budget each year, that is spent.
Calculation Formula	Final capital spending as a % of budget.
Frequency	Annually and bi-annually at MYBR.
Performance Interpretation	**Benchmark = 90%** By end of Y0: By end of Y1: Plan with targets for increasing tech and management capacity By end of Y2 – Y6: implementation of the plan.
Evidence	• Report approved by SPoMA on baseline and plan to achieve target (Y1) • System-generated report with data & calculated result (Y2-Y6)
Definition of Success	% of capital expenditure against original council-approved budget meets the planned performance improvement each year.
Benefits	Achievement of targets indicates effective procurement processes and results in actual capital spending aligning more closely with planned and budgeted capital expenditure.

Indicator	**A5 Core technical and management capacity**
Performance Area	Technical & Management Capacity.
Cross Reference	M5, M7.
Definition	Progress against planned technical and managerial capacity increases.
Purpose	While M8 is focussed on change management and project management capacity for the short & medium-term, this indicator is concerned with the strengthening of permanent technical and managerial capacity. That capacity must include an ability to effectively plan, manage, and operate the utility, as well as execute projects, ensuring that both technical expertise and management skills are sufficient to meet strategic goals. The appointment or development of staff through professional registration and representation aligned with acceptable norms and gender equity policies also contributes to professionalisation. Metros already have a strong sense of the capacity shortages they face. The indicator is therefore focussed upon the inclusion with the trading services business plan (M5) a component which to increase permanent professional capacity, including contract management capacity, according to specified standard benchmarks in the water and sanitation, electricity and energy, and other relevant sectors (such as Professional Engineers, Registered Technologists, Registered Technicians, etc per 100 k population in the applicable service area) appointed in terms of gender equity policy.
Key Components	No of technical management and contract management staff per 100 k population in the service area; appointed in terms of gender policy, & plan to improve from starting point; progress against plan.
Calculation Formula	No of technical, managerial and contract management posts per benchmark at start Plan with targets for annual improvement of critical positions & skills aligned with the organisational structure (see M5) % achievement of target.
Performance Interpretation	**Benchmark = to be set as part of business plan (M7)**[8] By end of Y0: By end of Y1: Plan with targets for increasing tech and management capacity By end of Y2 – Y6: implementation of the plan.
Evidence	• Report approved by SPoMA on baseline and plan for capacity improvement (Y1) • Report approved by SPoMA on implementation and progress (Y2-Y6)
Definition of Success	Enhanced operational effectiveness and overall performance.
Benefits	Provides a holistic view of an organization's ability to manage both its technical and managerial functions effectively, enabling informed decision-making, efficient resource management, and the successful execution of projects.

[8] Number of registered persons per 100,000 of population (applicable to W&S): 1 Professional Engineer, 2 Professional Engineering Technologists, 5 Professional Engineering Technicians. For Gender equity, aligned with Metro approved gender policy and progressively working towards 50%.

FINANCIAL PERFORMANCE
PERFORMANCE INDICATORS

Indicator	**F1 Financial Viability OCCR**
Performance Area	Financial viability.
Cross Reference	For consideration: new trading services-specific indicator suggested for inclusion in MFMA **S71 reports** going forward.
Definition	The basic definition is "operating revenue / operating expenses". Operating revenue excludes any capital items (capital grants) and interest income. Operating expenditure excludes any capital related items (interest and depreciation). The basic formula is adjusted to take into account cost of sales (bulk purchases). Bulk purchases is subtracted from operating revenue to give a gross operating profit. And operating costs are similarly adjusted to exclude the bulk purchases.
Purpose	Measures the financial viability of the trading service. In particular, it shows the extent to which revenue covers the operating costs of the distribution business, and hence the ability of the service to generate revenues to invest in the distribution business, as a share of the costs needed to operate the distribution business.
Key Components	**Assessment Criteria**: Against planned performance improvement. **Data Sources**: Income statement for the trading service. **Operational Adjustments**: none.
Calculation Formula	The formula is: Gross Profit / Operating expenditure (excluding bulk purchases) where • Gross Profit = Operating revenue (including operating grants, excluding capital grants, excluding interest) less bulk purchases • Operating expenditure (excluding bulk purchases) = operating expenditure excluding depreciation and interest, and excluding bulk purchases NB: For the water service, the operating expense should be adjusted as follows: • subtract inventory consumed (instead of bulk purchases), and • add back chemicals purchased. This adjustment is necessitated by the accounting rules related to inventory consumed.
Performance Interpretation	**Benchmark = 1.5 to 2 (as determined in financial model and business plan)** By end of Y0: n /a By end of Y1: Plan with targets to approach / reach benchmark By end of Y2–Y6: percentage achievement of targets.
Evidence	• Report approved by SPoMA on baseline and plan backed up by Financial model and BIP (Y1) • System-generated report with data & calculated result (Y2-Y6)
Definition of Success	Achieving performance target (and on track along planned path).
Benefits	**Resource Management**: Tracks ability of the service to generate resources to invest in the trading service business. **Risk Mitigation**: Guides corrective action to enhance financial viability of the business. **Performance Benchmarking**: Enables comparisons between municipalities. **Public Confidence:** gives confidence that the business is financially viable and sustainable.

Indicator	**F2 Cash Collection Rate**
Performance Area	Cash collection.
Cross Reference	For consideration: new trading services-specific indicator suggested for inclusion in MFMA **S71 reports** going forward.
Definition	The efficiency of cash collection measured as cash collected from customers / total invoiced to customers (over the same relevant 12 month period).
Purpose	Measure effectiveness and efficiency of the cash collection process (translation of invoices amounts into cash available to the service).
Key Components	**Assessment Criteria**: Against planned performance improvement. **Data Sources**: Income statement and cash flow statement for the trading service. (These need to include the items necessary to calculate cash collection rate directly from the income statement and cash flow statement) **Operational Adjustments**: none.
Calculation Formula	Cash receipts from customers (12 months) / amount invoiced to customer (corresponding period).
Performance Interpretation	**Benchmarks: 95% for water and 98% for electricity.** By end of Y0: n /a By end of Y1: Plan with targets to approach / reach benchmark By end of Y2–Y6: percentage achievement of targets.
Evidence	• Report approved by SPoMA on baseline and plan backed up by the Financial Model and BIP (Y1) • System-generated report with data & calculated result (Y2-Y6)
Definition of Success	Achieving performance benchmark (and on track along planned path).
Benefits	**Resource Management**: Tracks efficiency to collect invoiced revenue. **Risk Mitigation**: Guides corrective action to improve cash collections. **Performance Benchmarking**: Enables comparisons between municipalities. **Public Confidence and fairness:** gives confidence that the business is efficient at collecting revenue from all invoiced customers, and hence fair to all customers.

Indicator	**F3 Operational Cash Flow**
Performance Area	Operational cash flow.
Cross Reference	For consideration: new trading services-specific indicator suggested for inclusion in MFMA **S71 reports** going forward.
Definition	The cash available from operations after all operating costs have been met.
Purpose	Measures the availability of cash to invest in the business.
Key Components	**Assessment Criteria**: Against planned performance improvement. **Data Sources**: Trading service cash flow statement. **Operational Adjustments**: none.
Calculation Formula	Cash flow from operations (as shown on cash flow statement) which should be equivalent to the following: Cash receipts (related to operating revenues, and excluding capital items) less operating expenses (as depicted on the income statement excluding provisions for bad debt and capital related items).
Performance Interpretation	**Performance target: as per financial model and business plan showing a financial turnaround and substantial improvement in cash from operations.** ***Benchmark* =** By end of Y0: n /a By end of Y1: Plan with targets to approach / reach benchmark By end of Y2–Y6: percentage achievement of targets.
Evidence	• Report approved by SPoMA on baseline and plan backed up by The Financial Model and BIP (Y1) • System-generated report with data & calculated result (Y2-Y6)
Definition of Success	Achieving performance target (and on track along planned path).
Benefits	**Resource Management**: Tracks ability to generate cash resources to invest in the business. **Risk Mitigation**: Guides corrective action to cash generation from operations. **Performance Benchmarking**: Tracks improvement in ability to invest in the business. **Public Confidence:** gives confidence that the business is able to invest in the business to sustain services.

Indicator	**F4 Customer Debt Management – debtors-days**
Performance Area	Customer debt management.
Cross Reference	For consideration: new trading services-specific indicator suggested for inclusion in MFMA **S71 reports** going forward.
Definition	Customer debt outstanding expressed as days of revenue.
Purpose	Measures customer debt management.
Key Components	**Assessment Criteria**: Against planned performance improvement. **Data Sources**: Trading service income statement and balance sheet. **Operational Adjustments**: none.
Calculation Formula	Customer accounts receivable (net of provisions for bad debt) / Invoiced customer revenues (12 months) x 365.
Performance Interpretation	***Benchmark* <60 days** By end of Y0: n /a By end of Y1: Plan with targets to approach / reach benchmark By end of Y2–Y6: percentage achievement of targets.
Evidence	• Report approved by SPoMA on baseline and plan backed up by the Financial Model and BIP (Y1) • System-generated report with data & calculated result (Y2-Y6)
Definition of Success	Achieving performance target (and on track along planned path).
Benefits	**Resource Management**: Tracks ability to manage customer debt and that adequate provisions have been made for customer debt. **Risk Mitigation**: Guides corrective action to manage customer debt. **Performance Benchmarking**: allows comparison across services and municipality. **Public Confidence and fairness:** gives confidence that customer debt is well managed and customers are treated fairly.

Indicator	**F5 Infrastructure Capex on PPE**
Performance Area	Level of expenditure on infrastructure.
Cross Reference	Reported in MFMA **Section 71** reports (with clarified definition), based on, and matching what is reported in the financial statements for the trading service.
Definition	Actual capital expenditure incurred during the financial year on property, plant and equipment (PPE) for that trading service. (Includes replacement, refurbishment, upgrades and expansion).
Purpose	Ongoing and sufficient investment in property, plant and equipment (PPE) is essential to provide a reliable and sustainable service and to meet service needs. The expectation is that actual capital investments in PPE each year need to increase by a factor or 2 to 3 times in real terms over a period of 3 to 5 years. A suitable investment path will be determined for each metro based on a realistic investment plan anchored in a financial model.
Key Components	Actual cash expenditure on property, plant and equipment (PPE) during the financial year.
Calculation Formula	As reported in the cash flow statement (actual cash invested in property, plant and equipment) during the financial year, supported the statement of changes in PPE reported in the notes to the financial statement.
Performance Interpretation	***Benchmark = 200% subject to business & investment planning*** By end of Y0: n /a By end of Y1: Plan to approach / reach benchmark By end of Y2–Y6: implementation.
Evidence	• Report approved by SPoMA on baseline and plan backed up by the Financial Model and BIP (Y1) • System-generated report with data & calculated result (Y2-Y6)
Definition of Success	Annual investments meet the planned investment pathway.
Benefits	Improvements in service reliability and performance, and expansion to meet service needs.

Indicator	**F6 Self-financing ratio**
Performance Area	Ability to finance capex from own operations.
Cross Reference	Recommended to be reported in MFMA **Section 71** reports, based on, and matching what is reported in the financial statements for the trading service.
Definition	Cash flow from operations (Indicator F3) divided by actual capital expenditure incurred during the financial year on property, plant and equipment (PPE). (Indicator F5).
Purpose	The expectation is that the ability of the service to finance a share of its capital expenditure from its internal resources will increase over time as a result of the reforms. This ratio reflects the ability of the trading service to do that. A suitable performance pathway will be determined for each metro based on a realistic investment plan anchored in a financial model modelling both CAPEX (indicator F5) and cash flow from operations (Indicator F3).
Key Components	• Cash flow from operations • Actual cash expenditure on property, plant and equipment (PPE) during the financial year.
Calculation Formula	Ratio = Indicator F3 / Indicator F5.
Performance Interpretation	***Benchmark = 100% subject to business & investment planning*** By end of Y0: n /a By end of Y1: Plan with targets to approach / reach benchmark By end of Y2–Y6: percentage achievement of targets.
Evidence	• Report approved by SPoMA on baseline and plan backed up by the Financial Model and BIP (Y1) • System-generated report with data & calculated result (Y2-Y6)
Definition of Success	An increase ability to finance CAPEX from internal resources (as per the defined performance pathway).
Benefits	Improvements in the financial sustainability of the service, assuring ongoing reliable service provision.

OPERATIONAL PERFORMANCE INDICATORS
WATER & SANITATION

Indicator	**W1 Water Security input volume % of raw water allocation**
Performance area	Water Security.
Cross Reference	New indicator to **National Treasury C88, WS5.5**
Definition	The Water Security indicator measures the adequacy of a water utility's supply system in meeting demand while adhering to regulatory bulk raw water allocation limits and ecosystems requirements. It is defined as the ratio of the bulk water system input volume (all sources) to the permitted raw water allocation volume. The planned water use allocations are determined through Department of Water and Sanitation (DWS) facilitated water reconciliation strategies, which reconcile all available water resources (surface, ground, desalinated and reused water) with current use requirements. These allocations are formalized in Water Use Licenses (WUL) or Service Level Agreements (SLA) and apply to water service providers, such as municipalities and Water Boards.
Purpose	Supports sustainable water use, effective water conservation and demand management, regulatory compliance, and sustainable access to resources by monitoring adherence to allocated water use limits.
Key Components	**Assessment Criteria**: Bulk system input volumes, allocated abstraction volumes, water use/demand/water requirements, regulatory compliance, and resource reconciliation specific to user requirements. Water exports must be considered in both numerator and denominator. **Data Sources**: Flow meter abstraction records, bulk water supplied and releases, WULs/SLAs, and DWS reconciliation strategies, municipal and water board water resource planning documentation. **Operational Adjustments**: Temporary variations permitted under extraordinary conditions such as droughts, with documentation.
Calculation Formula	**Water Security (%)** = (Bulk Water[9] System Input Volume / Permitted Raw Water Allocation Volume) × 100
Performance Interpretation	***Benchmark = <80%: Adequate security; significant buffer for future growth or emergencies.*** By end of Y0: n /a By end of Y1: Plan with targets to approach / reach benchmark By end of Y2–Y6: percentage achievement of targets.
Evidence	• Report approved by SPoMA on baseline and plan (Y1) • As per WS5.5 of Circular 88 (Y2-Y6)
Definition of Success	Achieving <80% of permitted bulk allocation volume annually.
Benefits	• Resource Management: Promotes sustainable water supply by balancing demand and availability. • Regulatory Compliance: Ensures adherence to DWS and Water Board water allocations. • Risk Mitigation: Guides corrective action to prevent overuse. Performance Benchmarking: Enables comparisons across municipalities and utilities. • Stakeholder Engagement: Aligns practices with national water resource management goals and fosters collaboration.

[9] Raw / untreated water

Indicator	**W2 Drinking Water Systems Blue Drop**
Performance Area	Drinking water systems.
Indicator Cross Reference	Existing Indicator, **National Treasury C88** WS4.5, DWS Blue Drop Certification Programme.
Definition	The Blue Drop Score is a performance indicator developed as part of the Blue Drop Certification Program to assess and promote the excellence of drinking water quality management. It evaluates compliance by the Water Services Authority (WSA)with water quality standards and the effectiveness of operational and management systems supporting safe drinking water provision The WSA is supported by a Water Services Provider (WSP), which is a public or private entity. For example, waterboards are regarded as WSPs, also known as a Bulk Water Supplier or Provider, and their performance contributes to the overall municipal Blue Drop score. In several instances the WSAs themselves act as water service providers in their own areas and may also be WSPs for other WSAs.
Purpose	Benchmarking and promoting high standards in drinking water quality management.
Key Components	**Assessment Criteria:** Drinking water quality compliance (microbiological, chemical, and physical), operational management, infrastructure reliability, community engagement. **Data Sources:** Laboratory tests, safety plans, maintenance logs, audits. **Assessment Methodology:** Annual or periodic assessments by regulatory authorities.
Calculation Formula	**Blue Drop Score (%)** = (Total Points Achieved / Total Points Available) ×100.
Performance Interpretation	***Benchmark ≥95–100%: Excellent situation; need to maintain via continued improvement.*** By end of Y0: n /a By end of Y1: Plan with targets to approach / reach benchmark By end of Y2–Y6: percentage achievement of targets.
Evidence	• Report approved by SPoMA on baseline and plan (Y1) • As per WS4.5 of Circular 88 (Y2-Y6) • Blue Drop annual score on DWS letterhead (Y2-Y6)
Definition of Success	Achieve a Blue Drop Score ≥95%, demonstrating compliance with best practices and regulatory standards for municipal water service provision.
Benefits	• Benchmarking: Facilitates comparisons and encourages achievement/adherence to high standards. • Public Confidence: Builds trust by demonstrating commitment to safe drinking water. • Regulatory Compliance: Assists utilities in meeting water quality standards. • Continuous Improvement: Identifies and addresses gaps in water quality management.

Indicator	**W3 Wastewater Treatment Systems Green Drop**
Performance Area	Wastewater treatment systems.
Cross Reference	Existing Indicator, **National Treasury C88** WS4.4, DWS Green Drop Certification Programme.
Definition	The Green Drop Score is a performance indicator introduced as part of the regulatory Green Drop Certification Program to assess the quality and efficiency of wastewater management systems. It evaluates the ability of water service authorities and providers to treat wastewater effectively, protect public health, and minimize environmental impacts. The score reflects adherence to regulatory and best-practice standards in wastewater management.
Purpose	Assess the quality and efficiency of wastewater management systems.
Key Components	**Assessment Criteria**: Effluent compliance, infrastructure reliability, risk management, operational efficiency, transparency. **Data Sources:** Lab analyses, maintenance logs, regulatory inspections. **Assessment Methodology:** Periodic evaluations by regulators or auditors.
Calculation Formula	**Green Drop Score (%) =** (Total Points Achieved / Total Points Available) × 100
Performance Interpretation	***Benchmark = 90–100%: Excellent situation, need to maintain via continued improvement.*** By end of Y0: n /a By end of Y1: Plan with targets to approach / reach benchmark By end of Y2–Y6: percentage achievement of targets.
Evidence	• Report approved by SPoMA on baseline and plan (Y1) • As per WS4.4 of Circular 88 • Green Drop annual score on DWS letterhead
Definition of Success	Achieve Green Drop status (a Green Drop Score of ≥90% as per DWS audits of municipal wastewater services).
Benefits	• Benchmarking: Facilitates comparisons of performance across utilities. • Environmental Stewardship: Encourages sustainable wastewater management and reduces pollution. • Regulatory Compliance: Supports adherence to wastewater discharge standards, Public Confidence: Builds trust through transparency and accountability. • Public Health: Reduction in waterborne diseases.

Indicator	**W4 Percentage of wastewater samples compliant with water use license**
Performance Area	Final effluent quality.
Cross Reference	Existing Indicator, **National Treasury C88** WS4.22, aligned with DWS Green Drop standards.
Definition	The Wastewater Final Effluent Compliance indicator measures the extent to which treated wastewater (final effluent) discharged from wastewater treatment facilities complies with the conditions outlined in the Water Use License (WUL), or defaults to a General Authorisation (GA) in the absence of WUL. It is aligned with the DWS Green Drop Certification Program, and assesses compliance with microbiological, chemical, and physical standards mandated to protect water resources, public health, and ecosystems.
Purpose	Ensure wastewater treatment facilities meet WUL or authorised conditions, protecting public health, ecosystems, and water resources.
Key Components	**Assessment Criteria**: - Microbiological Compliance: E. coli and total coliforms within specified WUL limits or GA limits. - Chemical Compliance: Acceptable levels of Chemical Oxygen Demand (COD), ammonia, nitrates, and phosphates. - Physical Compliance: pH, turbidity, and suspended solids within regulatory thresholds. **Data Sources**: Laboratory analyses, monitoring plans, and compliance reports. **Assessment Methodology**: Regular effluent sampling at discharge points as mandated by WUL or GA limits and Green Drop monitoring protocols.
Calculation Formula	**Effluent Compliance (%)** = (Number of Compliant Samples / Total Samples Collected) × 100.
Performance Interpretation	***Benchmark = 90–100%: Excellent performance; fully compliant with WUL / GA.*** By end of Y0: n /a By end of Y1: Plan with targets to approach / reach benchmark By end of Y2–Y6: percentage achievement of targets.
Evidence	• Report approved by SPoMA on baseline and plan (Y1) • As per WS4.22 of Circular 88 (Y2-Y6)
Definition of Success	Achieve and maintain >90% compliance with WUL or GA conditions as verified through routine monitoring and Green Drop assessments.
Benefits	• Regulatory Compliance: Ensures alignment with WUL or GA and Green Drop standards. • Environmental Protection: Safeguards water resources and reduces pollution. • Operational Optimization: Identifies process inefficiencies, guiding investments and upgrades. • Public Health Protection: Reduces risks of waterborne diseases linked to poor effluent quality.

Indicator	**W5 Frequency of water mains failures per 100 km of pipeline**
Performance Area	Water Network Performance.
Cross Reference	Existing indicator, **National Treasury C88** WS3.2.
Definition	The number of water mains failures per 100km of mains pipe per year is a performance indicator that has been developed to evaluate the efficiency and functionality of water distribution systems, particularly in managing the number of mains failures.
Purpose	Benchmarking and promoting high standards in water network performance, service quality and infrastructure asset management.
Key Components	**Assessment Criteria:** failure of metro owned water transmission and distribution pipes, valves and fitting, excluding repairs under active leakage control **Data Sources:** telephonic and social media logging systems, workflow systems and records and worksheets. **Assessment Methodology:** Repairs undertaken annually.
Calculation Formula	**Number of water mains failures per 100km of mains pipe per year:** Number of mains failures per year (including failures of valves and fittings) / 100kms mains length, length, as per IWA methodology
Performance Interpretation	***Benchmark = <50/100km Excellent network performance; full compliance with best practices.*** By end of Y0: n /a By end of Y1: Plan with targets to approach / reach benchmark By end of Y2–Y6: percentage achievement of targets.
Evidence	• Report approved by SPoMA on baseline and plan (Y1) • As per WS3.2 of Circular 88 (Y2-Y6)
Definition of Success	Achieve a Score of <50/100km, demonstrating compliance with best practices and network performance standards for sustainable municipal water service provision.
Benefits	• Benchmarking: Facilitates comparisons and encourages achievement/adherence to excellent water network performance standards. • Public Confidence: Builds trust by demonstrating commitment to continuous safe drinking water supply. • Service Quality: Assists utilities in meeting water network service quality standards • Continuous Improvement: Identifies and addresses gaps in water network performance and infrastructure asset management.

Indicator	**W6 Frequency of sewer blockages per 100 km of pipeline**
Performance Area	Sewer Network Performance.
Cross Reference	Existing indicator, **National Treasury C88** WS3.1.
Definition	The number of sewer blockages per 100km of sewer length per year is a performance indicator that has been developed to evaluate the efficiency and functionality of sewer network systems, particularly in the management of blockages.
Purpose	Benchmarking and promoting high standards in sewer network performance, service quality and infrastructure asset management.
Key Components	**Assessment Criteria:** blockages in metro owned sewer pipes, excluding pumping station blockages, where blockages are defined as reported or logged blockages that result in an obstruction of system flow which may be caused by roots, obstructive items or other pipeline disruptions **Data Sources:** telephonic and social media logging systems, workflow systems and records and worksheets. **Assessment Methodology:** Blockages repaired annually.
Calculation Formula	**Number of sewer blockages per 100km of sewer length per year:** Number of sewer blockages per year / 100kms sewer length, as per IWA methodology.
Performance Interpretation	***Benchmark = <50/100km Excellent sewer network performance; full compliance with best practices.*** By end of Y0: n /a By end of Y1: Plan with targets to approach / reach benchmark By end of Y2–Y6: percentage achievement of targets.
Evidence	• Report approved by SPoMA on baseline and plan (Y1) • As per WS3.1 of Circular 88 (Y2-Y6)
Definition of Success	Achieve a Score <50/100km, demonstrating compliance with best practices and network performance standards for sustainable municipal wastewater/sanitation service provision.
Benefits	• Benchmarking: Facilitates comparisons and encourages achievement/adherence to excellent sewer network performance standards. • Public Confidence: Builds trust by demonstrating commitment to ensuring continuous safe sanitation practices by reducing sewer spills. • Service Quality: Assists utilities in meeting sewer network service quality standards • Continuous Improvement: Identifies and addresses gaps in sewer network performance and infrastructure asset management.

Indicator	**W7 Physical Water Loss - Infrastructure Leakage Index**
Performance Area	**Physical Water Loss.**
Cross Reference	Existing indicator, **National Treasury C88** WS5.21, DWS No Drop, and proxy indictor for Resilience.
Definition	The ILI is a performance indicator developed by the International Water Association (IWA) to evaluate the operational efficiency of water distribution systems, particularly in managing water losses. It is the ratio of the Current Annual Real Losses (CARL) to the Unavoidable Annual Real Losses (UARL).
Purpose	Evaluate and improve the operational efficiency of water distribution systems by managing water losses effectively.
Key Components	**Assessment Criteria:** Leakage performance as a ratio of actual to unavoidable losses. Identification of operational inefficiencies and improvement areas. **Data Sources:** Water balance analyses, flow, and pressure monitoring records. **Assessment Methodology:** Regular evaluation of leakage metrics. Integration of operational and environmental conditions into loss assessments.
Calculation Formula	**Infrastructure Leakage Index (ILI)** = CARL / UARL - CARL (Current Annual Real Losses): Volume of water lost annually due to leaks, breaks, and overflows. - UARL (Unavoidable Annual Real Losses): Minimum leakage volume achievable under optimal conditions.
Performance Interpretation	***Benchmark = < 2: Excellent performance; very low losses.*** By end of Y0: n /a By end of Y1: Plan with targets to approach / reach benchmark By end of Y2–Y6: percentage achievement of targets.
Evidence	• Report approved by SPoMA on baseline and plan (Y1) • As per WS5.21 of Circular 88 (Y2-Y6)
Definition of Success	Achieve an ILI of <2, indicating efficient water loss management.
Benefits	• Benchmarking: Comparison across systems and regions. • Resource Allocation: Prioritize investment in leak detection and network upgrades. • Environmental Protection: Reduce unnecessary water wastage. • Public Confidence: Build trust through operational transparency. • Water Conservation: Improved water use efficiency and resilience.

Indicator	**W8 Water Complaints % Response within 48 hours**
Performance Area	Water Service Complaints Response.
Cross Reference	Existing indicator, **National Treasury C88** WS3.21.
Definition	The percentage of water callouts responded to within 48 hrs is a performance indicator that has been developed to evaluate quality of service provision and is a proxy indicator for customer care. (Where "responded to" refers to "complaint logged, someone was on site, and has appraised the matter, and a process has been initiated to resolve the matter within 48 hours").
Purpose	Benchmarking and promoting high standards in service quality and customer care
Key Components	**Assessment Criteria:** complaints logged, callouts responded to **Data Sources:** telephonic and social media callout logging systems, workflow systems and worksheets. **Assessment Methodology:** Annual or periodic customer satisfaction surveys and regular quality control assessments.
Calculation Formula	**Water Service Complaints Response:** (Number of water callouts responded to within 48 hours/Total number water callouts received and logged within 48 hours) x 100. (Notes: 1. Responded to = logged, appraised and responded to, but not necessarily resolved. 2. Multiple complaints on the same fault that are logged separately, are to be treated as one callout only).
Performance Interpretation	***Benchmark = 90–100%: Excellent service; full compliance with best practices.*** Y0: n /a Y1: Plan to approach / reach benchmark Y2–Y6: implementation.
Evidence	• Report approved by SPoMA on baseline and plan (Y1) • As per WS3.21 of Circular 88 (Y2-Y6)
Definition of Success	Achieve a Score >90%, demonstrating compliance with best practices and regulatory standards for sustainable municipal water service provision.
Benefits	• Benchmarking: Facilitates comparisons and encourages achievement/adherence to high standards. • Public Confidence: Builds trust by demonstrating commitment to safe drinking water. • Service Quality: Assists utilities in meeting service quality standards • Customer Care: Assists utilities in meeting customer care standards. • Continuous Improvement: Identifies and addresses gaps in water service quality and infrastructure asset management.

Indicator	**W9 Sewer Complaints % Response within 48 hours**
Performance Area	Sewer Service Complaints Response.
Cross Reference	Existing indicator, **National Treasury C88** WS3.11.
Definition	The percentage of sewer callouts that are responded to within 48 hrs is a performance indicator that has been developed to evaluate quality of service provision and is a proxy indicator for customer care. (Where "responded to" refers to "complaint logged, someone was on site, and has appraised the matter, and a process has been initiated to resolve the matter within 48 hours").
Purpose	Benchmarking and promoting high standards in service quality and customer care.
Key Components	**Assessment Criteria:** complaints logged, callouts appraised, and responded to **Data Sources:** telephonic and social media callout logging systems, workflow systems and worksheets. **Assessment Methodology:** Annual or periodic customer satisfaction surveys and regular quality control assessments.
Calculation Formula	**Sewer Service Complaints Response:** (Number of sewer callouts responded to within 48 hours/Total number sewer callouts received and logged within 48 hours) x 100. (Notes: 1. Responded to = logged, appraised and responded to, but not necessarily resolved. 2. Multiple complaints on the same fault that are logged separately, are to be treated as one callout only).
Performance Interpretation	***Benchmark = 90–100%: Excellent service; full compliance with best practices.*** By end of Y0: n /a By end of Y1: Plan with targets to approach / reach benchmark By end of Y2–Y6: percentage achievement of targets.
Evidence	• Report approved by SPoMA on baseline and plan (Y1) • As per WS3.11 of Circular 88 (Y2-Y6)
Definition of Success	Achieve a Score >90%, demonstrating compliance with best practices and regulatory standards for sustainable municipal water service provision.
Benefits	• Benchmarking: Facilitates comparisons and encourages achievement/adherence to high standards. • Public Confidence: Builds trust by demonstrating commitment to safe sanitation. • Service Quality: Assists utilities in meeting service quality standards • Customer Care: Assists utilities in meeting customer care standards. • Continuous Improvement: Identifies and addresses gaps in sewer service quality and infrastructure asset management.

Indicator	**W10 Non-Revenue Water (NRW)**
Performance Area	Water delivery performance.
Cross Reference	**National Treasury C88** WS5.1
Definition	NRW is a performance indicator included as a part of the No Drop Certification Program to measure the percentage of the treated volume of water supplied to a distribution system that does not generate revenue. NRW includes: **Real Losses**: Physical water losses (leaks, bursts, overflows). **Apparent Losses**: Unauthorized consumption, customer metering inaccuracies. **Unbilled Authorized Consumption**: Unbilled metered consumption and unbilled unmetered consumption (Water used for firefighting, municipal services, informal settlements).
Purpose	To evaluate and improve the efficiency of water utilities in reducing water revenue losses, enhancing operational sustainability, and protecting financial revenue streams.
Key Components	**Assessment Criteria**: Real (Physical) water losses, Apparent losses, Authorised consumption including Unauthorised consumption. **Data Sources**: Meter readings (bulk and customer), leakage assessments, billing records, operational adjustments for extraordinary events. **Assessment Methodology**: As per the No-Drop guidelines for the preparation of an IWA Water Balance for South Africa.
Calculation Formula	**NRW %** = ((System Input Volume−Billed Authorized Consumption) / System Input Volume) × 100 Where: • System Input Volume = Total treated water supplied to the distribution network from the utilities own sources. • Billed Authorized Consumption = Authorized volume of water billed to customers (this includes billed metered and billed unmetered volumes and the Free Basic Water volume).
Unit of Measurement	Percentage (%).
Evidence	• Report approved by SPoMA on baseline and plan (Y1) • As per WS5.1 of Circular 88 (Y2-Y6)
Performance Interpretation	***Benchmark = <25%: Good performance. indicating good management of real and apparent water losses and operational efficiency*** By end of Y0: n /a By end of Y1: Plan to approach / reach benchmark By end of Y2–Y6: implementation.
Benefits	• Performance Benchmarking: Enables utilities to compare and improve water loss levels. • Operational Efficiency: Identifies priorities like leak detection and infrastructure upgrades. • Revenue Protection: Minimizes financial losses from apparent losses and unbilled consumption. • Sustainability: Promotes water conservation and efficient resource use.

Indicator	**W11 Metering Performance**
Performance Area	Metering Performance.
Cross Reference	New indicator to **National Treasury C88, WS5.32**
Definition	**Percentage of all water connections metered and billed on actual monthly readings:** The percentage of water connections metered and billed monthly on actual monthly readings. This indicator evaluates the financial sustainability and water use efficiency of municipalities by tracking accurate metering, and billing practices.
Purpose	Assess the financial and operational efficiency of municipalities, promote sustainable water use, reduce metering and billing inaccuracies, and reduce financial losses.
Key Components	**Measurement Scope:** Includes billed metered water connections (residential, commercial, industrial and free basic water). **Target Scope:** Total connections (billed metered + billed unmetered). **Data Sources:** Billing records, meter reading logs, water supply records.
Calculation Formula	Percentage = (Number of connections metered and billed on actual readings monthly / Total number of connections (metered + unmetered)) × 100.
Assessment Methodology	The calculation is performed on a rolling 12-month basis to account for seasonal variations.
Performance Interpretation	***Benchmark: >98%: Ideal performance; accurate metering and billing practices, improved revenue, reduced NRW*** By end of Y0: n /a By end of Y1: Plan to approach / reach benchmark By end of Y2–Y6: implementation.
Evidence	• Report approved by SPoMA on baseline and plan (Y1) • As per WS5.32 of Circular 88 (Y2-Y6)
Definition of Success	Achieve a target of >98% connections metered and billed on actual monthly readings.
Benefits	• Financial Sustainability: Increased revenue from accurate billing. • Water Use Efficiency: Promotes responsible water consumption. • Customer Satisfaction: Builds trust through fair billing. • Compliance: Aligns with National Treasury's performance indicators.

OPERATIONAL PERFORMANCE INDICATORS
ELECTRICITY & ENERGY

Indicator	**E1 Industrial[10] and Commercial Metering Performance**
Performance Area	Industrial and commercial user meterage.
Cross Reference	New indicator to **National Treasury C88 EE4.41.**
Definition	It measures the progress and maturity of the billing part of the revenue cycle that is active and in operation that should migrate to a perfect (100%) score
Purpose	Industrial and commercial metering generate the most revenue for metros and are crucial for achieving financial turnaround and maintaining performance. It supports accurate metering (and billing) as part of the revenue management process and is seen as the critical starting point or where all metros need to focus attention to. It aims to measure technical operational support (against technical standards and best practices (SANS 474)) to keep all meters in a condition where accurate billing can be produced. The metering point is all POD (point of delivery) to customers.
Key Components	Assessment Criteria: Metering to all customers in these two categories. Progress towards full automated billing, cloud access to all customers over time as per indicator E3. Percentage of Industrial and Commercial Customers Metered active and operational. Data Sources: Information is automatically obtained from own meter records and data sources. Operational Adjustments: Temporary variations are allowed under extraordinary conditions, such as system replacements and upgrades.
Calculation Formula	Industrial & commercial meterage: Total Industrial and commercial meters (at POD) in billing of actual readings/ Total industrial and commercial customers. Measured monthly but indices are reported on an annual average.
Performance Interpretation	**Benchmark = >98%** By end of Y0: n /a By end of Y1: Plan with targets to approach / reach benchmark By end of Y2–Y6: percentage achievement of targets.
Evidence	• Report approved by SPoMA on baseline and plan (Y1) • As per EE4.11 of Circular 88 (Y2-Y6)
Definition of Success	Achieving >98% full billing of actual readings. Progress towards automated billing in Y5/Y6.
Benefits	• Resource Management: Promotes accurate metering and billing for revenue and financial turnaround in focussing utility actions on most critical element. • Risk Mitigation: Guides corrective action to enhance revenue management. • Performance Benchmarking: Enables comparisons across municipalities and utilities. • Stakeholder Engagement: Ensure more rigorous engagement and advance customer action to most critical part of customer base. • Public Confidence: Builds trust through transparency, accuracy and better information availability.

[10] See NERSA regulatory definitions of the terms

Indicator	**E2 Prepayment Efficiency**
Performance Area	Prepayment efficiency.
Cross Reference	New indicator to **National Treasury C88 EE4.42.**
Definition	Measure the performance of the prepayment system ability to be active when customers require energy. It measures the number of active meters buying electricity. A downward trend (or below 100% indicator) is indicative of abnormalities
Purpose	Vending involves the prepayment master system and satellite stations managing and issuing tokens to customers for electricity purchases. The indicator measures whether the prepayment meters in the systems are active and receive tokens for energy purchases. Indicator is seeking to encourage 100% operationality for prepayment sales.
Key Components	Assessment Criteria: Measure the number of active prepayment meters in the system to the total number of installed prepayment meters that need to purchase pre-payment electricity. Data Sources: Vending system management reports, maintenance logs, audits. Assessment Methodology: Measured monthly but reported on annual average assessment by supply authorities.
Calculation Formula	Prepayment efficiency: Total monthly active customers / total number of installed prepayment customers
Performance Interpretation	**Benchmark for both uptime and active meters in the system= >98%** By end of Y0: n /a By end of Y1: Plan with targets to approach / reach benchmark By end of Y2–Y6: percentage achievement of targets.
Evidence	• Report approved by SPoMA on baseline and plan (Y1) • As per EE4.12 of Circular 88 (Y2-Y6)
Definition of Success	Downward trend but a 100% figure achieved not later than in year 2.
Benefits	• Benchmarking: Against other utilities and indicative of wrong business processes and managerial trends in the utility. • Public Confidence: Builds trust by demonstrating commitment to have all systems in place. Deter theft and meter bypassing if the token system is fully available. safe drinking water. • Regulatory Compliance: Assists utilities in meeting electricity performance standards. • Continuous Improvement: Identifies gaps in electricity business processes and systems.

Indicator	**E3 Automated Meter Reading Coverage**
Performance Area	Automated meter reading coverage.
Cross Reference	New indicator to **National Treasury C88 EE4.43.**
Definition	Automated meter reading (AMR) as a percentage of Advanced metering infrastructure (AMI) that is operating optional, within each customer category of industrial and commercial customers.
Purpose	This indicator evaluates the deployment and rollout of advanced metering and available technologies and the seamless integration back into the main system to enhance the billing process for customer categories that contribute significantly to the utility's revenue. It highlights the need for technological advancements, often linked to SMART metering projects. It deals with a hardware rollout and software integration into the billing value chain. Automatic customer access to AMI data platforms.
Key Components	Assessment Criteria: 1) Automated meters as a percentage of total meters in both bulk and commercial customer categories. Data Sources: Meter statistics from utility records.
Calculation Formula	Automated metering as % total installed Industrial and commercial metering
Performance Interpretation	**Benchmark = better than NERSA benchmark** By end of Y0: n /a By end of Y1: Plan with targets to approach / reach benchmark By end of Y2–Y6: percentage achievement of targets.
Evidence	• Report approved by SPoMA on baseline and plan (Y1) • As per EE4.13 of Circular 88 (Y2-Y6)
Definition of Success	Internal increasing trend of meter coverage.
Benefits	• Benchmarking: Comparison of performance across utilities but indicative of the maturity of metering using advance processes and systems. • Public Confidence: Transparency in the availability of data for customer usages. Builds trust through transparency and accountability.

Indicator	**E4 Repairs Coverage**
Performance Area	Repairs Efficiency.
Cross Reference	New indicator to **National Treasury C88 EE3.22.** Existing NERSA Indicator (Electricity Distribution Forms (D-FORMS))
Definition	Inadequate investment in repairs and maintenance of networks need to be pursued to improve the reliability of the networks. The indicator measured how much as a percentage of operation is spend on repairs and maintenance.
Purpose	Investing in repairs and maintenance is essential to improve network reliability. Utilities must meet or exceed regulatory benchmark levels.
Key Components	Assessment Criteria: Total operational maintenance (both planned and unplanned- mostly planned) need to achieve a set benchmark for the utilities. It needs to be guided by an asset management strategy (AMS) and process, based on long-term operational and refurbishment plans. It is informed by the needs of the utility business from work management systems and other internal data sources based on infrastructure assessments. Data Sources and Assessment Methodology: Continuous information from AMS and processes and outage records.
Calculation Formula	Repairs coverage: = Total operational spend on repairs and maintenance / total operational costs.
Performance Interpretation	**Benchmark = better than NERSA benchmark** By end of Y0: n /a By end of Y1: Plan with targets to approach / reach benchmark By end of Y2–Y6: percentage achievement of targets.
Evidence	• Report approved by SPoMA on baseline and plan (Y1) • As per EE4.14 of Circular 88 (Y2-Y6)
Definition of Success	Achieve and exceed regularly benchmark and NT benchmark of 6% and 8% annually.
Benefits	• Regulatory Compliance: Ensures alignment with NERSA and NT standards. • Operational Optimization: Improve network performance and safety standard and customers supplies.

Indicator	**E5 Total Electricity losses**
Performance Area	Loss Reduction.
Cross Reference	Existing indicator, **National Treasury C88** EE4.4 and NERSA.
Definition	Losses consist of technical losses and non-technical losses. The first is mostly a characteristic of the network, but the second is an indicator of how good the utility deals with commercial and collection issues to get cash in the bank. It reflects the total sales against what is purchases and is an indicator of what is not available to sell to end customers and have a direct bearing on revenue.
Purpose	This definition focus to trend the losses and the efforts of the utility to curtail this and benchmarking against other utilities. Many utilities in SA have serious issues with losses and it is one of the main reasons for non-sustainability challenges. As a trend over time, it reflects the success of the utility in achieving efficiencies (optimise) in purchases versus sales.
Key Components	• Assessment Criteria: Driving down of losses over time at least below the regulatory benchmark of 12% • Data Sources: All purchases metering data versus total metering sales data consisting of the complete revenue management and losses value chain. Assessment Methodology: Measured annually but done on a continuous basis. Total kWh sales from all customer meters plus estimates for non- metered items such as streetlights/ own consumption and departmental sales against total purchases from all sales that can consist of bulk (LPU) purchases, wheeled energy and DER purchases.
Calculation Formula	(Electricity Purchases in kWh - Electricity sales in kWh) / Electricity Purchases in kWh.
Performance Interpretation	**Benchmark = better than NERSA benchmark** By end of Y0: n /a By end of Y1: Plan with targets to approach / reach benchmark By end of Y2–Y6: percentage achievement of targets.
Evidence	• Report approved by SPoMA on baseline and plan (Y1) • As per EE4.4 of Circular 88 (Y2-Y6)
Definition of Success	Downwards trend realistic from business perspective, achieving regulatory benchmark in prescribed time.
Benefits	• Benchmarking: Improves utility financial sustainability and having more funds availed for critical network operations and investments. Efficiency benchmark against other utilities • Public Confidence: Builds trust by demonstrating commitment to continuous safe drinking water supply. • Service Quality: Assists utilities in having funds available for own investments in infrastructure. • Continuous Improvement: Measures of utility efforts and performance to improve on efficiency and performance.

Indicator	**E6 Average System Interruption Frequency Index (ASIFI)**
Performance Area	Network Effectiveness.
Cross Reference	Existing indicator, **National Treasury C88** EE3.6, NRS 048 – 6, IEEE 1366.
Definition	ASIFI (Average System Interruption Frequency Index) or SAIFI (System Average Interruption Frequency Index).
Purpose	This definition focuses on the calculation of the average number of interruptions that a connected load or customer would experience in a year. Calculation of reliability indices on a consistent approach can deliver the benefit of valuable performance data to plan and execute maintenance better and reduce interruptions which reduce revenue to Utilities.
Key Components	Assessment Criteria: The ratio of the total kVA affected by the outage (i) over the total connected kVA on the distribution network. Total kVA is the kVA installed in the MV/LV distribution transformers or subscribed capacity in kVA for MV customers. Data Sources: Total number of outages / interruptions (n) Assessment Methodology: Summation of the ratio over an annual period.
Calculation Formula	$$ASIFI = \sum_{i=1}^{n} \frac{Total\ kVA\ affected\ by\ the\ outage\ (i)}{Total\ connected\ kVA}$$ Calculation must be for 12 month rolling period.
Performance Interpretation	**Benchmark = better than NERSA benchmark** By end of Y0: n /a By end of Y1: Plan with targets to approach / reach benchmark By end of Y2–Y6: percentage achievement of targets.
Evidence	• Report approved by SPoMA on baseline and plan (Y1) • As per EE3.6 of Circular 88 (Y2-Y6)
Definition of Success	Downwards trend realistic from business perspective, achieving regulatory benchmark in prescribed time.
Benefits	**Benchmarking**: Provide insights to distribution businesses based on national and international benchmarking. **Public Confidence**: Provide the regulator with consistent and comparable performance metrics to regulate license conditions. **Service Quality**: Provide customers with quality of supply information they can use in their investment and planning process. **Continuous Improvement**: Provide the distribution business with valuable performance data to plan and execute maintenance better and reduce interruptions which reduce revenue to Utilities.

Indicator No.	**E7 Average System Interruption Duration Index (ASIDI)**
Performance Area	Network Effectiveness.
Cross Reference	Existing indicator, **National Treasury C88** EE3.5, NRS 048 – 6, IEEE 1366.
Definition	ASIDI (Average System Interruption Duration Index) or SAIDI (System Average Interruption Duration Index).
Purpose	This definition focuses on the calculation of the average outage duration that a connected load or customer would experience in a year. Calculation of reliability indices on a consistent approach can deliver the benefit of valuable performance data to plan and execute maintenance better and reduce interruptions which reduce revenue to Utilities.
Key Components	Assessment Criteria: The ratio of the multiple of the duration of the outage (i) and the total kVA affected by the outage (i) over the total connected kVA on the distribution network. Total kVA is the kVA installed in the MV/LV distribution transformers or subscribed capacity in kVA for MV customers. Data Sources: Total number of outages / interruptions (n) Assessment Methodology: Summation of the ratio over an annual period.
Calculation Formula	$$ASIDI = \sum_{i=1}^{n} \frac{Duration\ of\ the\ outage\ (i) \times Total\ kVA\ affected\ by\ the\ outage\ (i)}{Total\ connected\ kVA}$$ Calculation must be for 12 month rolling period
Performance Interpretation	**Benchmark = better than NERSA benchmark** By end of Y0: n /a By end of Y1: Plan with targets to approach / reach benchmark By end of Y2–Y6: percentage achievement of targets.
Evidence	• Report approved by SPoMA on baseline and plan (Y1) • As per EE3.5 of Circular 88 (Y2-Y6)
Definition of Success	Downwards trend realistic from business perspective, achieving regulatory benchmark in prescribed time.
Benefits	• Benchmarking: Provide insights to distribution businesses based on national and international benchmarking. Public Confidence: Provide the regulator with consistent and comparable performance metrics to regulate license conditions. • Service Quality: Provide customers with quality of supply information they can use in their investment and planning process. • Continuous Improvement: Provide the distribution business with valuable performance data to plan and execute maintenance better and reduce interruptions which reduce revenue to Utilities.

OPERATIONAL PERFORMANCE INDICATORS
SOLID WASTE MANAGEMENT

Indicator	**S1 Service Collection Coverage - Formal**
Performance Area	Improved Service Delivery
Cross Reference	*Existing indicator,* C88 ENV3.1
Definition	Tracks the percentage of households in formal areas receiving regular curbside waste collection
Purpose	Ensure service quality, by measuring that all formal areas have access to basic waste collection services, reducing illegal dumping, improving quality of life and promoting environmental cleanliness.
Key Components	**Assessment Criteria:** Percentage of households receiving scheduled, formal waste collection services in formal areas. **Data Sources:** Municipal waste collection reports, census data, supplemented by household surveys and records from waste service providers **Assessment Methodology:** Regular monitoring of waste collection routes and customer service data to ensure coverage.
Calculation Formula	% of Formal Residential Properties (HH) receiving weekly collection = Number of households receiving at least once-weekly refuse removal services / Total number of households in the municipality
Performance Interpretation	**Benchmark = Achieve and maintain >98% coverage of waste collection services in formal areas** By end of Y0: n/a By end of Y1: Plan with targets to approach / reach benchmark By end of Y2–Y6: percentage achievement of targets
Evidence	• Report approved by SPoMA on baseline and plan (Y1) • As per ENV3.1 of Circular 88 (Y2-Y6)
Definition of Success	Realistic trend towards achieving and maintaining >98% coverage of waste collection services in formal areas
Benefits	**Environmental Protection:** Reduces illegal dumping and littering, improving cleanliness in urban areas and providing enabling environment for investment. **Public Health Protection:** Mitigates health risks from uncollected waste, **Equity in Service Delivery:** Promotes fair access to waste services across all socio-economic areas. **Operational Efficiency:** Identifies gaps in service provision, helping municipalities optimize routes and infrastructure investments.

Indicator	**S2 Service Collection Coverage - Informal**
Performance Area	Improved Service Delivery
Cross Reference	*Existing indicator,* C88 ENV3.11
Definition	Tracks the percentage of households in recognized informal settlements with weekly collection (active) or access to passive collection points (e.g., skips, containers) within a 3km radius.
Purpose	Ensure service quality, by measuring that all informal areas have access to basic waste collection services, reducing illegal dumping and promoting environmental cleanliness.
Key Components	**Assessment Criteria:** The proportion of recognised informal settlements within the municipal area which are receiving at least a basic standard of service for refuse collection and cleaning services all weeks in the year. A "recognised informal settlement" refers to any process whereby the municipality officially documents the existence of the informal settlement and its obligations with regards to servicing its residents. This excludes "known" settlements that may emerge in the course of the reporting as a result of land invasions or on private property which the municipality is not responsible for. If the informal settlement has not received a basic standard of service in duration of more than one week, it should not be counted. Informal settlements that have experienced delayed collection of more than a week, or skipped weeks, are not considered to have received a basic standard of refuse removal[11]. Alternatively, the Percentage of households in informal settlements located within 3km of metro-serviced passive waste collection points (e.g. skips, trailers). **Data Sources:** Municipal waste collection reports, GPS data on locations of passive collection points, supplemented by household surveys and records from waste service providers **Assessment Methodology:** Regular monitoring of waste collection routes and customer service data to ensure coverage. GIS mapping of passive waste collection points and population distribution, validated through field surveys.
Calculation Formula	Number of informal settlements receiving basic waste removal services / Total number of recognised informal settlements) or equipped with collection units (passive) with 3km radius (max) & serviced weekly
Performance Interpretation	**Benchmark = Achieve and maintain >98% coverage of waste collection services in informal areas** By end of Y0: n/a By end of Y1: Plan with targets to approach / reach benchmark By end of Y2–Y6: percentage achievement of targets
Evidence	• Report approved by SPoMA on baseline and plan (Y1) • As per ENV3.11 of Circular 88 (Y2-Y6)
Definition of Success	Realistic trend towards achieving and maintaining >98% coverage of waste collection services in informal areas
Benefits	**Environmental Protection:** Reduces illegal dumping and littering, improving cleanliness in urban areas. **Public Health Protection:** Mitigates health risks from uncollected waste, especially in informal settlements. **Equity in Service Delivery:** Promotes fair access to waste services across all socio-economic areas. **Operational Efficiency:** Identifies gaps in service provision, helping municipalities optimize routes and infrastructure investments.

[11] Unless evidence can be provided that externalities prevented the metro from providing the service, in which case the denominator should reflect this for the affected period.

Indicator	**S3 Service Reliability**
Performance Area	Improved Service Delivery
Cross Reference	*Existing indicator,* C88 ENV 3.2
Definition	Evaluates waste collection service reliability by tracking adherence to scheduled collections and delays in service provision: the measure of the number of scheduled kerbside waste collection service points affected by waste collection delays of more than one scheduled collection day, out of the total population of municipal scheduled kerbside waste collection points over the reporting period. A scheduled waste collection service user is someone residing at a site for which the municipality provides a scheduled kerbside collection service on a weekly basis in terms of the National Environment Management: Waste Act, National Domestic Waste Collection Standards, Section 9a. The service points are proxies for users. The indicator measures the instance of service points affected by collection delays exceeding the scheduled waste collection standard of one collection day in terms of section 9c. "c. When collection has been missed the waste must be removed not later than on the next scheduled collection day". The indicator is measured in terms of scheduled waste collection in relation to the total number of kerbside waste collection service points multiplied by 52 weekly collections.
Purpose	Ensures waste collection services are delivered on time and at optimal fleet capacity, reducing service disruptions that contribute to waste accumulation, environmental hazards, public health risks, and customer dissatisfaction.
Key Components	**Assessment Criteria:** Monitoring of waste collection vehicles via weighbridge and/or telemetry vehicle tracking system, providing real-time data on on-time performance in relation to published schedules. **Data Sources:** Automated fleet tracking data (GIS/Weighbridge systems)—can be supplemented by municipal waste collection service records, and user satisfaction surveys. **Assessment Methodology:** Automatic reporting is produced via the integration of telemetry vehicle tracking data as well as from weighbridge data.
Calculation Formula	Aggregate of the number of scheduled waste collection service points experiencing collection delays of more than one day / (Total number of scheduled waste collection service points x 52)
Performance Interpretation	**Benchmark = Achieve and maintain <10% of scheduled waste collection points experiencing delays of more than one day** By end of Y0: n/a By end of Y1: Plan with targets to approach / reach benchmark By end of Y2–Y6: percentage achievement of targets
Evidence	• Report approved by SPoMA on baseline and plan (Y1) • As per ENV3.2 of Circular 88 (Y2-Y6)
Definition of Success	Realistic trend towards achieving and maintaining <10% delays
Benefits	**Operational Efficiency:** Improves waste collection scheduling, routing, and fleet management through real-time data. **Customer Satisfaction:** Enhances public trust and satisfaction by delivering consistent, reliable services. **Public Health and Environmental Protection:** Reduces the risks associated with uncollected waste, ensuring timely removal of waste from residential and commercial areas. **Resource Optimization:** Identifies inefficiencies in waste collection routes and service schedules, guiding future investments and operational changes.

Indicator No	**S4 Functional Weighbridge Infrastructure**
Performance Area	*Business reliability*
Cross Reference	*NEW* C88 indicator ENV2.31
Definition	Tracks the presence and functionality of weighbridges at *all* active metro landfills and transfer stations. Weighbridge uptime to act as a proxy for data availability, the veracity of waste mass, vehicle trips, and logistics performance. The indicator supports accurate reporting, operational oversight, and cost containment — especially for outsourced collections.
Purpose	To improve the availability, accuracy and reliability of waste flow data through functional, calibrated weighbridges at all landfills, enabling effective operational oversight, reducing risks of fraud and inefficiency, and supporting evidence-based planning and logistics optimisation. This indicator aims to ensure that each site has at least one operational weighbridge available at all times so that accurate disposal data can be captured.
Key Components	**Assessment Criteria:** Weighbridge operational uptime; maintenance compliance; Automated capture and record-keeping of waste tonnage data; Use of weighbridge software analytics for data accuracy, trend analysis, and compliance monitoring. **Data Sources:** Weighbridge operational and maintenance logs; Automated weighbridge system data and reports; Compliance reports from landfill/site management; Analytics and exception reports generated by weighbridge software **Assessment Methodology:** Use of logs: Monthly downtime and calibration certificates; Require a downtime log form: Including reason for downtime; exclude downtime for short calibration delays.
Calculation Formula	$$Overall\ compliance\ (\%) = \frac{\Sigma(\text{Weighbridge uptime days}_i \times \text{calibration status}_i)}{\text{total number of weighbridges} \times 365} \times 100$$ Where: • Weighbridge uptime days$_i$ = number of days weighbridge i was operational in the year • Calibration Status[12] (weighbridge i) = 1 if calibrated (valid certificate) and 0 if not calibrated
Performance Interpretation	**Benchmark = Achieve and maintain >90% of weighbridge operational performance[13]** By end of Y0: n/a By end of Y1: Plan with targets to approach / reach benchmark By end of Y2–Y6: percentage achievement of targets
Evidence	• Report approved by SPoMA on baseline and plan (Y1) • As per ENV2.31 of Circular 88 (Y2-Y6)
Definition of Success	Functional and calibrated weighbridges across all metro landfills and transfer stations, providing reliable, auditable data to monitor operational efficiency—particularly optimizing collection fleet utilisation and validating contractor claims. This proxy metric drives improvements in the sector's largest cost component: logistics efficiency.
Benefits	**Regulatory Compliance:** Ensures adherence to waste management regulations through accurate data capture and automated reporting. **Operational Efficiency:** Reduces reliance on manual processes, improves weighbridge uptime, and strengthens access control and site management. **Improved Logistics Performance:** Enables more effective use of collection fleets by tracking loads and routing efficiencies, helping metros manage their largest cost driver. **Cost Management and Contract Oversight:** Improves transparency and accountability in service delivery, supporting fair and verifiable contract management.

[12] Uncalibrated weighbridges are out of service. Any weighbridge used for commercial transactions must have a valid calibration certificate, as mandated under the Legal Metrology Act, 2014 (Act No. 9 of 2014) and enforced by the National Regulator for Compulsory Specifications (NRCS).

[13] This allows for 10% downtime: 36.5 days/year or 3 days/month, sufficient for maintenance events

Indicator No	**S4 Functional Weighbridge Infrastructure**
	Resource Optimization: Empowers managers with actionable insights from weighbridge software analytics, driving improvements in operational efficiency and cost control, particularly in managing logistics—the sector's largest cost driver. **Reliable Data and Planning:** Provides high-quality data and analytical insights to guide operational decisions and long-term infrastructure planning.

Indicator	**S5 Waste Minimisation**
Performance Area	Environmental stewardship
Cross Reference	*Existing indicator,* C88 ENV2.2; NEMWA (Section 18/EPR)
Definition	Tracks the solid waste tonnage diverted from landfilling from registered & recognised waste facilities or initiatives, as well as direct Metro diversion activities, divided by the population.
Purpose	Promote waste recovery, recycling, composting, and other circular waste treatment options to reduce the volume of waste disposed of in general landfills. This indicator encourages municipalities to minimize waste sent to landfills, support the transition to a circular economy, and achieve waste diversion targets following national and local waste management policies.
Key Components	**Assessment Criteria:** waste diversion rates via government sanctioned or PPP-based facilities used for waste processing/treatment. The tonnage of the municipality's solid waste that is recycled at centralised recycling centres, divided by the total population of the municipality. Recycled materials include those materials diverted from the waste stream, recovered and processed into new products following local government permits and regulations (International Solid Waste Association). **Data Sources:** weighbridge or scale data from metro-sanctioned waste recovery and treatment sites. In addition, monthly and annual reports from waste treatment facilities on quantities diverted. **Assessment Methodology:** Improvement measured against a baseline diversion rate.
Calculation Formula	**Waste Diversion (tonnes)** = Total tonnes of waste diverted from landfill to treatment facilities. Tonnes of municipal waste diverted from landfill through municipal facilities] / [total population]
Performance Interpretation	**Benchmark = Achieve targeted waste diversion**[14] By end of Y0: n/a By end of Y1: Plan with targets to approach / reach benchmark By end of Y2–Y6: percentage achievement of targets
Evidence	• Report approved by SPoMA on baseline and plan (Y1) • As per ENV2.2 of Circular 88 (Y2-Y6)
Definition of Success	Agreed improvement as per baseline
Benefits	**EPR:** Encourages alignment with the EPR, for recycling, composting, and recovery of materials, promoting resource efficiency and waste minimization. **Regulatory Compliance:** Ensures alignment with national waste diversion targets and supports compliance with the NWMS. **Operational Optimization:** Identifies opportunities to enhance the efficiency of waste collection and treatment infrastructure. **Public Engagement:** This activity raises awareness of waste minimization practices, encouraging residents and businesses to participate in waste reduction initiatives.

[14] This allows for 10% downtime: 36.5 days/year or 3 days/month, sufficient for maintenance events

Indicator	**S6 Environmental compliance**
Perf Area	Environmental stewardship
Indicator Cross Reference	*NEW* C88 indicator ENV2.32 **NEM:WA:** Section 7 National norms and standards; Section 20 Consequences of listing waste management activities; Section 51 Contents of WML, requiring auditing **N&S GNR 926**: Norms & Standards for the Storage of Waste **N&S GN 1093:** Norms and Standards for Sorting, Shredding, Grinding, Crushing, Screening or Baling of General Waste **N&S GNR 275:** National Norms and Standards for Organic Waste Composting and Organic Waste Treatment **N&S No. 1984:** National Norms and Standards for the Treatment of Organic Waste
Definition	This indicator measures the degree of compliance of waste management facilities with the auditing, monitoring, and reporting requirements mandated under NEM:WA and associated norms and standards. Specifically, it requires: • Completion and submission of both internal and external environmental audit reports by licensed or registered waste management facilities, in accordance with the frequency and scope prescribed by their licences or applicable norms and standards; • Submission of audit reports to the competent authority within stipulated timelines; • Public disclosure of these audit reports to ensure transparency and accountability to local communities and stakeholders; • Facilities that are not licensed or registered receive a score of zero, to incentivize formal compliance and registration.
Purpose	Ensure all waste management facilities[15] operate within the legal framework set by national and local regulations, promoting safe, environmentally responsible, and sustainable waste management practices. This indicator also emphasizes transparency through the public disclosure of audit and compliance reports, driving accountability and improving behaviour by enabling communities and political stakeholders to monitor facility performance and hold officials responsible.
Key Components	**Assessment Criteria:** Valid licence or registration in terms of applicable norms and standards (per facility); Fulfilment of monitoring, auditing, and reporting obligations as required by the licence or relevant norms and standards; Publication of completed audit reports (internal and external) on the metro's official website or designated public platform. **Data Sources:** Facility-level audit schedules (internal and external); Completed and signed-off audit reports; Metro website URLs or evidence of report publication. **Assessment Methodology:** % of required internal and external audit reports completed and publicly accessible, aggregated across all known waste management facilities within the metro
Calculation Formula	**Facility Audit Compliance Rating (%)** = (Number of completed and publicly accessible audit reports / Total Number of Audit Reports Required) × 100 **Unlicensed or Unregistered Facilities[16]** must be included in the denominator. Audit requirements for such facilities are inferred based on the typical conditions of a comparable licensed facility or in terms of the relevant norms and standards. As these facilities have not complied with basic legal obligations (licensing/registration), all required audit reports for them are counted as **zero**
Performance Interpretation	Benchmark = 100% Compliant By end of Y0: n/a By end of Y1: Plan with targets to approach / reach benchmark By end of Y2–Y6: percentage achievement of targets
Evidence	• Report approved by SPoMA on baseline and plan (Y1) • As per ENV2.32 of Circular 88 (Y2-Y6)
Definition of Success	All waste management facilities operate under valid licences or are duly registered in terms of applicable norms and standards, and achieve full compliance with monitoring, auditing, and reporting obligations. Audit reports (both internal and external) are completed on time and published publicly to enable oversight, promote transparency, and reinforce environmental accountability to the public.
Benefits	**Regulatory Alignment:** Reinforces compliance with NEM:WA and associated Norms and Standards, supporting lawful and environmentally sound waste management. **Operational Accountability:** Enables early identification of non-compliance and inefficiencies through systematic audits and reporting, driving improvements in facility operations. **Incentivizes Licensing:** Assigning a zero score to unlicensed or unregistered facilities encourages formalisation and alignment with regulatory requirements. **Transparency and Public Oversight**: Mandated publication of audit reports improves transparency, builds public trust, and supports political and community accountability. **Public Health and Safety:** Strengthened compliance with operational standards reduces risks to public health and the environment from poor waste handling or facility mismanagement.

[15] Defined as:

- ***Drop-off Site****: A facility where the public is able to drop off garden refuse, source separated recyclables and bulky waste, for which there is no kerb-side collection service. These are formal, constructed sites. These sites are for residents only and trade waste is not accepted.*
- ***Transfer Station****: A facility where waste is temporarily stored before it is transported more economically to either recycling centres or landfills (Municipal Waste Sector Plan, 2012).*
- ***Landfill Site:*** *An authorised site for the controlled disposal of waste materials also a waste disposal site (Municipal Waste Sector Plan, 2012).*

[16] Where a facility includes any "general waste storage facility" that has a capacity to store in excess of 100 cubic metres of general waste continuously.

Indicator	**S6 Environmental compliance**
	Continuous Improvement: Encourages facilities to improve and sustain high levels of compliance and adopt best practices in waste management over time.

Indicator	**S7 Climate Change Mitigation**
Performance Area	Environmental stewardship
Indicator Cross Reference	*Aligned with IPCC GHG Reporting Guidelines.* **This indicator is outside of C88.**
Definition	CH_4 (methane) Landfill Gas Management Incentive. This indicator tracks the annual reduction of greenhouse gas emissions, specifically CH_4 (methane), from waste management operations. This includes emissions reductions achieved through methane flaring and management at landfills. The indicator tracks improvements in emission reductions and climate resilience strategies that contribute to mitigating the environmental impact of waste management activities. This indicator incentivizes methane management such as gas collection systems, using methane productively (electricity/heat, upgraded biomethane, direct use) or flared.
Purpose	Improve waste management systems' environmental sustainability and climate resilience by minimizing methane emissions.
Key Components	**Assessment Criteria:** CH_4 reduction rate, and landfill gas management. **Data Sources:** contractor reporting on landfill gas management activities and emissions measurements, metered readings for methane (CH_4) emissions from landfill sites. **Assessment Methodology:** methane emission reduction calculation; IPCC values for CO_2e (for emission conversions). **Baseline assessment:** Estimate methane generation and baseline emissions using accepted first-order decay (FOD) approach with IPCC 2006 Guidelines (2019 Refinement Parameters), based on estimated waste inputs.
Calculation Formula	**CH_4 Reduction** = (Total Methane Captured and Treated through Landfill Gas Management) × IPCC Methane Equivalency Factor (CO_2e Conversion) *Detailed formula to be agreed during baseline assessment.)
Performance Interpretation	**Significant Reduction ≥15%:** Achieves a significant reduction in CH_4 emissions compared to the baseline, demonstrating effective climate resilience strategies. **Moderate Reduction 5–14%:** Shows a moderate decrease in emissions, indicating progress toward emission reduction and climate resilience goals. **No Change<5%:** Little or no change in emissions, suggesting that further interventions or improvements are needed. **Emission Increase:** Indicates rising emissions, requiring immediate corrective measures to address inefficiencies in waste management practices.
Performance Interpretation	Benchmark = TBC By end of Y0: n/a By end of Y1: Plan with targets to approach / reach benchmark By end of Y2–Y6: percentage achievement of targets
Evidence	• Report approved by SPoMA on baseline and plan (Y1) • Report approved by SPoMA on progress of implementation (Y2-Y6)
Definition of Success	Agreed improvement (reduction) in annual CH_4 emissions compared to the baseline.
Benefits	**GHG Emission Reduction:** Helps reduce the contribution of waste management operations to global greenhouse gas emissions, mitigating climate change impacts. **Compliance with Climate Policies:** Aligns with international and national climate resilience and greenhouse gas reduction frameworks, contributing to achieving sustainability targets.

Indicator	**S8 Landfill Airspace Monitoring**
Perf Area	*Business reliability*
Cross Ref	*NEW* C88 indicator, ENV2.33
Definition	Assesses whether metros conduct and maintain annual topographical surveys and airspace assessments for all operational landfill sites. While the calculation is based solely on the availability of survey reports, the indicator supports broader objectives, including informed landfill operations, long-term capacity planning, and accurate financial provisioning for rehabilitation liabilities.
Purpose	To ensure licensed landfills are managed for optimal lifespan and capacity by tracking actual airspace usage and updating future availability projections. The indicator supports sound engineering practices, informed capital planning, and environmental compliance.
Key Components	**Assessment Criteria:** Completion of annual topographical survey and airspace calculations for each operational landfill; **Data Sources:** End-use plan/site profile[17], topographical survey reports, operations reports, weighbridge data, annual GRAP 19 reports **Assessment Methodology:** % of operational landfills with completed and documented annual surveys and airspace calculations.
Calculation Formula	% of operational landfill sites with valid (≤12 months old) topographical and airspace assessment reports= Number of operational landfill sites with valid topographical and airspace assessment reports / Total number of operational landfill sites
Performance Interpretation	Benchmark = 100% Compliant By end of Y0: n/a By end of Y1: Plan with targets to approach / reach benchmark By end of Y2–Y6: percentage achievement of targets
Evidence	• Report approved by SPoMA on baseline and plan (Y1) • As per ENV2.33 of Circular 88 (Y2-Y6)
Definition of Success	Annual Topographical Surveys / Airspace Reporting submitted and approved to SpoMA for all Metro owned landfills to quantify remaining airspace and weighbridge data to determine airspace consumption rate and calculate remaining useful life.
Benefits	**Sound Asset Management:** Up-to-date topographical and airspace assessments at all active, licensed landfills enable effective lifecycle planning, accurate cost estimation, and proper financial provisioning in line with GRAP 19. Without such assessments, municipalities risk poor asset stewardship, which can compromise future budgets and landfill operations. **Data-Driven Rehabilitation Planning:** Airspace assessments provide the foundation for calculating remaining useful life (RUL), a critical input for determining and discounting future rehabilitation liabilities reflected in municipal financial statements. **Operational Efficiency and Compliance:** Up-to-date landfill profile data enables optimised filling strategies, early identification of capacity constraints, and adherence to approved designs, reducing the risk of costly rectification works. At the same time, it supports regulatory compliance by minimising the likelihood of emergency expansions or licence non-compliance through proactive detection of operational deviations. **Accurate Financial and Operational Reporting:** Reliable landfill data strengthens operational planning and GRAP 19 compliance by ensuring sound estimates that serve both regulatory and management purposes. In contrast, outdated or incomplete assessments weaken the accuracy of financial provisions, leading to underfunded rehabilitation liabilities, inefficient use of airspace, and increased audit risk. **Sustainability and Long-Term Planning**: Consistent monitoring ensures landfill capacity is strategically managed, with data-driven projections guiding infrastructure investment and long-term disposal planning.

[17] Site profile is the final landform profile of the site. Airspace is the difference between the current landform and the final profile without which the remaining airspace cannot be determined. It is also important as an operational indicator to prevent over or under-filling (i.e. optimisation of airspace use) which both have a cost.