Methodology:
Indicator SDG 6.3.3A – Proportion of water containing waste recycled or reused

Version 1, February 2023

Goal 6:	Ensure availability and sustainable management of water and sanitation for all
Target 6.3:	By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally
Indicator 6.3.3A:	Proportion of water containing waste recycled or reused

C1 THE INDICATOR

C1.1 Organisation(s)

Department of Water and Sanitation (DWS)

Department of Forestry, Fisheries and Environment (DFFE)

C1.2 Definition

Target 6.3 sets out to improve ambient water quality, which is essential to protect both ecosystem health (Target 6.6 and SDGs 14 and 15) and human health (Target 6.1; recreational waters and drinking water sources), by eliminating, minimizing and significantly reducing different streams of pollution into water bodies. The main sources of pollution include wastewater from households, commercial establishments and industries (point sources), as well as run-off from urban and agricultural land (non-point sources). (Ref: UN Water, Integrated Monitoring Guide for Sustainable Development Goal 6 on Water and Sanitation. Targets and Global Indicators, July 2017)

The proposed methodology for Indicator 6.3.3.A: *Proportion of Water Containing Waste Recycled or Reused* implies the volume of wastewater collectively being recycled and reused, in comparative relation to the total volume of wastewater being produced (which could be recycled or reused without adversely affecting the relevant water budget). Table C.1 defines the terms used in terms of the application of policies and guidelines.

Table C.1: Phrase by phrase interpretation of Indicator 6.3.3.A

Indicator 6.3.3A	Normative interpretation
"Proportion of water containing waste recycled or reused."	*"Proportion of"* Percentage of total
	"Water containing waste" Water containing any solid material or material that is suspended, dissolved or transported in water. Water generated as a waste product by the following activities: • Domestic activities (households) • Commercial activities (businesses) • Food production • Energy production • Industrial production
	*"…recycled" ** The utilization of treated or untreated wastewater for the same process that generated it.
	*"…or reused" **

Indicator 6.3.3A	Normative interpretation
	The utilization of treated or untreated wastewater for a process other than the one that generated it.
	Water deemed to contain waste, as defined by the National Water Act, defines waste as: *"any solid material or material that is suspended, dissolved or transported in water (including sediment) and which is spilled or deposited on land or into a water resource in such volume, composition or manner as to cause, or to be reasonably likely to cause, the water resource to be polluted"*

**There are currently no consistent definitions for "water reuse" and "water recycling" provided by the UN. The terms "reused" and "recycled" are used interchangeably.*

C1.3 Rationale

Wastewater generated by economic activities such as manufacturing industries may contain a variety of pollutants, including hazardous substances. Eliminating inadequate disposal of waste (dumping) and minimizing the generation, use and discharge of hazardous substances are goals consistent with the Basel Convention on the Control of Transboundary Movements of Hazardous Wastes and their Disposal, the Rotterdam Convention on the Prior Informed Consent Procedure for Certain Hazardous Chemicals and Pesticides in International Trade and the Stockholm Convention on Persistent Organic Pollutants.

Since South Africa is a water scarce country, wastewater reduction, reuse and recycling are imperative to conserve our limited freshwater resources. Furthermore, the reuse and recycling of wastewater benefits the environment and associated ecosystems by providing a use for the wastewater rather than discharging the treated wastewater. In addition, the reuse and recycling of wastewater provides and indirect energy saving, by reducing the wastewater treatment needs.

C1.4 Concepts and Terms

The concepts and definitions used in the methodology have been based on existing international frameworks and glossaries unless indicated otherwise below.

Cumulative: Increase in quantity by successive additions.

Change: a shift from one condition to another; in this case it refers to a change in cumulative volume over time, in relation to a point of reference, within a water-related ecosystem.

Disaggregation: Breaking down of data into constituent data sub-sets. Data can be disaggregated by subnational regions as well as by urban/rural regions, providing information on equity.

Non-point source discharge: Diffuse water or air that does not originate from a single discrete source, e.g. agricultural runoff.

Point source discharge: Discharge of water from a discrete source, e.g. a factory discharge pipeline.

Water balance: A mathematical model of a water system, compiled by defining inputs, outputs and accumulation of water in the system. The input, output and accumulation values can be probabilistic (e.g. rainfall), deterministic (e.g. a flow rate measured by a measuring device), or estimates (e.g. infiltration rate for surface water).

C1.6 Relationship between SDG Indicator 6.3.3A and Target 6.3 and 6.4

SDG Indicator 6.3.3A relates to the impact of wastewater on the quality of ambient water, and is thus linked to the other indicators in Target 6.3 (i.e. SDG Indicators 6.3.1D and 6.3.2D) to enhance understanding of what impacts water quality in South Africa.

SDG Indicator 6.3.3A is also related to the recycling/reuse of water, and is thus linked to Target 6.4 which deals with water efficiency, because the more recycling/reuse that takes place, the more water efficient that public and private entities are.

C2 COMMENTS AND LIMITATIONS

Some data is available for the volumes of water containing waste, because this is a requirement when applying for a water use licence or an environmental authorisation, much less data is available on the volumes recycled or reused. The recycling and reuse streams are seldom metered or reported.

C3 METHODOLOGY

C3.1 Computation Method

The proposed methodology includes measurement of recycled and reused water streams, for municipal, agricultural, industrial and mining applications.

The proposed methodology consists of two calculations:

- Recycled/reused water percentage from point sources of wastewater (households, commercial establishments and industries)
- Recycled/reused water percentage from non-point sources of wastewater (run-off from urban and agricultural land).

C3.1.1 Formula

To calculate the percentage of water containing waste that is recycled/reused, Equation 1 below is used:

Equation 1:

$$V_t = \frac{V_a + V_c}{V_b + V_d} \times 100$$

Where:

V_t = percentage of wastewater that is recycled/reused

V_a = Volume of wastewater recycled/reused from point source discharges (as measured by flow measuring devices*)

V_b = Volume of wastewater discharged from point sources (as measured by flow measuring devices)

V_c = Volume of wastewater recycled/reused from non-point source discharges (as measured by flow measuring devices or modelled by water balance)

V_d = Volume of wastewater estimated to be discharged from non-point sources (as modelled by water balance)

*flow measuring devices include flow meters, weirs, etc

The recommended monitoring unit is megalitres per annum, however alternative units can be used, provided they are all assessed for the same time-period using a unit of measurement.

The volumes per source or per area (non-point source) can be aggregated into municipality, province, watershed, or for the country as a whole. This will assist in providing data at a range of scales, while also providing comparisons between municipalities, regions, and provinces to give a better representation of the country's status quo and provide an understanding of where the main wastewater discharge challenges lie. The percentages calculated can be presented graphically by being graphed, and on maps to assist with reporting and interpretation of the data.

In terms of progressive monitoring, owners of wastewater sources (e.g. factory owners and farm owners) can start with an estimation of volume, and gradually move towards more accurate quantitative estimations. Table C.2 provides an example of progressive monitoring.

Table C.2: Progressive Monitoring of Indicator 6.3.3A

Indicator 6.3.3A	**Progressive Monitoring**
"Proportion of water containing waste recycled or reused."	*First step* Estimation of total volumes of water containing waste recycled or reused, for point sources (municipal wastewater treatment plants and licensed wastewater generators) Where available; actual volumes should be used. Where actual volume data is not available, it should be estimated using the site/facility's water balance, or the pump and pipe size. For non-point sources (agricultural and urban areas): Volumes should be modelled based on the water balance of the non-point sources.
	Second step Refined estimation of total volumes of water containing waste recycled or reused, for point sources (municipal wastewater treatment plants and licensed wastewater generators) Inclusion of volume data from unlicensed point sources, where available (or nearest estimate). Refinement of volumes from non-point sources, using updated water balance input data (rainfall, evaporation, etc.)
	Third step Estimation of total volumes of water containing waste recycled or reused, focusing on all water return-flows Calculation of volume percentage, using measured volume data for all point sources in South Africa. Utilize accurate modelled data for all non-point sources in South Africa.

To align to the UN global reporting standard for SDG 6.3.3A, the proposed frequency of national data collection and reporting should be annually.

C3.2 Treatment of incorrect and missing data

Missing data on recycled/reused water will be treated as absent data, i.e. where there is no data for a given point or non-point wastewater source, it will be assumed that there is no wastewater recycling/reuse.

C3.3 Sources of discrepancies

For point sources: discrepancies may occur where there are multiple flow measuring devices on a single point source discharge line/weir. There may be two flow meters on a given line; for example, a municipal check meter may be installed in the same line as the meter that a company is using to report their discharge.

For non-point sources: where wastewater discharge is being calculated by municipalities, discrepancies may occur if different rainfall, evaporation and infiltration data is used in the water balance.

Various issues surrounding poor data capturing and uploading can exist namely:

- Insufficient funding for data collection and capture (human resources)
- Insufficient funding for data management systems (database maintenance, servers, backups, reporting software, etc.)
- Lack of training of human resources

C4 DISAGGREGATION OF DATA FOR MANAGEMENT PURPOSES

The listed additional and supporting data will make it possible to disaggregate national information to depict performance .

- At different scale per draining region / catchment;
- Per Water Management Area (WMA);
- Per province;
- Per municipality;
- Per waste generation sector;
- Per individual WWTWs;
- Per treatment technology category;
- Per entitlement (authorization type/approval);
- Per discharge endpoint (i.e. a municipal sewage network system or a water resource).

C5 DATA SOURCES

The data sources or monitoring mechanisms of information of management targets for 6.3.3A may include the following:

- Flow meter or weir data from municipal wastewater treatment works
- Flow meter or weir data from owners of mining, industrial or commercial entities
- Water balance data from owners of agricultural establishments
- Water balance data from municipalities, for urban runoff.

In addition to the core data sets, i.e. covering the essential water discharge volumes, reuse and recycling; additional supporting data is required to generate sufficient and appropriate intelligence to improve local water management efforts. Such additional and supporting data include the recording of-

- whether the activity falls within the municipal or non-municipal category;
- whether the discharge occurs to a municipal sewer network system or to a water resource;
- in the case of discharges to municipal sewer network systems, whether the wastewater is treated prior to it being discharged to the municipal sewer network system (Y/N);
- in the case of discharges to water resources, whether the wastewater is treated prior to it being discharged to the water resource (Y/N);
- if discharging to a water resource – providing the water resource name(s);
- the quaternary drainage region name(s) and/ or number(s);
- the name of the municipality and/or the water user;
- the name and coordinates of the WWTW(s);
- the type of waste generating activity (see APPENDIX C1);
- whether the water use is permissible or not (Y/N);
- the entitlement (i.e. authorisation type/ municipal approval) received or required;
- whether discharge volumes are recorded by the regulator, the municipality and/ or water user (Y/N).

C5.1 Collection process

Data collection could follow the following processes:

- Scanning and download of data in the DWS water use licence (WUL) database;
- Formal directed request for information for businesses operating in industrial parks in municipalities countrywide; and
- Scanning and download of publicly disclosed discharge and recycling data by major corporate entities (e.g. GRI and CDP Water disclosures).

The total volume of water containing waste that is discharged by WWTWs of non-municipal activities to water resources is to be derived from:

- The actual discharge volumes, as measured and reported to the DWS by the non-municipal activities; or
- In the absence of actual discharge volumes, the authorised discharge volumes can be used to substitute; or
- In the absence of actual and authorised discharge volumes, the volumes registered on the Water Authorisation and Registration Management System (WARMS) can be used.
- Note: The WARMS volumes would have to be presumed lawful until verified, especially in the case of Existing Lawful water Use (ELU); or
- In the absence of actual and WARMS volumes, the design capacity of the WWTWs can be used.

For non-municipal activities with more than one WWTW, the volume of the individual WWTWs are to added together to determine:

- a total volume of water containing waste lawfully discharged to water resources by a particular non-municipal activity; and
- a total volume of water containing waste produced and discharged to water resources by that non-municipal activity.

The discharged water containing waste is deemed to be lawful if the water use is permissible in terms of the NWA 36:1998 and if in compliance with the relevant Water Discharge Standards (WDSs). The frequency of sampling is as per the relevant approval or authorisation. A minimum discharge monitoring frequency of monthly discharge is recommended for SDG reporting purposes, unless otherwise specified in the relevant approval or authorisation.

The initial data gathering is a once-off exercise to generate an initial database. Thereafter, data would be updated on an annual basis.

C6 DATA AVAILABILITY

C6.1 Availability

Data is currently only available at municipal level, and even at municipal level, it is not a complete dataset.

Water use licence data is incomplete and not all WULs are audited regularly to capture volume data time series.

C6.2 Frequency

Data may not be captured in sufficient time intervals due to the above constraints.

The proposed frequency of national data collection and reporting should be annually.

C7 DATA PROVIDERS

Government data providers include:

- The Department of Water and Sanitation (DWS) WUL,
- Local and district municipalities: wastewater treatment departments, urban water management departments,
- Department of Forestry, Fisheries and Environment (DFFE) wastewater authorisation departments,

Private company data providers:

- Farm owners,
- Industrial company owners,
- Mine owners.

C8 DATA COMPILERS

The DWS will be the primary data compiler, with support from the DFFE and district municipalities. DWS will provide this data to StatsSA, who is responsible for country-level reporting on the SDGs. The roles of the various players is outlined below:

Table C.3: SDG 6.3.3A Summary of Data and Information Compilers

Data Provider	SDG 6.3.3A
DWS	X
StatsSA	x
DFFE	x
District Municipalities	x
Private companies	x

X = Lead role player
x = supporting role player
- = No role

C9 MANAGEMENT TARGETS

SDG Indicator 6.3.3A is a new additional indicator under SDG 6.3. The purpose of SDG 6.3.3A sub-target is to provide a practical, step-by-step incremental and attainable integrated water quality management target that can be utilised for benchmarking purposes during SDG Target 6.3 implementation and reporting. Table C.4 includes the *Management* and supporting *Milestone Sub-targets* for SDG 6.3.3A.

Knowledge on the current baseline is necessary for the finalisation of the Milestone Sub-targets

Table C.4: Milestones and Management Targets to Benchmark Performance during SDG 6.3.3.A Implementation (Ref: DWS, SDG6.3 Methodology Report, Jan 2021)

Target Type	Year	Target Description
Milestone Sub-target	Baseline data	(baseline) % *water containing waste recycled / reused*
	2022	Baseline + 1/10 or 10% of Baseline
	2023	Baseline + 2/10 or 20% of Baseline
	2024	Baseline + 2/10 or 20% of Baseline
	2025	Baseline + 3/10 or 30% of Baseline
	2026	Baseline + 3/10 or 30% of Baseline
	2027	Baseline + 4/10 or 40% of Baseline
	2028	Baseline + 4/10 or 40% of Baseline
	2029	Baseline + 5/10 or 50% of Baseline
	2030	Baseline + 5/10 or 50% of Baseline
Milestone Sub-Target (MST)	2030	50% of designed streams of water containing waste are reused and / or recycled
SDG Target 6.3		By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally.

Table C.5 summarises potential links between global and national indicators and targets for SDG 6.3.3A.

Table C.5: SDG 6.3.3A Indicator and Targets from Global and South African Literature

Global and National Indicators for 6.3.3A	Targets
Medium-Term Strategic Framework (MTSF)	
PRIORITY 2: Spatial Integration, Human Settlements and Local Government	
2024 Impact: Achieving spatial transformation through improved integrated settlement development and linking job opportunities and housing opportunities	
No. of bulk water supply projects implemented (completed)	51 bulk water and wastewater supply project phases completed of which: 9 were sanitation services and 42 were for water supply
2024 Impact: Rapid land and agrarian reform contributing to reduced asset inequality, equitable distribution of land and food security	
% of land reform projects with secure water rights	90%
National Water and Sanitation Master Plan (NW&SMP)	
1.4 Regulating the water and sanitation sector	
1.4.7 Develop and implement municipal bylaws to protect water quality.	Publication of updated bylaws that includes Project of Raw Water Quality
1.4.9 Establish a mechanism for applying administrative penalties	Strengthening Compliance and Enforcement training modules to build the capacity of EMIs in-house Strengthen the CME, finalisation of the Strategy and Implemented Plan Appoint Environmental Management Inspectors (EMI) to conduct CME
1.5 Improving raw water quality	
1.5.6 Develop and implement a strategic action plan for the rehabilitation and upgrade of prioritized WWTWs (SA17)	Public campaign and five functional WWTWs with maintenance plans and turnaround strategy
	Programme to address the remaining WWTWs and functional WWTWs with maintenance plans
1.5.10 Formalise governance frameworks to support engagements on water quality management (SA10, SA11, SA12, SA13, SA14, SA15, SA54 & SA61)	Build from IGR framework and SADC protocols
National Biodiversity Strategy and Action Plan (NBSAP)	
SO 3. Biodiversity considerations are mainstreamed into policies, strategies, and practices of a range of sectors	
Number of compliance inspections conducted	By 2019, 14 500 compliance inspections conducted.
Number of enforcement actions undertaken for non-compliance with environmental legislation	By 2019, 1 500 completed criminal investigations handed to the NPA for prosecution (for EMI Institutions) and 3 100 administrative enforcement notices issued for non-compliance with environmental legislation.
SO 6. Effective knowledge foundations, including indigenous knowledge and citizen science, support management, conservation, and sustainable use of biodiversity	
Single portal exists through which all biodiversity information can be accessed	By 2016, the single portal is established, and it is being populated
Global and National Indicators for 6.3.3A	**Targets**
Medium-Term Strategic Framework (MTSF)	
PRIORITY 5: Spatial Integration, Human Settlements and Local Government	

Global and National Indicators for 6.3.3A	Targets
2024 Impact: Achieving spatial transformation through improved integrated settlement development and linking job opportunities and housing opportunities	
No. of water treatment works assessed	1 010 every 2 years – alternating with Green Drop assessments
2024 Impact: Rapid land and agrarian reform contributing to reduced asset inequality, equitable distribution of land and food security	
% of land reform projects with secure water rights	90%
National Water and Sanitation Master Plan (NW&SMP)	
1.4 Regulating the water and sanitation sector	
1.4.1 Revitalise the Green, Blue and No Drop programmes and publish results and revise and establish norms and standards.	National Obtain annual BD and GD Assessments reports Obtain from 144 WSAs IWA Water Balance requirements (No Drop report) Monitoring of Monthly No Drop reports and annual BD and GD reports Capturing and publish of results on DWS web Provincial Monthly submission of 19 IWA Water Balance requirements (No Drop report) to DWS Annual submission of 19 BD and GD compliance assessments
1.5 Improving raw water quality	
1.5.1 Determine in-stream Resource Water Quality Objectives (RWQOs), based on the SA Water Quality Guidelines (SA36), in support of RQO's Capacity, budgetary constraints	Publish the RWQOs for water quality RQOs adequately reflect IWQM requirements
1.5.2 Routinely monitor resource water quality (SA46, SA47 SA48)	Laboratory facilities not readily available in all WMAs hampering IWQM
	National monitoring network in place but coverage requires expansion
	Regional water quality programmes insufficient to manage pressure on water resources
	Regional and local water quality programmes insufficient to manage pressure on water resources
1.5.4 Assess resource water quality information (SA52 & SA59)	Routine national assessments of water quality and input in support of the SDG process
	Routine catchment assessments of water quality and the identification of "hot spots" for potential water quality management intervention

C10 DISPLAY OF RESULTS

The percentages calculated of wastewater reused or recycled as a percentage of the total wastewater generated, can be presented graphically by being graphed, and on maps to assist with reporting and interpretation of the data. The volumes per source or per area (non-point source) can be aggregated into municipality, province, watershed, or for the country as a whole. This will assist in providing data at a range of scales, while also providing comparisons between municipalities, regions, and provinces to give a better representation of the country's status quo and provide an understanding of where the main wastewater discharge challenges lie.

Table C10.1 provides an example of the format in which the SDG 6.3.3A results and be formatted. Figures C10.1 and C10.2 provide a graphical representation of how the data sets can be presented and assessed for comparative purposes.

Figure C.2: Example of wastewater recycling / reuse municipal vs by district municipality

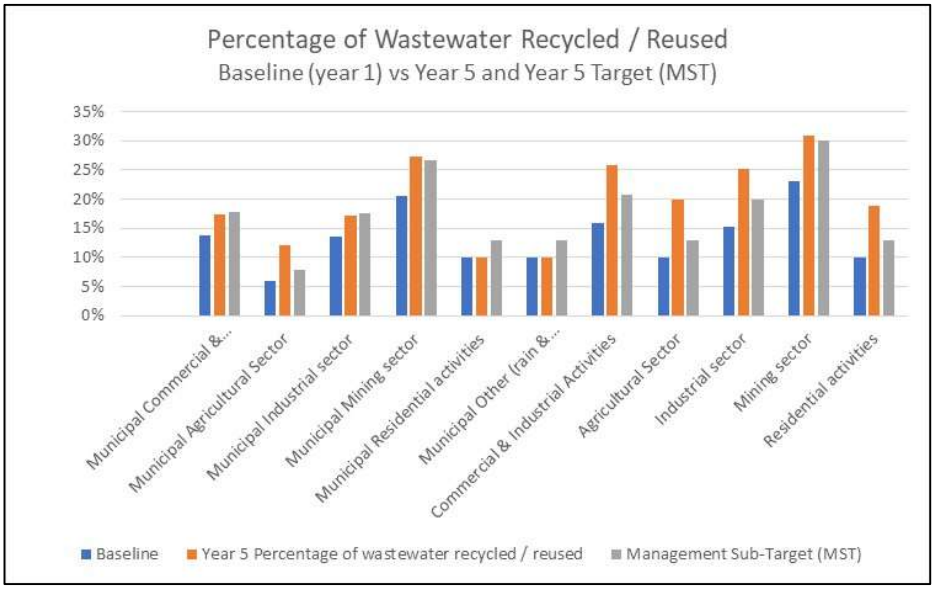

Figure C.3: Example of volume of wastewater discharged vs recycled / reused per sector

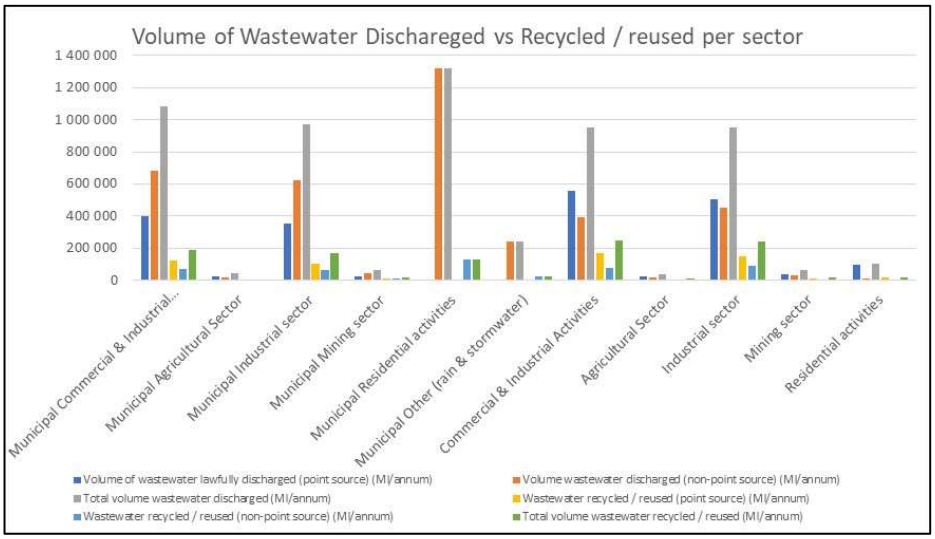

Table C10.1: SDG 6.3.3A Fictitious Wastewater Reuse and Recycling for South Africa

Category / Sector Wastewater Discharge		YEAR 1	YEAR 5							
		Baseline	Volume of wastewater lawfully discharged (point source)	Volume wastewater discharged (non-point source)	Total volume wastewater discharged	Wastewater recycled / reused (point source)	Wastewater recycled / reused (non-point source)	Total volume wastewater recycled / reused	Year 5 Percentage of wastewater recycled / reused red < MST green ≥ MST	Management Sub-Target (MST)
			(Ml/annum)	(Ml/annum)	(Ml/annum)	(Ml/annum)	(Ml/annum)	(Ml/annum)	$V_t = \frac{V_a + V_c}{V_b + V_d} \times 100$	
Municipal Category	Commercial & Industrial Activities	14%	399 667	680 513	1 080 180	119 900	68 051	187 951	17%	18%
	Agricultural Sector	6%	26 010	17 197	43 207	5 202	0	5 202	12%	8%
	Industrial sector	14%	350 000	622 162	972 162	105 000	62 216	167 216	17%	18%
	Mining sector	20%	23 657	41 154	64 811	9 463	8 231	17 694	27%	27%
	Residential activities	10%	0	1 320 220	1 320 220	0	132 022	132 022	10%	13%
	Other (rain & stormwater)	10%	0	240 040	240 040	0	24 004	24 004	10%	13%
Non-Municipal Category	Commercial & Industrial Activities	16%	560 000	390 558	950 558	168 000	78 112	246 112	26%	21%
	Agricultural Sector	10%	23 600	14 422	38 022	4 720	2 884	7 604	20%	13%
	Industrial sector	15%	502 000	448 558	950 558	150 600	89 712	240 312	25%	20%
	Mining sector	23%	34 400	28 971	63 371	13 760	5 794	19 554	31%	30%
	Residential activities	10%	94 000	11 618	105 618	18 800	1 162	19 962	19%	13%

V_t = percentage of wastewater that is recycled/reused

V_a = Volume of wastewater recycled/reused from point sources (as measured by flow measuring devices*)

V_b = Volume of wastewater discharged from point sources (as measured by flow measuring devices*)

V_c = Volume of wastewater recycled/reused from non-point sources (as measured by flow measuring devices* or modelled by water balance)

V_d = Volume of wastewater estimated to be discharged from non-point sources (as modelled by water balance)

C11 COMMENTS AND LIMITATIONS

Data collection in relation to water recycling/reuse has only been informally tracked prior to 2023, and has not had a formal methodology for such tracking. The data is largely incomplete, and requires a concerted effort to be collected, captured, and organised.

It is important that the same methods are used by all reporting agencies from which data is obtained for DWS's use when compiling data according to this new methodology. The methods, approaches, and interpretations should be consistently applied by owners of all wastewater sources.

This methodology document should be a living document, and should be updated as more information of constraints and details of recycling/reuse, become available.

C12 IMPLEMENTATION CALENDAR

Table C.5 describes how reporting on this indicator will be improved over time:

Table C.5: Improvement in the Availability of Data and Information for Indicator 6.3.3A

Indicator	**Tier 1** **First step of progressive monitoring and information handling**	**Tier 2** **Second step of progressive monitoring and information handling**	**Tier 3** **Third step of progressive monitoring and information handling**
SDG 6.3.3A *"Proportion of water containing waste recycled or reused."*	For point sources (municipal wastewater treatment plants and licensed wastewater generators): - Where available, actual volumes should be used. Where actual volume data is not available, it should be estimated using the site/facility's water balance, or the pump and pipe size. For non-point sources (farms and urban areas): - Volumes should be modelled based on the water balance of the non-point sources.	Inclusion of volume data from unlicensed point sources, where available (or nearest estimate). Refinement of volumes from non-point sources, using updated water balance input data (rainfall, evaporation, etc.)	Calculation of volume percentage, using: measured volume data for all point sources in South Africa, in addition to accurate modelled data for all non-point sources in South Africa.
	End 2023	End 2024	Data collection to be reported on annually basis

Table C.6 contains a summary of due dates and responsibilities for key implementation activities that apply to the roll-out of the Indicator methodology.

Table C.6: Key Implementation Activities and Due Dates to be Completed for Indicator 6.3.3A

Implementation Activities		Due Date	Responsibility
1	Methodology Finalised	June 2023	DWS
2	National database of available data and estimated data	December 2023	DWS, DFFE
3	National database with all data captured	December 2024	DWS, DFFE
4	Data analysis and national reporting	2024, 2026, 2028, 2030	DWS, DFFE

C13 ADDITIONAL INFORMATION

The data generated through the application of this methodology will be used to assist in validating the effectiveness of SDG 6.B.1 submitted by the UN, as part of the SDG process.

C14 METHODOLOGY REPORT COMPILERS

The draft methodology was compiled by:

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C15 REFERENCES

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APPENDIX C1 – WASTE GENERATING SECTOR CLASSIFICATION

Table C10.1: SDG 6.3.3A Fictitious Wastewater Reuse and Recycling for South Africa

Activity	South African classification of economic sectors used in SDG Indicator 6.3.3A reporting		International Standard Industrial Classification (ISIC) of economic sectors identified for global SDG Indicator 6.3.1 reporting.
	Parent waste generating sector	**Waste generating sector**	
Commercial / Industrial	1. Agriculture	Aquaculture	Agriculture, forestry and fishing ISIC (01 to 03)
		Intensive animal husbandry	
		Irrigation	
		Other	Construction (ISIC 41-43)
	2. Industry	Power generation	Electric power generation, transmission and distribution (ISIC 351)
		Agro processing	Manufacturing (ISIC 10 to 33)
		Fertilizers	
		Metal processing and finishing	
		Textiles	
		Meat processing	
		Manufacturing	
		Paper and pulp	
		Wineries	
		Petro-chemical	
		Other	Construction (ISIC 41-43)
			Electricity, gas, steam and air conditioning supply (ISIC 35) *
	3. Mining	Coal	Mining and quarrying (ISIC 05 to 09)
		Gold	
		Iron	
		Uranium	
		Copper	
		Chromium	
		Diamond	
		Peat mining	
		Platinum	
		Quarrying	
		Sand winning	

Activity	South African classification of economic sectors used in SDG Indicator 6.3.3A reporting		International Standard Industrial Classification (ISIC) of economic sectors identified for global SDG Indicator 6.3.1 reporting.
	Parent waste generating sector	**Waste generating sector**	
		Other	Construction (ISIC 41-43)
Residential	4. Urban / Domestic	Water treatment works (Water purification works)	-
		Sewage treatment works (Wastewater treatment works)	Wastewater treated in urban wastewater treatment plants (ISIC 37)
		Waste disposal	Sewage sludge production (dry matter)
		Other	Construction (ISIC 41-43)
			Households*
			Wastewater treated in independent treatment facilities (i.e. Septic Tanks) *

Ref: .