

NATIONAL WATER AND SANITATION MASTER PLAN

VOLUME 3: SCHEDULE OF ACTION Version 4.8

**Ready for the Future
and Ahead of the Curve**

23 October 2018

WATER IS LIFE - SANITATION IS DIGNITY



water & sanitation

Department:
Water and Sanitation
REPUBLIC OF SOUTH AFRICA



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List of Acronyms

Acronym	Description
ACIP	Accelerated Community Infrastructure Program
AIP	Alien Invasive Plants
AMCOW	African Ministers' Council on Water
AMD	Acid Mine Drainage
ARC	Agricultural Research Council
b/a	billion per annum
BBBEE	Broad-Based Black Economic Empowerment
bn	Billion= 1000 000 000
BRICS	Brazil, Russia, India, China and South Africa
CARA	Central Adoption Resource Authority
CHE	Council on Higher Education
CMA	Catchment Management Agency
CME	Compliance, Monitoring and Enforcement
CMF	Catchment Management Forum
CMS	Catchment Management Strategy
COP 17	17th Conference of the Parties
CRDP	Comprehensive Rural Development Program
CRU	Central Regulatory Impact Assessment Unit
CSI	Corporate Social Investment
CSIR	Council for Scientific and Industrial Research
CSO	Civil Society Organization
DAFF	Department of Agriculture, Forestry and Fisheries
DBE	Departments of Basic Education
DBSA	Development Bank of Southern Africa
DDT	Dichlorodiphenyltrichloroethane
DEA	Department of Environmental Affairs
DCoG	Department of Cooperative Governance
DHET	Department of Higher Education and Training
DM	District Municipality
DMR	Department of Mineral Resources
DOE	Department of Energy
DHS	Department of Human Settlements
DPE	Department of Public Enterprises
DPSA	Department of Public Service and Administration
DRD&LR	Department of Rural Development and Land Reform
DST	Department of Science and Technology
DTI	Department of Trade and Industry
DWA	Department of Water Affairs
DWAF	Department of Water Affairs & Forestry
DWM	Developmental Water Management
DWS	Department of Water and Sanitation
e.g.	for example
EU	European Union

ELU	Existing Lawful Use
etc.	etcetera; and so on
EWSETA	Energy and Water Sector Education and Training Authority
EXCO	Executive Committee
FAO	Food and Agriculture Organisation
FET	Further Education and Training
FETWater	Framework Programme for Research, Education and Training in Water, South Africa (UNESCO initiative)
G8	The Group of Eight (world's eight wealthiest western countries)
GA	General Authorisations
GCM	Global Circulation Models
GCIS	Government Communication Information System
GDP	Gross Domestic Product
GET	General Education and Training
GFETQSF	General and Further Education and Training Qualifications Sub-Framework
GG	Government Gazette
GGP	Gross Geographic Product
GIS	Geographical Information System
GLEWAP	Groot Letaba River Water Development Project
GN	Government Notice
GRIP	Groundwater Resource Information Project
HDI	Historically Disadvantaged Individuals
ha	Hectares
HE	Higher Education
HEI	Higher Education Institutes
HEQSF	Higher Education Qualifications Sub-framework
HRDS	Human Resources Development Strategy
HYDSTRA	Integrated Water Resources Management Software
IB	Irrigation Board
IBSA	The India-Brazil-South Africa Dialogue Forum
IDP	Integrated Development Plan
IDZ	Industrial Development Zone
i.e.	that is
IHP	International Hydrological Programme
IPAP3	Industrial Policy Action Plan 3
IPP	Independent Power Producers
IRP	Integrated Resource Plan
IRR	Institutional Reform and Realignment
IT	Information Technology
i.t.o.	in terms of
IUA	Integrated Units of Analysis
IWA	International Water Association
IWRM	Integrated Water Resource Management
IWWMP	Integrated Water and Waste Management Plan
IWTSA	Industry Water Task Team of South Africa
JPTC	Joint Permanent Technical Committee
JSE	Johannesburg Stock Exchange

JWC	Joint Water Commission
KNP	Kruger National Park
KPI	Key Performance Indicator
LEDP	Local Economic Development Plan
LGSETA	Local Government Sector Education & Training Authority
LHDA	Lesotho Highlands Development Authority
LHWP	Lesotho Highlands Water Project
LRAD	Land Reform for Agricultural Development
LTAS	Long Term Adaptation Scenarios
LTBWSS	Lower Tugela Bulk Water Supply Scheme
LWC	Limpopo Watercourse Commission
m ³ /a	ubic meter per annum
mm/year	millimetres per year
mg/l	milligrams per litre
ML/day	Megalitres per day= 1 000 000 litres/day
M&E	Monitoring and Evaluation
MAR	Mean Annual Runoff
MDG	Millennium Development Goals
MFMA	Municipal Finance Management Act
MIG	Municipal Infrastructure Grant
MISA	Municipal Infrastructure Support Agency
MMTS2	Mooi-Mgeni Transfer Scheme Phase 2
MoU	Memorandum of Understanding
MTEF	Medium Term Expenditure Framework
MWIG	Municipal Water Infrastructure Grant
MW	Mega Watt
NATED	National Technical Education
NCBF	National Capacity Building Framework for Local Government
NDP	National Development Plan
NEMA	National Environmental Management Act
NFEPA	National Freshwater Ecosystem Priority Areas
NGA	National Groundwater Archive
NGP	New Growth Path
NGO	Non-government Organisation
NGS	National Groundwater Strategy
NMBMM	Nelson Mandela Bay Metropolitan Municipality
NPC	National Planning Commission
NPS	Non-point Source
NPSS	Non-Point Source Strategy
NQF	National Qualifications Framework
NRF	National Research Foundation
NRW	Non-Revenue Water
NSA	National Skills Accord
NSDP	National Spatial Development Perspective
NSDS	National Skills Development Strategy
NSI	National System of Innovation

NT	National Treasury
NWA	National Water Act (Act 36 of 1998)
NWAC	National Water Advisory Council
NW&SMP	National Water and Sanitation Master Plan
NWRI	National Water Resource Institute
NWRS	National Water Resource Strategy
NWRS1	National Water Resource Strategy (first edition, 2004)
NWRS2	National Water Resource Strategy (second edition 2013)
O&M	Operation and Maintenance
ODA	Official Development Assistance
OECD	Organisation for Economic Cooperation and Development
ORASECOM	Orange-Senqu (River Basin) Commission
ORWRDP	Olifants River Water Resource Development Project
OQSF	Occupational Qualifications Sub-Framework
OSD	Occupation Specific Dispensation
PALAMA	Public Administration Leadership and Management Academy
PES	Present Ecological State
Ph	Phase
PFMA	Public Finance Management Act
PGDP	Provincial Growth and Development Plan
PGDS	Provincial Growth and Development Strategy
PMU	Project Management Unit
PPP	Public Private Partnerships
P/S	Pump Station
PWC	Permanent Water Commission
QCTO	Quality Council for Trades and Occupations
R&D	Research and Development
R&I	Research and Innovation
RBIG	Regional Bulk Infrastructure Grant
RBO	River Basin Organizations
RDM	Resource Directed Measures
RDP	Reconstruction and Development Programme
REGIS	Software system developed in the Netherlands, currently under investigation for its application in South Africa
RIA	Regulatory Impact Assessment
RIDMP	Regional Infrastructure Development Master Plan
RISDP	Regional Indicative Strategic Development Plan
Rio+20	United Nations Conference on Sustainable Development, 2012
RPL	Recognition of Prior Learning
RQO	Resource Quality Objectives
RSA	Republic of South Africa
RSAPIII	Regional Strategic Action Plan III
RWH	Rainwater Harvesting
RWU	Regional Water Utility
RWQO	Receiving Water Quality Objective
SA	South Africa
SAAWU	South African Association of Water Utilities

SADC	Southern African Development Community
SAICE	South African Institution of Civil Engineering
SALGA	South African Local Government Association
SAWS	South African Weather Service
SDC	Source Directed Controls
SETA	Sector Education & Training Authority
SIP	Strategic Integrated Project
SIWI	Stockholm International Water Institute
SULP	Sustainable Utilization Plans
SWPN	Strategic Water Partnership Network
TAC	Technical Advisory Committee
TCTA	Trans Caledon Tunnel Authority
UDF	Urban Development Framework
UN	United Nations
UNCSD	United Nations Conference on Sustainable Development
UNEP	United Nations Environment Programme
GEMS	Global Environment Monitoring System
UNFCCC	United Nations Framework Convention on Climate Change
UNESCO	United Nations Educational, Scientific and Cultural Organization
VGG	Vaal Gamagara
WAR	Water Allocation Reform
WAS	Water Accounting System
WARMS	Water Registration Management System
WARS	Water Allocation Reform Strategy
WCWSS	Western Cape Water Supply System
WCWDM	Water Conservation and Water Demand Management
WDCS	Waste Discharge Charge System
WISA	Water Institute of Southern Africa
WMA	Water Management Area
WMP	Water Management Plan
WMS	Water Management System
WRA	Water Research Act
WRC	Water Research Commission
WRM	Water Resource Management
WRTC	Water Resources Technical Committee
WS	Water Services
WSA	Water Services Authority
WSAct	Water Services Act (Act 108 of 1997)
WSDP	Water Services Development Plans
WSLG	Water Sector Leadership Group
WSP	Water Services Provider
WMA	Water Management Area
WTW	water treatment works
WWC	World Water Council
WWTW	waste water treatment works
WUL	Water Use License

List of Standard Units

Description	Standard unit
Elevation	m.a.s.l.
Acceleration	m/s^2
Ampere	A, kA
Area	m^2 , ha or km^2
Density	kg/m^3
Diameter	mm dia., m dia.
Dimension	mm, m
Discharge	m^3/s
Distance	m, km
Electric power	kVA, kW, MW
Energy	kJ, MJ
Force, weight	N, kN, MN
Gradient (V:H)	%
Height	m
Mass	kg, ton
Mean annual runoff	million m^3/a
Moment, torque	Nm, kNm, MNm
Power	kW, MW
Pressure	Pa, kPa, MPa
Slope (H:V) or (V:H)	1:5 (H:V) or 5:1 (V:H)
Velocity, speed	m/s , km/hr
Volt	V, kV
Volume (storage)	m^3 , million m^3 , ML
Yield	million m^3/a , ML/day

1. VOLUME 3: SCHEDULE OF ACTIONS – ROADMAP

1.1 INTRODUCTION

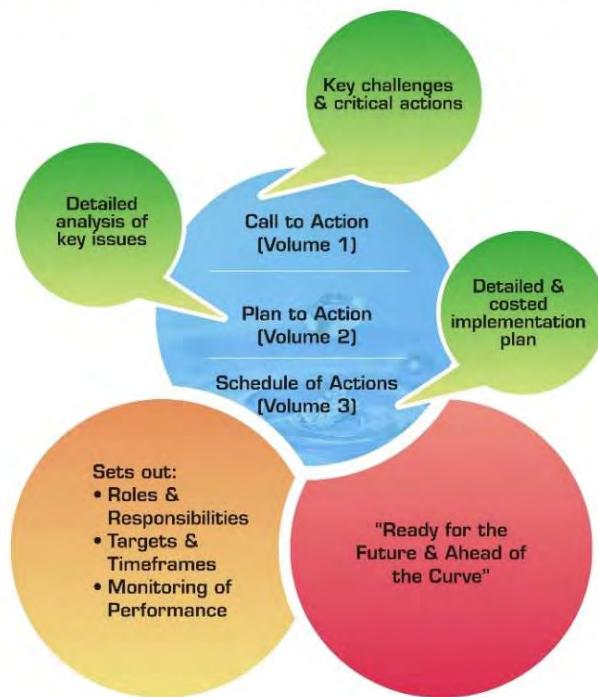
The current National Water and Sanitation Master Plan (NW&SMP) is a plan of actions that needs to be implemented by the entire water sector in South Africa in order to achieve Government's goals and objectives. This version of the NW&SMP was drafted by the Department of Water and Sanitation (DWS), in consultation with, and considering the input from, the stakeholders in the entire water sector, and aims to provide the basis for further consultations before being finalized.

In general, the NW&SMP is intended to be a living document, and therefore even after its initial finalization, its content and the achievement of the set targets will be monitored and evaluated. Where necessary, be amended and updated annually based on the inputs from stakeholders and revised government targets and available budgets. This process will provide continuous opportunities for further inputs from all stakeholders.

The NW&SMP comprises of the following three (3) Volumes:

- Volume 1: Call to Action that serves as the Executive Summary of the NW&SMP, which outlines broadly the current challenges and proposed solutions. Only the overall strategic key actions and interventions are included in Volume 1.
- Volume 2: Plan to Action motivates in greater detail the challenges facing the water sector and the necessity of specific actions and interventions. It also outlines the key actions under each section and provides a summary of the key actions at the end.
- Volume 3: Schedule of Actions is the core deliverable of the NW&SMP. It includes substantially more details about all the actions / interventions, programmes and projects required to achieve the NW&SMP's purpose, which where applicable, are broken down to provincial or catchment level. It also provides additional details regarding the specific responsibilities of the relevant parties and a breakdown of deliverables and cost per time segment. This schedule is intended to be used for monitoring and evaluation of the achievements of the set targets, but should not be seen as a monitoring and evaluation tool.

National Water and Sanitation Master Plan



This Document serves as a guide explaining the purpose, the actual content of Volume 3 (Schedule of Actions), as well as explanatory notes on the format and functionality of Volume 3.

1.2 OUTLINE

The purpose of Volume 3 is to arrange and translate all actions and interventions identified within Volumes 1 and 2 of the NW&SMP into annual measurable outcomes inclusive of roles and responsibilities, time frames as well as associated estimated costs. Therefore Volume 3 aims to:

- Position each action according to its NW&SMP section and key element;
- Categorise each action according to its level of importance within Volume 3, since the key actions listed within Volume 1 have a higher impact value than the sub-ordinate actions indicated within Volume 2;
- Assign specific responsibilities, measurable targets and costs to each action;
- Illustrate interconnectivity between actions and responsibilities to allow sector buy-in as well as acceptance of sector responsibility sharing;
- Enable the prioritisation and scheduling of actions depending on the budgets available per fiscal year;
- Allow for regular reviews and amendments;
- Allow for proper monitoring and evaluation of achievements; and
- Allow for monitoring of the performance of responsible parties for each action.

The Schedule of Actions included in Volume 3 is presented in tabular format, with appropriate functionality allowing the user to conveniently navigate through the listed actions and drill down into the specific NW&SMP section, action level, province, catchment etc. Volume 3 is developed applying SMART principles, where SMART means:

- Specific (simple, sensible, significant).
- Measurable (meaningful, motivating).
- Achievable (agreed, attainable).
- Relevant (reasonable, realistic and resourced, results-based).
- Time bound (time-based, time limited, time/cost limited, timely, time-sensitive).

Volume 3 is presented within an Excel Spreadsheet that comprises a simplistic dashboard that allows the viewer to navigate between NW&SMP sections as well as supporting drivers / principles / information sources that were followed in preparing Volume 3.

The full content of Volume 3 is contained in Chapter 2 of this Document, followed by the underlying determinants (Chapter 3) and functionality / specifications of Volume 3 in Chapter 4.

The format of the table is presented under 4.2 Specifications:, followed by descriptive definitions of its requirements as well as the application thereof.

2. VOLUME 3: SCHEDULE OF ACTIONS

Menu

Click on theme

Draft Final
(23/10/2018)



Level 1: Key Actions	Please hover on cell headings to obtain definitions		Nat. Reg. & System (N) / Local (L)	Baseline / Status Quo	Overall targets				Breakdown of deliverables per time segment			2026-2030 (beyond current MP horizon, to vary in future)			2031-2050 (beyond current MP horizon)			Priority																																	
	Level 2: Supporting Actions	Level 3: Regional Actions			Drivers / Goals	Major Measurable Deliverable	Target Date		Responsible Institutions		Present Value Cost (VAT excl.) R million (2018) (MP horizon)	2018-2020		2021-2025		2026-2030		Note	Magnitude of impact if action does not occur (1) Critical, (2) Serious, (3) important (4) minor	Is it a foundation action: (1) Other actions highly dependent; (2) Few direct dependencies (3) no direct dependencies	What level of impact will the investment generate? (1) Major benefit (>x10); (2) moderate benefit (>x2) (3) limited benefit	What has prevented action from being completed to date?																													
							Start date	Compl. Date	Lead	Support		Deliverable	Date	PV Cost R million	Deliverable	Date	PV Cost R million																																		
							TOTAL Water and Sanitation Management: R 548 637				TOTAL: R 145 815				TOTAL: R 336 461				TOTAL: R 66 360				TOTAL: R 142 516																												
1.1 Reducing water demand and increasing supply																																																			
Reduce water demand																																																			
1.1.1	National	Local	41% Non-revenue water	A;A; B;6	26% Non-revenue water	2018	2030	DWS	CMs, CTA	R	562	15% Non-revenue water	2020	R	72	15% Non-revenue water	2025	R	360	15	2020	R	130	2025	R	604	1	1	1	Lack of commitment from DWS to capture submitted reports and to follow up on non-submission of reports.																					
Reduce Non Revenue Water (NRW) and water losses in all municipalities to 15% below the business as usual	Eastern Cape	WSA	46,3% Non-revenue water		31,3% Non-revenue water	2018	2030	WSAs	CMs, CTA	R	55	31,3% Non-revenue water	2020	R	7	16,3% Non-revenue water	2025	R	35	16	2018	R	13	2025	R	84	1	1	1	Local MECs to submit their monthly reports to DWS.																					
Free State	WSA		42,3% Non-revenue water		27,3% Non-revenue water	2018	2030			R	74	27,3% Non-revenue water	2020	R	10	12,3% Non-revenue water	2025	R	48	12	2018	R	17	2025	R	114	1	1	1	Local MECs to submit their monthly reports to DWS.																					
Gauteng	WSA		34,7% Non-revenue water		20% Non-revenue water	2018	2030			R	35	19,7% Non-revenue water	2020	R	5	5% Non-revenue water	2025	R	23	5	2018	R	8	2025	R	54	1	1	1	Local MECs to submit their monthly reports to DWS.																					
KwaZulu-Natal	WSA		43% Non-revenue water		30% Non-revenue water	2018	2030			R	55	30% Non-revenue water	2020	R	7	15% Non-revenue water	2025	R	35	15	2018	R	13	2025	R	84	1	1	1	Local MECs to submit their monthly reports to DWS.																					
Limpopo	WSA		50,3% Non-revenue water		35,3% Non-revenue water	2018	2030			R	39	35,3% Non-revenue water	2020	R	5	20,3% Non-revenue water	2025	R	25	20	2018	R	10	2025	R	60	1	1	1	Local MECs to submit their monthly reports to DWS.																					
Mpumalanga	WSA		46,2% Non-revenue water		31,2% Non-revenue water	2018	2030			R	66	31,2% Non-revenue water	2020	R	9	16,2% Non-revenue water	2025	R	43	16	2018	R	15	2025	R	102	1	1	1	Local MECs to submit their monthly reports to DWS.																					
North West	WSA		41,2% Non-revenue water		26,2% Non-revenue water	2018	2030			R	39	26,2% Non-revenue water	2020	R	5	11,2% Non-revenue water	2025	R	25	11	2018	R	11	2025	R	60	1	1	1	Local MECs to submit their monthly reports to DWS.																					
Northern Cape	WSA		43,5% Non-revenue water		28,5% Non-revenue water	2018	2030			R	101	28,5% Non-revenue water	2020	R	13	13,5% Non-revenue water	2025	R	65	14	2018	R	23	2025	R	150	1	1	1	Local MECs to submit their monthly reports to DWS.																					
Western Cape	WSA		20,2% Non-revenue water		20% Non-revenue water	2018	2030			R	98	5,2% Non-revenue water	2020	R	13	5% Non-revenue water	2025	R	63	5	2018	R	23	2025	R	150	1	1	1	Local MECs to submit their monthly reports to DWS.																					
1.1.2	National		233 U/d	A;A; B;6	Reduce per capita consumption to world average consumption of approx. 173 l/d	2018	2030	DWS	DWS, CMAs	R	158	173 l/d	2020	R	73	173 l/d	2025	R	43	854	1	1	1	1	1	1	1	No commitment																							
Set cap on water use with reducing targets over time	Eastern Cape	WSA	200 l/d		Establish targets per water use sector and implement usage targets less 15% by 2020	2018	2030	WSAs	DWS, Cta	R	15	190 l/d	2020	R	7	173 l/d	2025	R	4	n/a	2018	R	4	4	2025	R	62	1	1	1	4 Budget req. & 3.3 million to implement and R 1.1 mill to maintain per WSA.																				
Free State	WSA		209 l/d			2018	2030			R	21	199 l/d	2020	R	10	179 l/d	2025	R	6	173	2018	R	10	179 l/d	2025	112	1	1	1	6 Budget req. & 3.3 million to implement and R 1.1 mill to maintain per WSA.																					
Gauteng	WSA		305 l/d			2018	2030			R	10	290 l/d	2020	R	5	261 l/d	2025	R	3	235	2018	R	5	261 l/d	2025	52	1	1	1	3 Budget req. & 3.3 million to implement and R 1.1 mill to maintain per WSA.																					
KwaZulu-Natal	WSA		225 l/d			2018	2030			R	15	214 l/d	2020	R	7	192 l/d	2025	R	4	173	2018	R	6	192 l/d	2025	62	1	1	1	4 Budget req. & 3.3 million to implement and R 1.1 mill to maintain per WSA.																					
Limpopo	WSA		182 l/d			2018	2030			R	11	173 l/d	2020	R	5	n/a	2025	R	3	n/a	2018	R	5	173 l/d	2025	62	1	1	1	3 Budget req. & 3.3 million to implement and R 1.1 mill to maintain per WSA.																					
Mpumalanga	WSA		205 l/d			2018	2030			R	19	195 l/d	2020	R	9	175 l/d	2025	R	5	173	2018	R	10	175 l/d	2025	112	1	1	1	5 Budget req. & 3.3 million to implement and R 1.1 mill to maintain per WSA.																					
North West	WSA		238 l/d			2018	2030			R	11	226 l/d	2020	R	5	203 l/d	2025	R	3	183	2018	R	10	203 l/d	2025	62	1	1	1	3 Budget req. & 3.3 million to implement and R 1.1 mill to maintain per WSA.																					
Northern Cape	WSA		186 l/d			2018	2030			R	29	177 l/d	2020	R	13	173 l/d	2025	R	8	n/a	2018	R	13	173 l/d	2025	112	1	1	1	3 Budget req. & 3.3 million to implement and R 1.1 mill to maintain per WSA.																					
Western Cape	WSA		201 l/d			2018	2030			R	28	191 l/d	2020	R	13	173 l/d	2025	R	8	n/a	2018	R	13	173 l/d	2025	112	1	1	1	3 Budget req. & 3.3 million to implement and R 1.1 mill to maintain per WSA.																					
1.1.3	National		7968 A;A; B;6		Achieve a reduction of total water use per unit of production by 10% over a 10 year period	2018	2030	DWS	Daff	R	10 000	7832,5	2020	R	1 670	4542,9	2025	R	4 265	2635	2018	R																													

Level 1: Key Actions	Please hover on cell headings to obtain definitions				Drivers Drivers / Goals	Overall targets			Breakdown of deliverables per time segment			2021-2025			2026-2030			2031-2050			Priority							
	Level 2: Supporting Actions	Level 3: Regional Actions	Nat., Reg. & System (N) / Prov. (P) / Local (L)	Baseline / Status Quo		Target Date		Responsible Institutions		Present Value Cost (VAT excl.) R million (2018) [MP horizon]	2018-2020			2021-2025			(current MP horizon, to vary in future)			Note	(beyond current MP horizon)			Magnitude of impact if action does not occur (1) Other actions highly dependent; (2) Few direct dependencies (3) no direct dependencies	Is it a foundation action: (1) Major benefit (>x10); (2) moderate benefit (>x2) (3) limited benefit	What level of impact will the investment generate? (1) Other actions highly dependent; (2) Few direct dependencies (3) no direct dependencies	What has prevented action from being completed to date?	
						Start date	Compl. Date	Lead	Support		Deliverable	Date	PV Cost R million	Deliverable	Date	PV Cost R million	Deliverable	Date	PV Cost R million		Deliverable	Date	PV Cost R million					
						TOTAL Water and Sanitation Management: R 548 637					TOTAL: R 145 815			TOTAL: R 336 461			TOTAL: R 66 360			TOTAL: R 142 516								
<p>Kwa-Zulu Natal Coastal Metropolitan: uMhWP-2, Isibhundu Dam</p> <p>Richards Bay: preferred option to be selected, Mfolozzi Off-channel Dam feasibility study</p> <p>Mbombela: Regional scheme on Crocodile East River</p> <p>Western Cape: Mitchell's Pass diversion, Voelvlei Augmentation Phase 2</p> <p>Amatola River: Re-use of River Dam, Transfer from Keiskamma River (Sapello Dam)</p> <p>Algoa: Nootgedacht Low-level Scheme Phase 2, Groundwater, Re-use, Desalination, Re-use</p> <p>Limpopo: Groundwater, Supply from Zimbabwe</p> <p>Olifants River: Groundwater, Re-use (mine water & domestic)</p> <p>Crocodile (West) River System</p> <p>Draster Betsfontein: Xhariep pipeline, Augmentation of Krielpoort Dam, re-use feasibility studies</p> <p>Levubu and Letaba: Groundwater, Dam in the Mutale River feasibility studies</p> <p>Mahikeng Municipal Water Supply System</p> <p>1.1.7 Water Resources Catchment studies (Continuously undertake hydrological monitoring in order to improve efficiency and sustainability of the available sources on account of future climate change)</p> <p>National</p> <p>A.1; A.5; B.5; B.7; B.8</p> <p>Water resource/catchment studies such as:</p> <ul style="list-style-type: none"> Internal Strategic Perspective (ISP) studies Water Availability Assessment Study including the following: <ul style="list-style-type: none"> Update/extent hydrology Update current land use Update System Models include Reserve objectives include climate change scenarios <p>1.1.8 Develop a guideline for the protection, recharge, use and monitoring of groundwater.</p> <p>National</p> <p>N</p> <p>Groundwater Strategy completed</p> <p>A.1; A.4; A.5; A.6; B.5; B.7; B.8</p> <p>Groundwater guidelines</p> <p>1.1.9 Integrate results of All Towns studies and reconciliation studies into sectoral plans (domestic, agriculture, energy, mining, industrial development, land reform and rural development)</p> <p>National</p> <p>N</p> <p>931 All Town Strategies completed</p> <p>A.1; A.5; B.5; B.7; B.8</p> <p>Review selected All Town Strategies</p> <p>Eastern Cape</p> <p>P</p> <p>138 All Town Strategies completed</p> <p>A.1; A.5; B.5; B.7; B.8</p> <p>Review selected 50 Strategies per 3 year cycle</p> <p>Free State</p> <p>P</p> <p>74 All Town Strategies completed</p> <p>A.1; A.5; B.5; B.7; B.8</p> <p>Review selected 50 Strategies per 3 year cycle</p> <p>Gauteng</p> <p>P</p> <p>9 All Town Strategies completed</p> <p>A.1; A.5; B.5; B.7; B.8</p> <p>Review selected 9 Strategies per 3 year cycle</p> <p>Kwazulu-Natal</p> <p>P</p> <p>173 All Town Strategies completed</p> <p>A.1; A.5; B.5; B.7; B.8</p> <p>Review selected 50 Strategies per 3 year cycle</p> <p>Limpopo</p> <p>P</p> <p>150 All Town Strategies completed</p> <p>A.1; A.5; B.5; B.7; B.8</p> <p>Review selected 50 Strategies per 3 year cycle</p> <p>Mpumalanga</p> <p>P</p> <p>58 All Town Strategies completed</p> <p>A.1; A.5; B.5; B.7; B.8</p> <p>Review selected 50 Strategies per 3 year cycle</p> <p>North West</p> <p>P</p> <p>101 All Town Strategies completed</p> <p>A.1; A.5; B.5; B.7; B.8</p> <p>Review selected 50 Strategies per 3 year cycle</p> <p>Northern Cape</p> <p>P</p> <p>92 All Town Strategies completed</p> <p>A.1; A.5; B.5; B.7; B.8</p> <p>Review selected 50 Strategies per 3 year cycle</p> <p>Western Cape</p> <p>P</p> <p>140 All Town Strategies completed</p> <p>A.1; A.5; B.5; B.7; B.8</p> <p>Review selected 50 Strategies per 3 year cycle</p> <p>Increasing water supply</p> <p>1.1.10 Development of strategic water resources infrastructure</p> <p>National</p> <p>N</p> <p>As per project below</p> <p>A.1; A.5; B.5; B.7; B.8</p> <p>Delivery of water</p> <p>2018</p> <p>2050</p> <p>Different Institutions as per Infrastructure tab</p> <p>R</p> <p>130 691</p> <p>As per Project</p> <p>2020</p> <p>R</p> <p>8 362</p> <p>As per Project</p> <p>2025</p> <p>R</p> <p>76 784</p> <p>As per Project</p> <p>2028</p> <p>R</p> <p>45 546</p> <p>As per Project</p> <p>0</p> <p>R</p> <p>2</p> <p>2</p> <p>2</p> <p>Construct LHWIP Phase 2 (8)</p> <p>N</p> <p>Design</p> <p>Delivery of water to Gauteng</p> <p>2018</p> <p>2024</p> <p>LHDA</p> <p>DWS</p> <p>R</p> <p>23 000</p> <p>Design</p> <p>2020</p> <p>R</p> <p>2 300</p> <p>Implementation</p> <p>2024</p> <p>R</p> <p>20 700</p> <p>R</p> <p>0</p> <p>R</p> <p>Budget from LHWIP tender</p> <p>0</p> <p>R</p> <p>1</p> <p>1</p> <p>1</p> <p>Construct Western Cape Water Supply System Augmentation Project (Voelvlei Dam) (10)</p> <p>N</p> <p>Financing</p> <p>Delivery of water City of Cape Town</p> <p>2018</p> <p>2024</p> <p>DWS</p> <p>R</p> <p>400</p> <p>Design</p> <p>2020</p> <p>R</p> <p>40</p> <p>Implementation</p> <p>2024</p> <p>R</p> <p>360</p> <p>R</p> <p>0</p> <p>R</p> <p>Cost estimate from Reconciliation strategy</p> <p>0</p> <p>R</p> <p>1</p> <p>1</p> <p>1</p> <p>Construct Cape Town emergency desalination plants (11)</p> <p>N</p> <p>Concept and viability</p> <p>Delivery of water for domestic and mining use in Limpopo</p> <p>2012</p> <p>2022</p> <p>DWS</p> <p>R</p> <p>993</p> <p>Completion of Phases 2A, 2B, 2C, 2D and Phase 2D</p> <p>2020</p> <p>R</p> <p>543</p> <p>Completion of Phase 2D</p> <p>2022</p> <p>R</p> <p>450</p> <p>R</p> <p>0</p> <p>R</p> <p>Budget as per DWS Minister budget speech 30/3/2018</p> <p>0</p> <p>R</p> <p>2</p> <p>2</p> <p>2</p> <p>Delivery of water to Gauteng from the Wits mining basins in Gauteng a \$4.5 million m³/annum (13)</p> <p>N</p> <p>Implementation</p> <p>Delivery of water Richards Bay</p> <p>2018</p> <p>2022</p> <p>DWS</p> <p>R</p> <p>420</p> <p>Design & Implementation</p> <p>2020</p> <p>R</p> <p>200</p> <p>Implementation</p> <p>2022</p> <p>R</p> <p>220</p> <p>R</p> <p>0</p> <p>R</p> <p>Budget as per DWS Minister budget speech 30/3/2018</p> <p>0</p> <p>R</p> <p>1</p> <p>1</p> <p>1</p> <p>Construct Thukela • Gooderhout Emergency Water Treatment Plant (14)</p> <p>N</p> <p>Design</p> <p>Clanwilliam Dam raising</p> <p>2018</p> <p>2022</p> <p>DWS</p> <p>R</p> <p>1 800</p> <p>Implementation</p> <p>2020</p> <p>R</p> <p>1 000</p> <p>Completion of Raising of Clanwilliam Dam</p> <p>2022</p> <p>R</p> <p>791</p> <p>R</p> <p>0</p> <p>R</p> <p>Budget as per DWS Minister budget speech 30/3/2018</p> <p>0</p> <p>R</p> <p>2</p> <p>2</p> <p>2</p> <p>McLWAP: Phase 2A</p> <p>2018</p> <p>2022</p> <p>DWS</p> <p>R</p> <p>16 000</p> <p>Implementation McLWAP-2A</p> <p>2020</p> <p>R</p> <p>590</p> <p>Completion of McLWAP-2A</p> <p>2022</p> <p>R</p> <p>15 410</p> <p>R</p> <p>0</p> <p>R</p> <p>Budget as per DWS Minister budget speech 30/3/2018</p> <p>0</p> <p>R</p> <p>2</p> <p>1</p> <p>1</p> <p>Delivery of water Upper South Coast</p> <p>2019</p> <p>2025</p> <p>WB</p> <p>DWS</p> <p>R</p> <p>3 600</p> <p>Design</p> <p>2020</p> <p>R</p> <p>360</p> <p>Completion of Lower uMhimbazi</p> <p>2025</p> <p>R</p> <p>3 240</p> <p>R</p> <p>0</p> <p>R</p> <p>Cost estimate from Feasibility study</p> <p>0</p> <p>R</p> <p>1</p> <p>1</p> <p>1</p> <p>Delivery of water and hydropower</p> <p>2018</p> <p>2019</p> <p>DWS</p> <p>R</p> <p>20 000</p> <p>Design & Implementation</p> <p>2019</p> <p>R</p> <p>100</p> <p>2025</p> <p>R</p> <p>5 000</p> <p>R</p> <p>14 900</p> <p>R</p> <p>Cost estimate as per DWS Minister budget speech 30/3/2018</p> <p>0</p> <p>R</p> <p>4</p> <p>3</p> <p>3</p> <p>Other water resources infrastructures development</p> <p>N; P</p> <p>Different phases as per Infrastructure tab</p> <p>2018</p> <p>2050</p> <p>Different Institutions as per Infrastructure tab</p> <p>R</p> <p>23 943</p> <p>2020</p> <p>R</p> <p>1 197</p> <p>R</p> <p>8 380</p> <p>R</p> <p>14 366</p> <p>R</p> <p>See infrastructure tab for cost estimate</p> <p>0</p> <p>R</p> <p>2</p> <p>2</p> <p>2</p> <p>1.1.11 Refurbish gauging stations</p> <p>National</p> <p>N</p> <p>979 A.1; A.5; B.5; B.7; B.8</p> <p>1066</p> <p>2019</p> <p>2027</p> <p>DWS</p> <p>CMS</p> <p>R</p> <p>246</p> <p>2020</p> <p>R</p> <p>81</p> <p>2025</p> <p>R</p> <p>154</p> <p>2027</p> <p>R</p> <p>61</p> <p>Cost from DWS, Review, Evaluation and optimisation of the SA Water Resources Monitoring Network*, February 2017</p> <p>0</p> <p>R</p> <p>1</p> <p>1</p> <p>2</p> <p>Limpopo</p> <p>WMA</p> <p>128</p> <p>134</p> <p>2019</p> <p>2027</p> <p>CMS</p> <p>DWS</p> <p>R</p> <p>32</p> <p>2020</p> <p>R</p> <p>4</p> <p>2025</p> <p>R</p> <p>128</p> <p>2027</p> <p>R</p> <p>8</p> <p>0</p> <p>R</p> <p>1</p> <p>1</p> <p>2</p> <p>Olifants</p> <p>WMA</p> <p>95</p> <p>102</p> <p>2019</p> <p>2027</p> <p>CMS</p> <p>DWS</p> <p>R</p> <p>20</p> <p>2020</p> <p>R</p> <p>2</p> <p>2025</p> <p>R</p> <p>95</p> <p>2027</p> <p>R</p> <p>5</p> <p>0</p> <p>R</p> <p>1</p> <p>1</p> <p>2</p> <p>Inkomati-Usuthu</p> <p>WMA</p> <p>79</p> <p>88</p> <p>2019</p> <p>2027</p> <p>CMS</p> <p>DWS</p> <p>R</p> <p>12</p> <p>2020</p> <p>R</p> <p>1</p> <p>2025</p> <p>R</p> <p>79</p> <p>2027</p> <p>R</p> <p>3</p> <p>0</p> <p>R</p> <p>1</p> <p>1</p> <p>2</p> <p>Pongola-Mtamvuna</p> <p>WMA</p> <p>146</p> <p>157</p> <p>2019</p> <p>2027</p> <p>CMS</p> <p>DWS</p> <p>R</p> <p>14</p> <p>2020</p> <p>R</p> <p>2</p> <p>2</p>																												

Level 1: Key Actions	Level 2: Supporting Actions	Please hover on cell headings to obtain definitions		Nat., Reg. & System (N) / Local (L)	Baseline / Status Quo	Overall targets				Breakdown of deliverables per time segment				2021-2025 (beyond current MP horizon, to vary in future)				2021-2050 (beyond current MP horizon)				Priority											
		Drivers / Goals				Major Measurable Deliverable	Target Date		Responsible Institutions		Present Value Cost (VAT excl.) R million (2018) (MP horizon)	2018-2020		2021-2025		2026-2030 (current MP horizon, to vary in future)		Note	2031-2050 (beyond current MP horizon)		Magnitude of impact if action does not occur (1) Critical, (2) Serious, (3) important (4) minor	Is it a foundation action: (1) Other actions highly dependent; (2) Few direct dependencies (3) no direct dependencies	What level of impact will the investment generate? (1) Major benefit (>x10); (2) moderate benefit (>x2) (3) limited benefit	What has prevented action from being completed to date?									
		Drivers / Goals					Start date	Compl. Date	Lead	Support		Deliverable	Date	PV Cost R million	Deliverable	Date	PV Cost R million		Deliverable	Date	PV Cost R million												
		Drivers / Goals					Deliverable	Date	PV Cost R million	Deliverable		Deliverable	Date	PV Cost R million	Deliverable	Date	PV Cost R million		Deliverable	Date	PV Cost R million												
		TOTAL Water and Sanitation Management: R 548 637				TOTAL: R 145 815				TOTAL: R 336 461				TOTAL: R 66 360				TOTAL: R 142 516															
Water services planning	1.3.6 Develop and implement Provincial Water Services Delivery Master Plans to provide reliable and sustainable water supply and sanitation services across all households in South Africa • Provincial Bulk Services Master Plans • Water Services Delivery Critical Plans that includes a backlog analysis and infrastructure asset management plans	Limpopo	DM	Base zero	A4;A;5;B;11		2019	2025	WSAs	DWS, CoGTA, SALGA, NT	R	36		2020	R	6		2025	R	15		2030	R	15	Budget = R 3 mill per annum pe	n/a	n/a	1	1	1	NDP 2030 and SDG 6 resulted in the change from water services backlog eradication to providing reliable water services by 2030		
		Mpumalanga	DM	Base zero	A4;A;5;B;11		2019	2025	WSAs	DWS, CoGTA, SALGA, NT	R	36		2020	R	6		2025	R	15		2030	R	15	Budget = R 3 mill per annum pe	n/a	n/a	1	1	1	NDP 2030 and SDG 6 resulted in the change from water services backlog eradication to providing reliable water services by 2030		
		North West	DM	Base zero	A4;A;5;B;11		2019	2025	WSAs	DWS, CoGTA, SALGA, NT	R	36		2020	R	6		2025	R	15		2030	R	15	Budget = R 3 mill per annum pe	n/a	n/a	1	1	1	NDP 2030 and SDG 6 resulted in the change from water services backlog eradication to providing reliable water services by 2030		
		Northern Cape	DM	Base zero	A4;A;5;B;11		2019	2025	WSAs	DWS, CoGTA, SALGA, NT	R	36		2020	R	6		2025	R	15		2030	R	15	Budget = R 3 mill per annum pe	n/a	n/a	1	1	1	NDP 2030 and SDG 6 resulted in the change from water services backlog eradication to providing reliable water services by 2030		
		Western Cape	DM	Base zero	A4;A;5;B;11		2019	2025	WSAs	DWS, CoGTA, SALGA, NT	R	36		2020	R	6		2025	R	15		2030	R	15	Budget = R 3 mill per annum pe	n/a	n/a	1	1	1	NDP 2030 and SDG 6 resulted in the change from water services backlog eradication to providing reliable water services by 2030		
							25								2020	R	6		2025	R	15		2030	R	15	Budget = R 3 mill per annum pe	n/a	n/a	1	1	1	NDP 2030 and SDG 6 resulted in the change from water services backlog eradication to providing reliable water services by 2030	
							25								2020	R	6		2025	R	15		2030	R	15	Budget = R 3 mill per annum pe	n/a	n/a	1	1	1	NDP 2030 and SDG 6 resulted in the change from water services backlog eradication to providing reliable water services by 2030	
							25								2020	R	6		2025	R	15		2030	R	15	Budget = R 3 mill per annum pe	n/a	n/a	1	1	1	NDP 2030 and SDG 6 resulted in the change from water services backlog eradication to providing reliable water services by 2030	
							25								2020	R	6		2025	R	15		2030	R	15	Budget = R 3 mill per annum pe	n/a	n/a	1	1	1	NDP 2030 and SDG 6 resulted in the change from water services backlog eradication to providing reliable water services by 2030	
							25								2020	R	6		2025	R	15		2030	R	15	Budget = R 3 mill per annum pe	n/a	n/a	1	1	1	NDP 2030 and SDG 6 resulted in the change from water services backlog eradication to providing reliable water services by 2030	
Water services infrastructure	1.3.2 Deliver services to achieve (100%) universal sanitation coverage (Municipal Sanitation Projects)	National	N	One provincial MP(EC) and 7 Water Services Delivery Master Plans to provide reliable and sustainable water supply and sanitation services across all households in South Africa	A1 - A.8		Overarching provincial WS MP and 144	2018	2030	DWS	DWS, CoGTA, SALGA, NT, WBs	R	626	8 provincial WMP		2020	R	62	n/a	2025	R	154		2030	R	410	Budget = R 1,5 mill per annum per	n/a	n/a	3	2	2	Regional Heads except EC not complying to instruction to develop MP
		National	N	Base zero	A1 - A.8		Monitoring of the progress made with an	2025	2030	DWS	DWS, CoGTA, SALGA, NT, WBs	R	360		n/a	n/a	n/a	n/a	n/a	2025	R	154		2030	R	360	Budget = R 5 mill /annum/WSA	n/a	n/a	3	2	2	
		Eastern Cape	WSA	1 Provincial MP	A1 - A.8		14	2018	2025	WSAs	DWS, CoGTA, SALGA, NT, WBs	R	26	3,0	2020	R	6		2025	R	15		2030	R	14	Budget = R 1,5 mill/annum per 1	n/a	n/a	3	2	2	Lack of WSAs commitment to annually review their WSDPs that is build from a detailed WSDAP	
		Free State	WSA	No Provincial MP	A1 - A.8		15	2018	2025	WSAs	DWS, CoGTA, SALGA, NT, WBs	R	35	4,1	2020	R	8		2025	R	20		2025	R	7	Budget = R 1,5 mill/annum per 1	n/a	n/a	3	2	2	Lack of WSAs commitment to annually review their WSDPs that is build from a detailed WSDAP	
		Gauteng	WSA	No Provincial MP	A1 - A.8		17	2018	2025	WSAs	DWS, CoGTA, SALGA, NT, WBs	R	17	1,9	2020	R	4		2025	R	10		2025	R	3	Budget = R 1,5 mill/annum per 1	n/a	n/a	3	2	2	Lack of WSAs commitment to annually review their WSDPs that is build from a detailed WSDAP	
		KwaZulu-Natal	WSA	No Provincial MP	A1 - A.8		18	2018	2025	WSAs	DWS, CoGTA, SALGA, NT, WBs	R	26	3,0	2020	R	6		2025	R	15		2030	R	5	Budget = R 1,5 mill/annum per 1	n/a	n/a	3	2	2	Lack of WSAs commitment to annually review their WSDPs that is build from a detailed WSDAP	
		Limpopo	WSA	No Provincial MP	A1 - A.8		19	2018	2025	WSAs	DWS, CoGTA, SALGA, NT, WBs	R	19	2,1	2020	R	4		2025	R	11		2025	R	4	Budget = R 1,5 mill/annum per 1	n/a	n/a	3	2	2	Lack of WSAs commitment to annually review their WSDPs that is build from a detailed WSDAP	
		Mpumalanga	WSA	No Provincial MP	A1 - A.8		20	2018	2025	WSAs	DWS, CoGTA, SALGA, NT, WBs	R	31	3,6	2020	R	7		2025	R	18		2025	R	6	Budget = R 1,5 mill/annum per 1	n/a	n/a	3	2	2	Lack of WSAs commitment to annually review their WSDPs that is build from a detailed WSDAP	
		North West	WSA	No Provincial MP	A1 - A.8		21	2018	2025	WSAs	DWS, CoGTA, SALGA, NT, WBs	R	19	2,1	2020	R	4		2025	R	11		2025	R	4	Budget = R 1,5 mill/annum per 1	n/a	n/a	3	2	2	Lack of WSAs commitment to annually review their WSDPs that is build from a detailed WSDAP	
		Northern Cape	WSA	No Provincial MP	A1 - A.8		22	2018	2025	WSAs	DWS, CoGTA, SALGA, NT, WBs	R	48	5,6	2020	R	11		2025	R	28		2025	R	9</td								

Level 1: Key Actions	Overall targets			Breakdown of deliverables per time segment												2021-2050 (beyond current MP horizon)			Priority								
	Level 2: Supporting Actions	Level 3: Regional Actions	Nat., Reg. & System (W/ / Local (L)	Baseline / Status Quo	Drivers Drivers / Goals	Major Measurable Deliverable	Target Date		Responsible Institutions		Present Value Cost (VAT excl.)	2018-2020			2021-2025			2026-2030 (current MP horizon, to vary in future)			Note	Magnitude of impact if action does not occur			Is it a foundation action:	What level of impact will the investment generate?	What has prevented action from being completed to date?
							Start date	Compl. Date	Lead	Support		Deliverable	Date	PV Cost R million	Deliverable	Date	PV Cost R million	Deliverable	Date	PV Cost R million		(1) Critical, (2) Serious, (3) important (4) minor	(5) Other actions highly dependent; (2) Few direct dependencies (3) no direct dependencies	(1) Major benefit (>x10); (2) moderate benefit (>x2); (3) limited benefit			
				</td																							

Level 1: Key Actions	Please hover on cell headings to obtain definitions		Nat. Reg. & System (N) / Local (L)	Baseline / Status Quo	Overall targets				Breakdown of deliverables per time segment			2021-2030 (beyond current MP horizon, to vary in future)			Note	2031-2050 (beyond current MP horizon)			Priority												
	Level 2: Supporting Actions	Level 3: Regional Actions			Drivers / Goals	Major Measurable Deliverable	Target Date		Responsible Institutions		Present Value Cost (VAT excl.)	2018-2020		2021-2030 (current MP horizon, to vary in future)		Deliverable	Date	PV Cost R million	Deliverable	Date	PV Cost R million	Deliverable	Date	PV Cost R million	(1) Critical, (2) Serious, (3) important (4) minor	Is it a foundation action:	What level of impact will the investment generate?	What has prevented action from being completed to date?			
							Start date	Compl. Date	Lead	Support		2018-2020		2021-2030																	
												Deliverable	Date	PV Cost R million	Deliverable	Date	PV Cost R million	Deliverable	Date	PV Cost R million	Deliverable	Date	PV Cost R million	Deliverable	Date	PV Cost R million					
TOTAL Water and Sanitation Management: R 548 637				TOTAL: R 145 815				TOTAL: R 336 461				TOTAL: R 66 360				TOTAL: R 142 516															
1.4.9 Establish a mechanism for applying administrative penalties	National	N, P	An Environmental Management Inspectorate Network does exist within the Department but needs to be strengthened.	A.3; B.7	Strengthening Compliance and Enforcement training modules to build the capacity of EMIs in-house	2018	2021	DWS	Dept of Justice	R	11 Strengthening Compliance and Enforcement training modules to build the capacity of EMIs in-house	2020	R	6 Strengthen the CME, finalisation of the Strategy and Implemented Plan Appoint Environmental Management Inspectors (EMI) to conduct CME	2023	R	5	1	1	2	2	2	2	2	2	2	Skills, Resources, understanding of legislation needs to be strengthened within DWS				
	National	N, P	Revised waste mandatory national waste discharge standards	B.12	Gazetted waste discharge standards	2018/19	2021/2022	DWS		R	36 Updated standards gazetted	2020	R	9 Implementation monitored and standards improved	2023	R	12 Implementation monitored and standards improved	2030	R	15	Implementation monitored and standards improved	2050	R	21	2	1	1	1	Capacity and budgetary constraints, systems integration is lacking		
	National	N	Gazette unconventional gas (fracking) regulations	B.12	Gazetted unconventional gas (fracking) regulations	2017/18	2019/2020	DWS		R	27 Gazetted regulation	2020	R	6 Regulations strengthened	2023	R	9 Implementation monitored and standards improved	2030	R	12	Implementation monitored and standards improved	2050	R	20	1	1	2	2			
	National	N	Gazette revised regulations on use of water for mining related activities (Government Gazette, 2018)	B.12	Gazetted amended GN 704 Regulations	2017/18	2019/2020	DWS		R	16 Gazetted regulation	2020	R	3 Regulations strengthened	2023	R	5 Implementation monitored and standards improved	2030	R	8	Implementation monitored and standards improved	2050	R	18	2	1	2	2			
	National	N	Develop and implement regulations for other impacting sectors (e.g. feedstock, agriculture)	B.12	Gazetted regulations	2025/26	2029/2030	DWS		R	31 Gazetted regulation	2020	R	8 Regulations strengthened	2023	R	10 Implementation monitored and standards improved	2030	R	13	Implementation monitored and standards improved	2050	R	20	3	1	2	2			
	National	N, P, L	Develop and implement an action plan to strengthen water use authorisation processes (SA24, SA25, SA26, SA27 & SA28)	B.12	Protocol for implementation of RQDs and conversion to licence conditions	2018/19	2021/2022	DWS	CMAs, WRC, CSIR	R	13 Protocol in place	2019	R	2 Implementation monitored and protocol improved	2023	R	4 Implementation monitored and standards improved	2030	R	7	Implementation monitored and standards improved	2050	R	16	1	1	1	1	Capacity and budgetary constraints, systems integration is lacking		
	National	N, P, L	Develop and implement a protocol to differentiate between water users in terms of risk	B.12	Protocol for determining risk based water discharge fees and for extending the financial provisioning requirements to all high risk water users	2019/2020	2021/2022	DWS	CMAs	R	28 Protocol in place	2020	R	8 Implementation monitored and protocol improved	2023	R	8 Implementation monitored and standards improved	2030	R	12	Implementation monitored and standards improved	2050	R	22	3	2	3	3			
	National	N, P, L	Develop and implement a protocol for integrated licensing processes	B.12	Protocol for implementation of an integrated licensing processes	2019/2020	2020/2021	DWS	CMAs, DEA, DMR, DAFF	R	36 Protocol for integrated licence	2020	R	9 Implementation monitored and protocol improved	2023	R	12 Implementation monitored and standards improved	2030	R	15	Implementation monitored and standards improved	2050	R	20	2	2	3	3			
	National	N, P, L	Implement measures to ensure that water users use and discharge water responsibly and adhere to regulatory	B.12	Gazetted regulations	2021	2022	DWS	CMAs, WSAs		Gazetted regulation																				
TOTAL Improving raw water quality: R 1 947				TOTAL: R 341				TOTAL: R 705				TOTAL: R 901				TOTAL: R 1 388															
1.5.1 Determine in stream Resource Water Quality Objectives (RWQOs), based on the SA Water Quality Guidelines (SA36), in support of RQO's	Develop national RWQOs	N	RWQOs	A.3; B.3	RWQO TARGET #1: Water in, or from water resources shall be fit for use.	2017/18	2018/19	DWS	CMAs	R	33 Updated national RWQOs	2020	R	6 Updated national RWQOs	2023	R	12 Updated national RWQOs	2030	R	8	Notes: RWQOs are already prepared for the Lellos, Olifants, Vaal, Olifantsdood and Mvoti to Mzimkulu river systems. Supporting documents set for the Vaal, Orange and	2050	R	25	2	1	1	1	Capacity, budgetary constraints		
	National	N	Support RQOs in specified catchments wrt integrated water quality management	B.12	RQOs adequately reflect IWQM requirements	2018/19	2019/2020	DWS	CMAs	R	43 RQOs strengthened to include IWQM	2020	R	8 RQOs monitored to ensure WQ improvements	2023	R	15 RQOs monitored to ensure WQ improvements	2030	R	20	RQOs monitored to ensure WQ improvements	2050	R	30	2	1	1	1			
	National	N	Identify monitoring resources to ensure the availability of back-to-back laboratory services to effectively address technical	B.12	Facilities for the sustainable procurement of future laboratory services and active contracts to secure continuous laboratory services	2018/19	2019/2020	DWS	CMAs	R	360 Procurement protocol developed and laboratory facilities available in all WMMAs	2020	R	90 Laboratory facilities available in all WMMAs	2023	R	120 Laboratory facilities available in all WMMAs	2030	R	150 Laboratory facilities available in all WMMAs	2050	R	220	1	1	2	2	Poor monitoring network and system support			
	National	N	Undertake routine national water quality monitoring, considering the recommendations of the Review of the SA National Water Quality Monitoring	B.12	An efficient and coordinated national monitoring programme and consistent monitoring	2018/19	2029/2030	DWS	CMAs	R	59 National water quality monitoring network reviewed and strengthened	2020	R	14 National water quality monitoring network strengthened	2023	R	25 National water quality monitoring network reviewed and strengthened	2030	R	20	National water quality monitoring network reviewed and strengthened	2050	R	20	2	2	2	2			
	National	N	Re-align establish regional water quality monitoring programme in cooperation with all relevant players and undertake routine regional	B.12	Efficient and coordinated regional monitoring programmes and consistent monitoring	2018/19	2029/2030	DWS	CMAs, civil society, academia, DEA, DOH, DAFF, water users, local government/Ns Provincial Offices	R	67 Regional water quality monitoring programmes strengthened	2020	R	27 Regional water quality monitoring programmes reviewed and strengthened	2023	R	40 Regional water quality monitoring programmes reviewed and strengthened	2030	R	20	Regional water quality monitoring programme improved and strengthened	2050	R	20	1	1	1	1			
	National	N, P, L	Development and implement a programme to create and support citizen based water quality monitoring	B.12	Citizen-based monitoring programmes developed and implemented	2022/23	2030 and beyond	DWS	CMAs, WRC, public/Nsfa, DWS Project Manager; Adopt a River	R	26 Concept strategy and protocols developed	2020	R	4 Citizen-based monitoring programme developed and implemented	2023	R	12 Programme reviewed and strengthened	2030	R	10	Programme reviewed and strengthened	2050	R	10	3	2	1	1			
	National	N	Improve the effectiveness and efficiency of the water quality data management system(s) through the implementation of the National Water Quality Management (NWQM) Strategy pertaining to water quality	B.12	One corporate Water Management System (WMS) for improved information management and availability to support/strengthen water quality planning and management	2018/19	2023/2024	DWS	CMAs	R	29 WMS reviewed and improvement programme developed	2020	R	8 WMS strengthened and utilised nationally	2023	R	9 WMS reviewed and updated periodically	2030	R	12 WMS reviewed and updated periodically	2050	R	25	1	1	1	1	Capacity, lack of alignment, completeness, capacity challenges, complex system integration challenges			
	National	N	Harmoise systems and approaches being used across sector Departments and catchments for resource water quality data and information	B.12	Coordinated systems and approaches for cooperative and cost effective information management	2022/23	2029/2030	DWS	CMAs, civil society, academia, DEA, DOH, DAFF, DMS, Stats SA, water users, local government	R	16					6 Systems development supports exchange of data and information	2020	R	10	Systems reviewed and updated periodically	2050	R	15	3	2	3	3				
	National	N	Ensure that the link between IWQM and the water discharge charge system is effective in order to support the implementation of the WDCS	B.12	Systems that support WDCS implementation	2018/19	2020/2021	DWS		R	17 WDCS operational link developed	2019	R	1 Ongoing improvements to systems	2023	R	4 Ongoing improvements to systems	2030	R	12 Ongoing improvements to systems	2050	R	20	1	1	1	1				

Level 1: Key Actions	Please hover on cell headings to obtain definitions		Nat., Reg. & System (N) / Local (L)	Baseline / Status Quo	Overall targets				Breakdown of deliverables per time segment			2021-2025			2026-2030 (current MP horizon, to vary in future)			Note	2031-2050 (beyond current MP horizon)			Priority										
	Level 2: Supporting Actions	Level 3: Regional Actions			Drivers / Goals	Major Measurable Deliverable	Target Date		Responsible Institutions		Present Value Cost (VAT excl.) R million (2018) (MP horizon)	2018-2020		2021-2025		2026-2030 (current MP horizon, to vary in future)		Deliverable	Date	PV Cost R million	Deliverable	Date	PV Cost R million	Deliverable	Date	PV Cost R million	Magnitude of impact if action does not occur	Is it a foundation action:	What level of impact will the investment generate?	What has prevented action from being completed to date?		
							Start date	Compl. Date	Lead	Support		Deliverable	Date	PV Cost R million	Deliverable	Date	PV Cost R million															
							TOTAL Water and Sanitation Management: R 548 637		TOTAL: R 145 815			TOTAL: R 336 461		TOTAL: R 66 360		TOTAL: R 142 516																
			N		WP/N operational and other partnerships under development	A.8	Partnerships, catchment forums and active participation supporting IWQM	2018/2019	2030 and beyond	DWS	CMAs, WSAs	R	21	Partnership Guidelines developed	2020	R	3	Partnerships developed and supported	2020	R	12		Partnerships developed and supported	2020	R	11	2	2	1			
1.5.11	Ensure fiscal support for IWQM (SAS8 & SAS9)	Restructure the grant funding mechanism and conditions to ensure a focus on maintaining and restoring existing infrastructure, rather than the construction of new infrastructure	N, P, L	Existing Grants	Restructured grant funding mechanism(s), including financial and supply arrangements as to ensure a focus on maintaining and restoring existing infrastructure, rather than the construction of new infrastructure	2019/2020	2020/2021	DWS	WSAs (Water Services and Infrastructure Branch)	R	37	Protocol for Grants developed	2020	R	10	Monitoring of grants system and improvements	2020	R	15								1	1	1	Significant budgetary constraints,		
			N, L		Sufficient budgets for O&M ensure infrastructure is adequately maintained	2019/2020	2020/2021	DWS	WSAs (Water Services Regulation)	R	38	Review of O&M expenditure and financing	2020	R	10	Strategy and implementation plan rolled-out to improve financing of O&M	2020	R	6	Three yearly reviews of infrastructure O&M	2020	R	20		Three yearly reviews of infrastructure O&M	2020	R	100	1	1	1	
1.5.12	Build water quality management capacity through recruitment, education and training (SAS3, SAS4, SAS5 & SAS6)	Develop and implement a capacity building programme for officials in CMAs and other sector departments, and for civil society on systems-based approaches	N, P, L	CB Framework developed	A.7	Training committee appointed and programme implemented on IWQM	2018/2019	2030 and beyond	DWS	CMAs, WRC, CSIR, SETA	R	47	IWQM Training Programme implemented	2020	R	12	IWQM Training Programme implemented and revised	2020	R	20	IWQM Training Programme implemented and revised	2020	R	50	1	1	1	Financial constraints, lack of coordination, poor capacity				
			N, P, L		Career paths not developed	A.7	Career paths defined and implemented	2018/2019	2019/2020	DWS	Water Management and Water Services Institutions	R	11	Career paths and job specifications developed	2020	R	6	Approved and implement job specification implemented and monitored	2020	R	3	Approved and implement job specification implemented and monitored	2020	R	0	2	2	2				
			N, P, L		No regulations in place	A.7	Gazetted regulations to appoint(s) registration authority(ies) for the registration of professionals and the specification of tasks to be performed by them	2025/2026	2028/2029	DWS	CoGTA (DWS HR)	R	9	Regulations developed and gazetted	2020	R	4	Implementation of regulations monitored	2020	R	2	Implementation of regulations monitored	2020	R	3	3	2	3				
			N		Limited bursaries available	A.7	Bursaries and leaverships pertaining to water quality management at least annually	2018/2019	2030 and beyond	Public & private sector	DWS HR and Learning Academy	R	23	Policy and strategy for bursaries developed	2020	R	1	Bursary strategy implemented	2020	R	10	Bursary strategy implemented	2020	R	20	3	3	3				
			N		General retention strategy	A.7	Programme for recruiting and retaining of experienced and qualified technical and managerial staff, and recruit and retain and qualified technical and managerial staff with technical qualifications	2018/2019	2019/2020	DWS	CGOTA, DIRCO(DWS HR)	R	10	Revised recruitment and retention strategy developed	2020	R	4	Recruitment and retention strategy implemented and monitored	2025	R	4	Recruitment and retention strategy implemented and monitored	2020	R	0	1	2	1				
1.5.33	Create an informed, supportive and responsible public (S462)	Establish and strengthen IWQM awareness creation campaigns, including anti-litter campaigns	N, P, L	Critical actions	IWQM Website and some materials developed	2019/2020	2030 and beyond	DWS	CMAs, WSAs (DWS Communications)	R	22	IWQM Communication Strategy revised and materials developed	2020	R	6	IWQM Communication Strategy revised and materials developed	2020	R	10	IWQM Communication Strategy revised and materials developed	2020	R	20	3	2	1	Capacity constraints, RIS issues, and poor system support					
1.5.34	Develop and implement a diffuse pollution source strategy that includes the regulation of waste	Non-Point Source Strategy	N		Draft NPS strategy in place. NPS calculator utilized.	2019	2023	DWS	CMAs	R	23	Updated NPS strategy initiated	2019	R	5	NPS strategy developed and implemented	2023	R	8	NPS strategy implemented and revised	2020	R	10	1	1	1	Management decision to approve, complex IG issue					
1.5.35	Implement programmes to rehabilitate catchments through development of catchment business plans	National	N		Gazetted WDCS, Money Bill and Tariff Structure	2018	Planning 2018 - 2020, implementation to start from 2021	DWS	NT, CMAs	R	294	Monitoring of IWQMS	2020	R	42	Revised operational strategies	2020	R	77	Revised operational strategies	2020	R	175		Revised operational strategies	2020	R	30	2	2	2	Financial and capacity constraints in catchments, systems issues to support the plans
		Berg-Olifants	L		On-going regulatory activity		Approved Business Plan	2022	2025	CMA	DWS	R	36	IWQM plan developed	2020	R	6	IWQM plan implemented	2022	R	10	IWQM plans implemented, monitored and revised	2020	R	20	2	2	2				
		Breedek-Gouritz	L		On-going regulatory activity		Approved Business Plan	2022	2025	CMA	DWS	R	32	Development of focused IWQM plan initiated	2019	R	4	IWQM plan developed	2021	R	9	IWQM plans implemented, monitored and revised	2020	R	19	2	2	2				
		Inkomati-Uusuthu	L		On-going regulatory activity		Approved Business Plan	2020	2024	CMA	DWS	R	36	IWQM plan developed	2020	R	6	IWQM plan implemented	2024	R	11	IWQM plans implemented, monitored and revised	2019	R	19	2	2	2				
		Limpopo	L		Draft WDCS business plan for Upper Crocodile-West Marico		Approved Business Plan	2019	2019	CMA	DWS	R	29	Development of focused IWQM plan initiated	2020	R	3	IWQM plan developed	2024	R	8	IWQM plans implemented, monitored and revised	2020	R	18	2	2	2				
		Mzimvubu-Tsitsikamma	L		On-going regulatory activity		Approved Business Plan	2022	2024	CMA	DWS	R	25	Development of focused IWQM plan initiated	2020	R	3	IWQM plan developed	2024	R	6	IWQM plans implemented, monitored and revised	2020	R	16	2	2	2				
		Olifants	L		Draft WDCS business plan case for Upper Olifants, IWQMP developed		Approved Business Plan	2019	2020	CMA	DWS	R	34	IWQM plan implemented	2020	R	6	IWQM plan revised	2024	R	9	IWQM plans implemented, monitored and revised	2019	R	19	1	1	1				
		Orange	L		On-going regulatory activity		Approved Business Plan	2020	2022	CMA	DWS	R	27	Development of focused IWQM plan initiated	2020	R	4	IWQM plan developed	2023	R	7	IWQM plans implemented, monitored and revised	2020	R	16	2	2	2				
		Pongola-Mtamvuna	L		On-going regulatory activity		Approved Business Plan	2020	2022	CMA	DWS	R	30	Development of focused IWQM plan initiated	2019	R	4	IWQM plan developed	2022	R	8	IWQM plans implemented, monitored and revised	2020	R	18	2	2	2				
		Vaal	L		Draft WDCS business plan for Upper Vaal		Approved Business Plan	2019	2021	CMA	DWS	R	45	Development of focused IWQM plan initiated	2021	R	6	IWQM plan developed	2021	R	30	IWQM plans implemented, monitored and revised	2020	R	40	1	1	1				
1.6 Protecting and restoring ecological infrastructure																																
1.6.1	Decide on strategic water source protection and critical groundwater recharge areas and aquatic ecosystems recognised as threatened or sensitive as protected areas	National	N		The continuous over utilisation and degradation of our ecological system and infrastructure has led to changed characteristics rivers and other water resources beyond the point where they can be restored to their original ecological condition	A.6	Identify and declare protected / critical areas per CMA 1) Strategic Water Source Areas 2) GW Recharge Areas 3) Aquatic Ecosystems	2018	2021	DWS	CMAs, DIA, Regulator	R	99		R	81		R	18		R	-				1	1	1	Technical Understanding Leadership			
		Berg-Olifants	S		Develop rehabilitation systems to prevent further degradation		Implement rehabilitation systems to prevent further degradation	201																								

Level 1: Key Actions	Level 2: Supporting Actions	Level 3: Regional Actions	Nat., Reg. & System (N)/ Prov. (P)/ Local (L)	Baseline / Status Quo	Overall targets				Present Value Cost (VAT excl.)	Breakdown of deliverables per time segment						2031-2050 (beyond current MP horizon)			Priority									
					Drivers		Major Measurable Deliverable	Target Date		Responsible Institutions		2018-2020	2021-2025	2026-2030 (current MP horizon, to vary in future)	Note	Magnitude of impact if action does not occur	Is it a foundation action:	What level of impact will the investment generate?										
					Drivers / Goals	Start date		Compl. Date	Lead	Support	Deliverable	Date	PV Cost R million	Deliverable	Date	PV Cost R million	Deliverable	Date	PV Cost R million	(1) Critical, (2) Serious, (3) important (4) minor	(1) Other actions highly dependent; (2) Few direct dependencies (3) no direct dependencies	(1) Major benefit (>x10); (2) moderate benefit (>x2) (3) limited benefit						
TOTAL Enabling Environment: R 21 868																												
TOTAL Creating effective water sector institutions: R 828																												
TOTAL: R 13 113																												
TOTAL: R 8 357																												
TOTAL: R 398																												
TOTAL: R 298																												
2.1 Creating effective water sector institutions																												
Creating effective water sector institutions	2.1.1 Establish a business case for streamlined institutional arrangements in the water and sanitation sector	N	None	A.7; A.8	Development of Business Case to work towards Streamline institutions	2018	2020	DWS			R	4	Signed off Business Case ready for implementation	2020	R	4	n/a	R	-	n/a	n/a	R	-	n/a	2	2	No formal ownership from DWS on responsibility on water and sanitation service delivery. Unclear mandate between DWS and COGTA	
	2.1.2 Establish a Municipal Intervention Unit for Water and Sanitation in DWS, staffed with highly competent experts to drive a national programme of intervention at the municipal level	N	None	A.7; A.8	Functional PMU Unit Well staffed skilled Start with core group	2019	2022	DWS			R	4	Functional PMU Unit	2020	R	2	Functional PMU Unit	2022	R	3	n/a	R	-	n/a	n/a	1	1	No formal ownership from DWS on responsibility on water and sanitation service delivery. Unclear mandate between DWS and COGTA
	2.1.3 Establish financially sustainable CMAs across the country, and transfer staff and budget and delegated functions, including licensing of water use and monitoring and evaluation of water resources	National	N	2 Proto Type CMAs	A.8	9 Functional Prototype CMAs	2018	2020	DWS			R	70	9 CMAs	2020	R	70	n/a	R	-	n/a	n/a	R	-	n/a	2	2	No formal ownership from DWS on responsibility on water and sanitation service delivery. Unclear mandate between DWS and COGTA
	Berg-Olifants	P	Functional Proto Type CMA	A.8	Appropriate regional staff to transfer to CMA. No duplication of functions, authority or mandates.	2019	2020	DWS			R	9	Berg-Olifants CMA	2020	R	9	n/a	R	-	n/a	n/a	R	-	n/a	2	2	No formal ownership from DWS on responsibility on water and sanitation service delivery. Unclear mandate between DWS and COGTA	
	Bredde-Gouritz	P	Functional Proto Type CMA	A.8	Appropriate regional staff to transfer to CMA. No duplication of functions, authority or mandates.	2019	2020	DWS			R	6	Bredde-Gouritz CMA	2020	R	6	n/a	R	-	n/a	n/a	R	-	n/a	2	2	No formal ownership from DWS on responsibility on water and sanitation service delivery. Unclear mandate between DWS and COGTA	
	Inkomati-Usuthu	P	Functional Proto Type CMA	A.8	Appropriate regional staff to transfer to CMA. No duplication of functions, authority or mandates.	2019	2020	DWS			R	10	Inkomati-Usuthu CMA	2020	R	10	n/a	R	-	n/a	n/a	R	-	n/a	2	2	No formal ownership from DWS on responsibility on water and sanitation service delivery. Unclear mandate between DWS and COGTA	
	Limpopo	P	Functional Proto Type CMA	A.8	Appropriate regional staff to transfer to CMA. No duplication of functions, authority or mandates.	2019	2020	DWS			R	9	Limpopo CMA	2020	R	9	n/a	R	-	n/a	n/a	R	-	n/a	2	2	No formal ownership from DWS on responsibility on water and sanitation service delivery. Unclear mandate between DWS and COGTA	
	Mzimvubu-Tsitsikamma	P	Functional Proto Type CMA	A.8	Appropriate regional staff to transfer to CMA. No duplication of functions, authority or mandates.	2019	2020	DWS			R	8	Mzimvubu-Tsitsikamma CMA	2020	R	8	n/a	R	-	n/a	n/a	R	-	n/a	2	2	No formal ownership from DWS on responsibility on water and sanitation service delivery. Unclear mandate between DWS and COGTA	
	Olifants	P	Functional Proto Type CMA	A.8	Appropriate regional staff to transfer to CMA. No duplication of functions, authority or mandates.	2019	2020	DWS			R	6	Olifants CMA	2020	R	6	n/a	R	-	n/a	n/a	R	-	n/a	2	2	No formal ownership from DWS on responsibility on water and sanitation service delivery. Unclear mandate between DWS and COGTA	
	Orange	P	Functional Proto Type CMA	A.8	Appropriate regional staff to transfer to CMA. No duplication of functions, authority or mandates.	2019	2020	DWS			R	6	Orange CMA	2020	R	6	n/a	R	-	n/a	n/a	R	-	n/a	2	2	No formal ownership from DWS on responsibility on water and sanitation service delivery. Unclear mandate between DWS and COGTA	
	Pongola_Mzimkulu	P	Functional Proto Type CMA	A.8	Appropriate regional staff to transfer to CMA. No duplication of functions, authority or mandates.	2019	2020	DWS			R	6	Pongola_Mzimkulu CMA	2020	R	6	n/a	R	-	n/a	n/a	R	-	n/a	2	2	No formal ownership from DWS on responsibility on water and sanitation service delivery. Unclear mandate between DWS and COGTA	
	Vaal	P	Functional Proto Type CMA	A.8	Appropriate regional staff to transfer to CMA. No duplication of functions, authority or mandates.	2019	2020	DWS			R	10	Vaal CMA	2020	R	10	n/a	R	-	n/a	n/a	R	-	n/a	2	2	No formal ownership from DWS on responsibility on water and sanitation service delivery. Unclear mandate between DWS and COGTA	
	2.1.4 Establish the National Water Resources and Services Authority (NWRSA)	National	N	None	A.8	Established National Water Resources and Services Regulator Agree modification in Treaty and arrangements for TCTA, Integrate the Water Trading Entity and the Water Infrastructure Branch into the NWRSA, transfer all regional staff/components that manage regional clusters. No duplication of authority or mandate to remain within DWS Provincial/Regional office.	2018	2020	DWS	NT	R	100	Established National Water Resources and Services Regulator	2020	R	100	n/a	R	-	n/a	n/a	R	-	n/a	2	2	No formal ownership from DWS on responsibility on water and sanitation service delivery. Unclear mandate between DWS and COGTA	
	2.1.5 Determine the optimal configuration of water boards to manage regional bulk water supply, assist municipalities to perform their primary roles and manage service delivery mandates where necessary, manage regional water resources infrastructure, manage regional bulk WTWs and WWTWs	National	N	None	A.8	Fully Functional Water Boards	2018	2020	DWS	WBSS	R	630	Established National Water Resources and Services Regulator	2020	R	630	n/a	R	-	n/a	n/a	R	-	n/a	1	2	No formal ownership from DWS on responsibility on water and sanitation service delivery. Unclear mandate between DWS and COGTA	
	Rand Water	WMA	Existing Water Board(s)	A.8	Fully Functional Water Boards	2018	2020	DWS	Water Boards	R	105	Fully Functional Water Boards	2020	R	105	n/a	R	-	n/a	n/a	R	-	n/a	1	2	No formal ownership from DWS on responsibility on water and sanitation service delivery. Unclear mandate between DWS and COGTA		
	Kwazulu-Natal	WMA	Existing Water Board(s)	A.8	Fully Functional Water Boards	2018	2020	DWS	Water Boards	R	105	Fully Functional Water Boards	2020	R	105	n/a	R	-	n/a	n/a	R	-	n/a	1	2	No formal ownership from DWS on responsibility on water and sanitation service delivery. Unclear mandate between DWS and COGTA		
	Sedibeng	WMA	Existing Water Board(s)	A.8	Fully Functional Water Boards	2018	2020	DWS	WBSS	R	105	Fully Functional Water Boards	2020	R	105	n/a	R	-	n/a	n/a	R	-	n/a	1	2	No formal ownership from DWS on responsibility on water and sanitation service delivery. Unclear mandate between DWS and COGTA		
	Magalies	WMA	Existing Water Board(s)	A.8	Fully Functional Water Boards	2018	2020	DWS	WBSS	R	105	Fully Functional Water Boards	2020	R	105	n/a	R	-	n/a	n/a	R	-	n/a	1	2	No formal ownership from DWS on responsibility on water and sanitation service delivery. Unclear mandate between DWS and COGTA		
	Lepelle	WMA	Existing Water Board(s)	A.8	Fully Functional Water Boards	2018	2020	DWS	WBSS	R	105	Fully Functional Water Boards	2020	R	105	n/a	R	-	n/a	n/a	R	-	n/a	1	2	No formal ownership from DWS on responsibility on water and sanitation service delivery. Unclear mandate between DWS and COGTA		
	Bloem	WMA	Existing Water Board(s)	A.8	Fully Functional Water Boards	2018	2020	DWS	WBSS	R	105	Fully Functional Water Boards	2020	R	105	n/a	R	-	n/a	n/a	R	-	n/a	1	2	No formal ownership from DWS on responsibility on water and sanitation service delivery. Unclear mandate between DWS and COGTA		
	2.1.6 Establish the National Water Resources and Services Regulator (NWRSR)	National	N	Revise DWS regulatory	A.8	a - Create enabling legislation giving mandate and approach to funding of Regulator b - Establish Regulator. Transfer DWS Regulatory staff c - Shareholder compact with	2018	2023	DWS	NT	R	20		20	n/a	R	-	n/a	n/a	R	-	n/a	2	1	No formal ownership from DWS on responsibility on water and sanitation service delivery. Unclear mandate between DWS and COGTA			

SCHEDULE OF ACTION

Help

over on cell headings to obtain definitions.

Level 1: Key Actions	Level 2: Supporting Actions	Level 3: Regional Actions	Nat., Reg. & System (N)/ Prov. (P)/ Local (L)	Baseline / Status Quo	Overall targets			Present Value Cost (VAT excl.) R million (2018) (MP horizon)	Breakdown of deliverables per time segment						Note	2031-2050 (beyond current MP horizon)			Magnitude of impact if action does not occur (1) Critical, (2) Serious, (3) Important (4) minor	Priority								
					Drivers		Major Measurable Deliverable		Target Date		Responsible Institutions		2018-2020			2021-2025			2026-2030 (current MP horizon, to vary in future)			2031-2050 (beyond current MP horizon)			Is it a foundation action:	What level of impact will the investment generate?		
					Drivers / Goals	Start date			Lead	Support	Deliverable	Date	PV Cost R million	Deliverable	Date	PV Cost R million	Deliverable	Date	PV Cost R million	Deliverable	Date	PV Cost R million	(1) Other actions highly dependent; (2) Few direct dependencies (3) no direct dependencies	(1) Major benefit (>x10); (2) moderate benefit (>x2) (3) limited benefit				
2.1.7 Transform all WUs into local Water Resources Management Institutions as per the developed roadmap	National	N		A.8		2021	2021	DWS	WBS, WRMI																			
2.2 Managing Data and Information																												
2.2.1 Review and develop comprehensive and appropriate Management, Monitoring and Reporting Structures of the DWS data portal	Item Safety Officer - Monitor and report annually on streamflow, dam levels, key water quality parameters (S1)	N	Currently within DWS website (projects and Programmes)	A.4	Fully functional, dated and relevant reporting tool	2018	Annual	DWS		R	3 Fully functional, dated and relevant reporting tool	2020	R	1 Fully functional, dated and relevant reporting tool	2025	R	1 Fully functional, dated and relevant reporting tool	2030	R	1 Budget = R.5 for 2018/2020 then only R.2 until 2050	Fully functional, dated and relevant reporting tool	2050	R	4	1	2	2	
2.2.2 Electronic Water Use License Application and Authorisation System (e-WULAS)	N	Currently within DWS website (projects and Programmes)	A.4	Fully functional dated and relevant reporting tool	2018	Annual	DWS		R	3 Fully functional, dated and relevant reporting tool	2020	R	1 Fully functional dated and relevant reporting tool	2025	R	1 Fully functional, dated and relevant reporting tool	2030	R	1 Budget = R.5 for 2018/2020 then only R.2 until 2050	Fully functional, dated and relevant reporting tool	2050	R	4	2	1	2		
2.2.3 Enterprise Geo Spatial Information (GIS)	N	Currently within DWS website (projects and Programmes)	A.4	Fully functional dated and relevant reporting tool	2018	Annual	DWS		R	3 Fully functional, dated and relevant reporting tool	2020	R	1 Fully functional dated and relevant reporting tool	2025	R	1 Fully functional, dated and relevant reporting tool	2030	R	1 Budget = R.5 for 2018/2020 then only R.2 until 2050	Fully functional, dated and relevant reporting tool	2050	R	4	1	1	2		
2.2.4 Groundwater	N	Currently within DWS website (projects and Programmes)	A.4	Fully functional dated and relevant reporting tool	2018	Annual	DWS		R	3 Fully functional, dated and relevant reporting tool	2020	R	1 Fully functional dated and relevant reporting tool	2025	R	1 Fully functional, dated and relevant reporting tool	2030	R	1 Budget = R.5 for 2018/2020 then only R.2 until 2050	Fully functional, dated and relevant reporting tool	2050	R	4	2	2	2		
2.2.5 Hydrology (Data, Dams, Floods and Flows)	N	Currently within DWS website (projects and Programmes)	A.4	Fully functional dated and relevant reporting tool	2018	Annual	DWS		R	3 Fully functional, dated and relevant reporting tool	2020	R	1 Fully functional dated and relevant reporting tool	2025	R	1 Fully functional, dated and relevant reporting tool	2030	R	1 Budget = R.5 for 2018/2020 then only R.2 until 2050	Fully functional, dated and relevant reporting tool	2050	R	4	2	2	2		
2.2.6 Institutional Oversight	N	Currently within DWS website (projects and Programmes)	A.4	Fully functional dated and relevant reporting tool	2018	Annual	DWS		R	3 Fully functional, dated and relevant reporting tool	2020	R	1 Fully functional dated and relevant reporting tool	2025	R	1 Fully functional, dated and relevant reporting tool	2030	R	1 Budget = R.5 for 2018/2020 then only R.2 until 2050	Fully functional, dated and relevant reporting tool	2050	R	4	1	1	1		
2.2.7 Integrated Water Quality Management Plan (IWQMP)	N	Currently within DWS website (projects and Programmes)	A.4	Fully functional dated and relevant reporting tool	2018	Annual	DWS		R	3 Fully functional, dated and relevant reporting tool	2020	R	1 Fully functional dated and relevant reporting tool	2025	R	1 Fully functional, dated and relevant reporting tool	2030	R	1 Budget = R.5 for 2018/2020 then only R.2 until 2050	Fully functional, dated and relevant reporting tool	2050	R	4	2	2	2		
2.2.8 Integrated Water Quality Management Strategy	N	Currently within DWS website (projects and Programmes)	A.4	Fully functional dated and relevant reporting tool	2018	Annual	DWS		R	3 Fully functional, dated and relevant reporting tool	2020	R	1 Fully functional dated and relevant reporting tool	2025	R	1 Fully functional, dated and relevant reporting tool	2030	R	1 Budget = R.5 for 2018/2020 then only R.2 until 2050	Fully functional, dated and relevant reporting tool	2050	R	4	2	2	2		
2.2.9 Integrated Water Resource Planning and Strategy Portal	N	Currently within DWS website (projects and Programmes)	A.4	Fully functional dated and relevant reporting tool	2018	Annual	DWS		R	3 Fully functional, dated and relevant reporting tool	2020	R	1 Fully functional dated and relevant reporting tool	2025	R	1 Fully functional, dated and relevant reporting tool	2030	R	1 Budget = R.5 for 2018/2020 then only R.2 until 2050	Fully functional, dated and relevant reporting tool	2050	R	4	1	1	1		
2.2.10 National Integrated Water Information System (NIWIS)	N	Currently within DWS website (projects and Programmes)	A.4	Fully functional dated and relevant reporting tool	2018	Annual	DWS		R	3 Fully functional, dated and relevant reporting tool	2020	R	1 Fully functional dated and relevant reporting tool	2025	R	1 Fully functional, dated and relevant reporting tool	2030	R	1 Budget = R.5 for 2018/2020 then only R.2 until 2050	Fully functional, dated and relevant reporting tool	2050	R	4	2	2	2		
2.2.11 National Water Resources Infrastructure Branch (NWRIB)	N	Currently within DWS website (projects and Programmes)	A.4	Fully functional dated and relevant reporting tool	2018	Annual	DWS		R	3 Fully functional, dated and relevant reporting tool	2020	R	1 Fully functional dated and relevant reporting tool	2025	R	1 Fully functional, dated and relevant reporting tool	2030	R	1 Budget = R.5 for 2018/2020 then only R.2 until 2050	Fully functional, dated and relevant reporting tool	2050	R	4	2	2	2		
2.2.12 Pricing and Economic Regulations Reforms Project (PERR)	N	Currently within DWS website (projects and Programmes)	A.4	Fully functional dated and relevant reporting tool	2018	Annual	DWS		R	3 Fully functional, dated and relevant reporting tool	2020	R	1 Fully functional dated and relevant reporting tool	2025	R	1 Fully functional, dated and relevant reporting tool	2030	R	1 Budget = R.5 for 2018/2020 then only R.2 until 2050	Fully functional, dated and relevant reporting tool	2050	R	4	2	2	2		
2.2.13 Reconciliation Strategies	N	Currently within DWS website (projects and Programmes)	A.4	Fully functional dated and relevant reporting tool	2018	Annual	DWS		R	3 Fully functional, dated and relevant reporting tool	2020	R	1 Fully functional dated and relevant reporting tool	2025	R	1 Fully functional, dated and relevant reporting tool	2030	R	1 Budget = R.5 for 2018/2020 then only R.2 until 2050	Fully functional, dated and relevant reporting tool	2050	R	4	2	2	2		
2.2.14 Review, Evaluation and Optimisation of the National Water Resources Monitoring (NWRM) Network Project	N	Currently within DWS website (projects and Programmes)	A.4	Fully functional dated and relevant reporting tool	2018	Annual	DWS		R	3 Fully functional, dated and relevant reporting tool	2020	R	1 Fully functional dated and relevant reporting tool	2025	R	1 Fully functional, dated and relevant reporting tool	2030	R	1 Budget = R.5 for 2018/2020 then only R.2 until 2050	Fully functional, dated and relevant reporting tool	2050	R	4	2	2	2		
2.2.15 South African Youth Water Prize (SAYWP)	N	Currently within DWS website (projects and Programmes)	A.4	Fully functional dated and relevant reporting tool	2018	Annual	DWS		R	3 Fully functional, dated and relevant reporting tool	2020	R	1 Fully functional dated and relevant reporting tool	2025	R	1 Fully functional, dated and relevant reporting tool	2030	R	1 Budget = R.5 for 2018/2020 then only R.2 until 2050	Fully functional, dated and relevant reporting tool	2050	R	4	2	2	2		
2.2.16 Water Allocation Reform	N	Currently within DWS website (projects and Programmes)	A.4	Fully functional dated and relevant reporting tool	2018	Annual	DWS		R	3 Fully functional, dated and relevant reporting tool	2020	R	1 Fully functional dated and relevant reporting tool	2025	R	1 Fully functional, dated and relevant reporting tool	2030	R	1 Budget = R.5 for 2018/2020 then only R.2 until 2050	Fully functional, dated and relevant reporting tool	2050	R	4	2	2	2		
2.2.17 Water Services/ Regulation Systems Menu (WSKWiS)	N	Currently within DWS website (projects and Programmes)	A.4	Fully functional dated and relevant reporting tool	2018	Annual	DWS		R	3 Fully functional, dated and relevant reporting tool	2020	R	1 Fully functional dated and relevant reporting tool	2025	R	1 Fully functional, dated and relevant reporting tool	2030	R	1 Budget = R.5 for 2018/2020 then only R.2 until 2050	Fully functional, dated and relevant reporting tool	2050	R	4	2	2	2		
2.2.18 Water Tribunal	N	Currently within DWS website (projects and Programmes)	A.4	Fully functional dated and relevant reporting tool	2018	Annual	DWS		R	3 Fully functional, dated and relevant reporting tool	2020	R	1 Fully functional dated and relevant reporting tool	2025	R	1 Fully functional, dated and relevant reporting tool	2030	R	1 Budget = R.5 for 2018/2020 then only R.2 until 2050	Fully functional, dated and relevant reporting tool	2050	R	4	2	2	2		
2.2.19 Water Use Licensing, Registration and Revenue Collection (WARMs) - Address the functionality of the Water Authorisation and Registration Management System (WARMs) to ensure use of water use are correct and are kept up to date (S1)	N	Currently within DWS website (projects and Programmes)	A.4	Fully functional dated and relevant reporting tool	2018	Annual	DWS		R	3 Fully functional, dated and relevant reporting tool	2020	R	1 Fully functional dated and relevant reporting tool	2025	R	1 Fully functional, dated and relevant reporting tool	2030	R	1 Budget = R.5 for 2018/2020 then only R.2 until 2050	Fully functional, dated and relevant reporting tool	2050	R	4	2	2	2		
2.2.20 Projects and feasibility studies	N	Currently within DWS website (projects and Programmes)	A.4	Fully functional dated and relevant reporting tool	2018	Annual	DWS		R	3 Fully functional, dated and relevant reporting tool	2020	R	1 Fully functional dated and relevant reporting tool	2025	R	1 Fully functional, dated and relevant reporting tool	2030	R	1 Budget = R.5 for 2018/2020 then only R.2 until 2050	Fully functional, dated and relevant reporting tool	2050	R	4	2	2	2		
2.2.21 Other (future relevant information to be included)	N	Incorporate additional / future projects / programmes	A.4	Additional fully functional, dated and relevant reporting tool	2018	Annual	DWS		R	5 Additional fully functional, dated and relevant reporting tool	2020	R	2 Fully functional dated and relevant reporting tool	2025	R	2 Fully functional, dated and relevant reporting tool	2030	R	1 Budget = R.5 for 2018/2020 then only R.2 until 2050	Fully functional, dated and relevant reporting tool	2050	R	4	2	2	2		
2.2.22 Review and develop a comprehensive DWS information management strategy to include among other:	National	N	Data Management Strategies between projects and programmes not aligned	A.4	Approved comprehensive DWS Information Management Strategy and Plan	2018	Annual	DWS		R	5 Approved comprehensive DWS Information Management Strategy and Plan	2020	R	2 Updated comprehensive DWS Information Management Strategy and Plan	2025	R	2 Updated comprehensive DWS Information Management Strategy and Plan	2030	R	1 Budget = R.5 for 2018/2020 then only R.2 until 2050	Updated comprehensive DWS Information Management Strategy and Plan	20						

NW&SMP SCHEDULE OF ACTIONS	2. Enabling Environment	Menu	Help	Please hover on cell headings to obtain definitions	Enabling Environment	Breakdown of deliverables per time segment	Priority															
Level 1: Key Actions	Level 2: Supporting Actions	Level 3: Regional Actions	Nat., Reg. & System (N) / Prov. (P) / Local (L)	Baseline / Status Quo	Overall targets	Drivers	Target Date	Responsible Institutions	Present Value Cost (VAT excl.)	2018-2020	2021-2025	2026-2030 (current MP horizon, to vary in future)	2031-2050 (beyond current MP horizon)	Magnitude of impact if action does not occur	Is it a foundation action:	What level of impact will the investment generate?	What has prevented action from being completed to date?					
					Drivers / Goals	Major Measurable Deliverable	Start date	Compl. Date	Lead	Support	R million (2018) (MP horizon)	Deliverable	Date	PV Cost R million	Deliverable	Date	PV Cost R million	Deliverable	Date	PV Cost R million		
2.6 Enhancing Research, Development and Innovation																						
Implement an enabling environment for research, development and innovation	1.6.1	National	n/a		Revised strategies	2018/19	2020/21 DWS	DST, WRC, CSIR	R	2 Link the water RDI Roadmap to the revised NWRS	2020 R	Review the water RDI Roadmap/relevant strategy	2025 R	2	2030		Review the water RDI Roadmap/relevant strategy	2050 R	2	2		
Implement and regularly review/revised Research, Development and Innovation Policies, Plans and Roadmaps across the sector	1.6.2	n/a			Catalytic study outputs/ sector engagements	agreed approach by 2020	Ongoing DWS	National Treasury, COGTA, DST, NMU	R	2 Series of sectoral engagements to outline and create awareness	2020 R	1 Ongoing sectoral engagements	2025 R	1	2030				2	1		
Unlock investment, procurement and other localisation barriers to reposition the sector to implement new/niche solutions and approaches and roadmap the NMU	1.6.3	n/a			Coordinator performance agreements	2018/19	DWS	the dtI, Dept. Small Business, EDO, Incubators	R	42 Coordination of key role players	2020 R	2 Business/innovation/enterprise development matchmaking	2025 R	20	2030				2	1		
Coordinate, and where needed establish new platforms, to enable a synergised set of institutions that enable the shifting of innovations into the market (including business development and SME support)	1.6.4	n/a			Partnership mapping and agreements	2018/19	2020 for a plan in place, thereafter tracking	WRC, CSIR, DST, COGTA, SALGA, DTI, DAFF municipalities, Utilities,	R	22 PMU in place	2020 R	4 PMU in place	2025 R	8 PMU in place	2030 R	10 PMU costing - 2 mil X 10 years - 20 million			1	1		
Strengthen partnerships with key water sector institutions to accelerate research and solutions into practice	1.6.5	n/a			Test bed network - WADER website, WADER team in place	2018/19	Ongoing WRC	DWS, DST, SALGA, Municipalities	R	11 initiate test bed research work	2020 R	1 Consolidate and grow test bed network	2025 R	5 Consolidate and grow test bed network	2030 R	5			3	2		
Structure test bed partners with key water sector institutions in order to accelerate innovations to the market/public sector	1.6.6	National	n/a		Research reports, publications, sector consultations	2018/19	Ongoing DWS	WRC, CSIR, DST	R	12 3 projects initiated	2020 R	5 3 projects initiated	2025 R	5 2 projects initiated	2030 R	3 1.5 X 8 = 12 million	8 projects concluded	2050 R	-	3	2	
Invest in research that will support equitable redistribution of water	2.6.6	National	n/a		Tech, guidelines, documents and tools	2018/19	2022/23 DWS	WRC, CSIR, DST, SALGA, Utilities, COGTA, WSAs	R	31 4 projects	2020 R	8 4 projects initiated	2025 R	8 3 tech activities underway	2030 R	15 2 mil per research guide/host0, 3X 5 mil on tech= 31 million			2	3		
Invest in Research and Innovation deployment as part of preparing for changing supply/demand opportunities and challenges	2.6.7	National	n/a		Site tour, partner Agreements	2022/23	2026/27 DWS	SALGA, Utilities, Metros and District Municipalities, COGTA	R	35 Feasibility underway	2020 R	5 Tech selection	2025 R	10 Roll out	2030 R	20 4C feasibility, tech selection and roll out - 60 million	Roll out continued	2050 R	25	2	3	
Apply the concepts of water sensitive urban design to a robust city-wide case study to demonstrate and learn how a city can transition to a sustainable city	2.6.8	n/a			Tools, demo site visits	2018/19	Ongoing WRC	DWS, DAFF, ARC, CSIR, Corporations	R	20 2 projects	2020 R	4 3 projects	2025 R	6 Demo underway	2030 R	10 2 mil per research guide/host0, 2X 5 mil on tech= 20 million			2	2		
Tools for agriculture early warning systems need to be developed and tested at scale	2.6.9	National	n/a		Tech scan report	2018/19	2020/21 WRC	DST, DWS	R	2 Scan and sort	2020 R	2	2025						1	1	2	
Support the development of an innovation-based domestic waste and industrial water industry	2.6.10	National	n/a		Test bed visits, tech validation reports	2018/19	Ongoing DWS	WRC, CSIR, DST, BMGF, municipalities, DTI	R	50		Initiate demos	2025 R	25 Continue demos	2030 R	25			1	2	1	
Alternative Sanitation: Develop and demonstrate and validate appropriate alternative, water-less and off grid sanitation solutions (Current – 2025)	2.6.11	n/a			Test bed visits, tech validation reports	Ongoing	Ongoing DWS	TCTA, WRC, CSIR, the dtI, DST, TIA, MINTEK, private sector	R	50		Initiate demos	2025 R	25 Continue demos	2030 R	25			1	2	1	
Domestic and Industrial Waste Water: Develop and Demonstrate appropriate waste water technologies for cost effectiveness, energy efficiency and beneficiation.	2.6.12	National	n/a		Tech scan report	2018/19	2020/21 WRC	DST, DWS, CSIR	R	2 Scan and sort	2020 R	2	2025						1	1	2	
Scan and sort the innovation sector for solutions that are ready for application and invest in their implementation	2.6.13	National	n/a		Test bed visits, tech validation reports	2018/19	Ongoing DWS	WRC, CSIR, Municipalities, Utilities	R	40		Initiate demos	2025 R	20	2030 R	20			1	2	1	
Drinking Water Treatment: Develop and Demonstrate solutions that allow for the use of alternative sources of water for safe, human consumption and water security	2.6.14	National	n/a		Research reports and results	2018/19	Ongoing DWS	WRC, CSIR, Municipalities, Utilities	R	20 Initiate projects	2020 R	6 Initiate projects	2025 R	8 Initiate projects	2030 R	6 2 mil X10=20 million			2	2	2	
Continue to invest in understanding emerging contaminants (detection and treatment) in order to improve our transition to reuse, reclamation and recycling of water	2.6.15	National	n/a		CoP Coordinator contract and reporting	2018/19	Ongoing DWS	DEA, SANBI, WRC, CSIR, DST, Utilities	R	18 Initiate CoP	2020 R	3 Sustain CoP	2025 R	8 Sustain CoP	2030 R	8 1.5 mil per year X 10 =15 million			2	2	2	
Improving raw water quality: Invest in Communities of practice that bring together built and ecological infrastructure and solutions	2.6.16	National	n/a		GEF Steering Committee Reporting	2018/19	2023/24 DWS	DEA, SANBI, WRC, CSIR	R	- Join GEF 6 processes	2020 R	- sustain engagement with GEF 6	2025 R	-					2	2	2	
Link the Global Environment Fund 6 project on Water Pricing and Ecosystems to Water Master Plan implementation and position DWS to be closely involved in this process	2.6.17	National	n/a		Project deliverables	2018/19	Ongoing WRC	DEA, DWS, DAFF, ARC, Utilities	R	27 Projects initiated	2020 R	9 Projects initiated	2025 R	9 Projects initiated	2030 R	9 3mil X 9=27 million			2	2	2	
Continue to do research on land use impact on water linked ecosystems	2.6.18	National	n/a		Project deliverables	2018/19	Ongoing DWS	DEA, DST, WRC, CSIR, Utilities	R	27 Projects initiated	2020 R	9 Projects initiated	2025 R	9 Projects initiated	2030 R	9 3mil X 9=27 million			2	2	2	
Ongoing research, modelling and planning around climate change and its impacts on water security and water infrastructure needs to be conducted	2.6.19	National	n/a		Business plan, centre performance agreement	2018/19	2021/22 DWS	DEA, ARC, DAFF, WRC, DST, SAWs, ARC, CSIR, Stats SA	R	34 Initiate TBC scoping and feasibility	2020 R	2 Continue feasibility and scoping	2025 R	2 Initiate centre	2030 R	30 4 mil on establishment and feasibility, 60 mil on centre set up (Later TBC in feasibility) For 2026-2030			1	3	2	
Initiate a hydrological monitoring centre for South Africa in order to re-establish a robust data, monitoring and information capability for more effective water resources planning and climate change forecasting in future	2.6.20	National	n/a		ICT demo	2018/19	Ongoing WRC	DWS, WRC, CSIR, DST, COGTA, SALGA, the dtI, DAFF municipalities	R	9 Run demo through wader	2020 R	3 Run demo through wader	2025 R	3 Run demo through wader	2030 R	3 1 mil X 9=9 million			3	3	3	
Test a suite of ICT and citizen science tools for data sourcing	2.6.21	National	n/a		Training role out	2021	Ongoing DWS	EWSETA	R	15				Scope programme and initiate training	2030 R	15			2	2	2	
Partner with institutions to fund training of water sector practitioners in the curation, management and use of data as well as the associated technologies	2.6.22	National	n/a	A.7	Desktop study	2022	DWS	WRC, CSIR, SETA, WISA, DHET	R	3 Initiate study	2020 R	3							2	2	2	
Review all relevant guidelines and R&D products to understand where training modules need to be developed around new knowledge	2.6.23	National	n/a	A.7																		
2.7 Implementation of NWNSP																						
Implementation of NWNSP	2.7.1	National	N, P	1st Phakisa on Master Plan to be A.8, B.7, B.12	Organise national conference	2019	2020 DWS	DPME	R	60 National Phakisa	2019 R	60 n/a	n/a	-	n/a	n/a	n/a	n/a	3	2		
Phakisa on water and sanitation masterplan	2.7.2	National	N, P, L	Draft NWNSP (2018)	A.8, B.12	Organise regional conferences to mobilize stakeholders	2018	2019 DWS	WSA	R	1 Cost per activity	2019 R	1 n/a	n/a	-	n/a	n/a	n/a	1	1	1	
Determine cost required to implement NWNSP and identify where re prioritisation or cost savings can be used to address the NWNSP priorities	2.7.3	National	N	Draft NWNSP (2018)	A.8, B.12	Prioritise activities per Level 1	2019	2019 DWS		R	12 Define PMU	2020 R	2 Define job descriptions for relevant management, technical and programme manager resources	2025 R	5 Build capacity in PMU	2030 R	3 Staffed Resources with sufficient capacity will be responsible for the successful implementation			1	1	
Appoint skilled Management, Technical and Programme Manager staff for Delivery Unit	2.7.4	National																				

NW&SMP		2. Enabling Environment		Enabling Environment																						
SCHEDULE OF ACTIONS		Menu		Help		Enabling Environment																				
		Overall targets										Breakdown of deliverables per time segment														
Level 1: Key Actions	Level 2: Supporting Actions	Level 3: Regional Actions	Nat., Reg. & System (N) / Prov. (P) / Local (L)	Baseline / Status Quo	Overall targets	Drivers / Goals	Target Date		Responsible Institutions		Present Value Cost (VAT excl.)	2018-2020			2021-2025			2026-2030 (current MP horizon, to vary in future)			Note	2031-2050 (beyond current MP horizon)			Priority	
							Start date	Compl. Date	Lead	Support	R million (2018) (MP horizon)	Deliverable	Date	PV Cost R million	Deliverable	Date	PV Cost R million	Deliverable	Date	PV Cost R million		Deliverable	Date	PV Cost R million		
2.7.4 Monitor, review, evaluate, report on and update NW&SMP	National	N, P, L	Draft NW&SMP (2018)	A.8, B.12	<ul style="list-style-type: none"> - Establish a monitoring, evaluation, learning and reporting system for implementation of the NW&SMP - Include reporting in KPIs of Senior management for all affected National Departments, public entities, and other institutions identified in the NW&SMP - Annual updating and reporting 	2018 Annual report to Parliament	DPME	DWS	R	68	<ul style="list-style-type: none"> - Establish a monitoring, evaluation, learning and reporting system for implementation of the NW&SMP - Include reporting in KPIs of Senior management for all affected National Departments, public entities, and other institutions identified in the NW&SMP - Annual updating and reporting 															
											2020	R	8	- Annual updating and reporting	2025	R	30	- Annual updating and reporting	2030	R	30	- Annual updating and reporting	2050	R	120	2

End of list

1.2.3 Identify alternative sources of water and water users not utilizing water as mines are closing, resulting from War on Lakes etc for transformation	National	N	Existing Water Allocation Reform (WARR) programme	A.1; B.1	Initial mapping by 2019; allocation of water to begin in 2019	2018	2019 DWS	DMA	R	3 Mapping of available resources	2019 R	3	1/2	1/2	R	1/2	1/2	1/2	1/2	1/2	Cost estimate based on desktop study obtaining information from registered water use, V&Vs and reconciliation strategies	1/2	1/2	2	2	3								
	National	N	Existing Water Allocation Reform (WARR) programme	A.1; B.1	Initial mapping by 2019; substantial transfers by 2023	2018	2019 DWS	DMA, DAFF/DOAL, WSA	R	5 Identified schemes	2019 R	5	1/2	1/2	R	1/2	1/2	1/2	1/2	1/2	Cost estimate based on desktop study obtaining information from registered water use, V&Vs and reconciliation strategies	1/2	1/2	2	2	3								
	National	N	WAS not implemented	A.1; B.1	Number of schemes where WAS implemented	2018	DWS	DAFF / DOAL	R	As per WMA	2018 R	-	As per WMA	2018 R	-	As per WMA	2018 R	-	As per WMA	2018 R	-	DWS to provide cost info	As per WMA	1/2	-									
	Berg Olifants	P				2018			R	-																								
	Bredasdorp	P				2018			R	-																								
	Diepdrift	P				2018			R	-																								
	Imfolozi	P				2018			R	-																								
	Impolopha	P				2018			R	-																								
	Khoma	P				2018			R	-																								
	Orange	P				2018			R	-																								
	Pongola	P				2018			R	-																								
	Vaal	P				2018			R	-																								
1.2.4 Implement pilot project on voluntary contributions from farmers for water allocation in previously determined areas	National	N	Existing Water Allocation Reform (WARR) programme	A.1; B.1	Identify pilot project implement pilot project Analyse and publish results	2018	2019 DWS	DAFF	R	10	Identify pilot project implemented pilot project Analyse and publish results	2020 R	10																					
	National	N	Existing Water Allocation Reform (WARR) programme	A.1; B.1	Initial mapping by 2019; substantial transfers by 2023	2018	Initial DWS	DMA	R	5 Mapping of available resources small dams and groundwater	2020 R	2	Water balance for available resources: small dams and groundwater	2023 R	3																			
	Berg Olifants	P				2018			R	-																								
	Bredasdorp	P				2018			R	-																								
	Diepdrift	P				2018			R	-																								
	Imfolozi	P				2018			R	-																								
	Khoma	P				2018			R	-																								
	Impolopha	P				2018			R	-																								
	Khoma	P				2018			R	-																								
	Orange	P				2018			R	-																								
1.2.5 Identify areas where small dams or groundwater development can provide water for small scale black farmers	National	N	Existing Water Allocation Reform (WARR) programme	A.1; B.1	Coordinate water and agricultural land distribution development plans and on a regional level	2018	2018 DWS	DMA, DAFF, DDLR	R	-																								
	National	N	Existing Water Allocation Reform (WARR) programme	A.1; B.1	Use General Authorisation to enable small scale water use by black farmers	2018	2018 DWS	DAFF	R	-																								
	National	N	Existing irrigation Scheme	A.1; B.1		2018	2020 DWS	DAFF	R	-																								
	Berg Olifants	P				2018			R	-																								
	Bredasdorp	P				2018			R	-																								
	Diepdrift	P				2018			R	-																								
	Imfolozi	P				2018			R	-																								
	Khoma	P				2018			R	-																								
	Impolopha	P				2018			R	-																								
	Khoma	P				2018			R	-																								
1.2.6 Define and implement processes to allocate water (new/used) to black applicants	National	N	Existing Water Allocation Reform (WARR) programme	A.1; B.1	Process/guideline for allocation to black applicants implementation	2018	2020 DWS	DAFF	R	22 Process/guideline for allocation to black applicants implementation	2020 R	2	Implementation	2023 R	2	0	2020 R	2	10	DWS to provide cost info														
	National	N	No current national long term Turn Around Strategy (TAS) is in place	A.1; A.2; B.11	National Turn Around Strategy (TAS) to be rolled out per WSA	2018	2020 DWS	COGTA, NT, SALGA	R	236 Approved TAS	2020 R	6	34	1/2	R	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2				
	Eastern Cape	P,L	No WSA TAS in place		Implement TAS to fr WSA	2021	Annually DWS	COGTA, NT, SALGA	R	24	1/2	1/2	R	-	14 Customised TAS	2023 R	6	14 Customised TAS	2023 R	18														
	Free State	P,L	No WSA TAS in place		Implement TAS to fr WSA	2021	Annually DWS	COGTA, NT, SALGA	R	24	1/2	1/2	R	-	19 Customised TAS	2023 R	6	14 Customised TAS	2023 R	18														
	Gauteng	P,L	No WSA TAS in place		Implement TAS to fr WSA	2021	Annually DWS	COGTA, NT, SALGA	R	24	1/2	1/2	R	-	9 Customised TAS	2023 R	6	14 Customised TAS	2023 R	18														
	KwaZulu-Natal	P,L	No WSA TAS in place		Implement TAS to fr WSA	2021	Annually DWS	COGTA, NT, SALGA	R	24	1/2	1/2	R	-	14 Customised TAS	2023 R	6	14 Customised TAS	2023 R	18														
	Limpopo	P,L	No WSA TAS in place		Implement TAS to fr WSA	2021	Annually DWS	COGTA, NT, SALGA	R	24	1/2	1/2	R	-	10 Customised TAS	2023 R	6	14 Customised TAS	2023 R	18														
	Mpumalanga	P,L	No WSA TAS in place		Implement TAS to fr WSA	2021	Annually DWS	COGTA, NT, SALGA	R	24	1/2	1/2	R	-	17 Customised TAS	2023 R	6	14 Customised TAS	2023 R	18														
	North West	P,L	No WSA TAS in place		Implement TAS to fr WSA	2021	Annually DWS	COGTA, NT, SALGA	R	24	1/2	1/2	R	-	10 Customised TAS	2023 R	6	14 Customised TAS	2023 R	18														
	Northern Cape	P,L	No WSA TAS in place		Implement TAS to fr WSA	2021	Annually DWS	COGTA, NT, SALGA	R</																									

1.3.4	Northern Cape	WSA	Free Basic Minimum LOS Standards A;A;A;B;B;11	Implementation Plan for Minimum Basic LOS and Cost Recovery custom made per WSA	2021	2025 DWS	CGTA, NT, SALGA, WSA	R	12	0/4	0/4	0/4	- Implementation Plan for Minimum Basic LOS and Cost Recovery	2023	R	12	0/4	0/4	0	0	0/4	0/4	2	2	2	The minimum basic LOS has only recently been revised to provide connection during the revision of the national water and sanitation bill and the impact thereof on its affordability needs still to be determined		
	Western Cape	WSA	Free Basic Minimum LOS Standards A;A;A;B;B;11	Implementation Plan for Minimum Basic LOS and Cost Recovery custom made per WSA	2021	2025 DWS	CGTA, NT, SALGA, WSA	R	13	0/4	0/4	0/4	- Implementation Plan for Minimum Basic LOS and Cost Recovery	2023	R	13	0/4	0/4	0	0	0/4	0/4	2	2	2	The minimum basic LOS has only recently been revised to provide connection during the revision of the national water and sanitation bill and the impact thereof on its affordability needs still to be determined		
	National		Successful programme was implemented in Regions between 1998 - 2000 A;A;A;2	Leave BOTT programme to fast track service delivery Develop and Implement BOTT guidelines and delivery plan with associated budgets	2019	2025 NT	DWS	R	189	Infrastructure BOTT Business Model	2020	R	54	Implementation plan with budget to be rolled out per Region and managed by the National Water Resources and Services Authority	2023	R	135	0/4	0/4	0	0	0/4	0/4	3	2	2		
	National	N	0;A;A;A;B;B;11	144 Credible and Council approved WSDPs	2019	2025 DWS	CGTA, NT, SALGA, 27 L	R	324	144	2020	R	66	144	2023	R	165	144	2040	R	165	Budget = R 3 mill per annum per d	0/4	0/4	1	1	1	NDP 2030 and SDG 6 resulted in the change from water services backlog eradication to providing reliable water services by 2019
	Eastern Cape	DM	Base zero A;A;A;B;B;11		2019	2025 WSA	DWS, CGTA, SALGA, N	R	36	0	2020	R	6	0	2023	R	15	0	2030	R	15	Budget = R 3 mill per annum per d	0/4	0/4	1	1	1	NDP 2030 and SDG 6 resulted in the change from water services backlog eradication to providing reliable water services by 2019
	Free State	DM	Base zero A;A;A;B;B;11		2019	2025 WSA	DWS, CGTA, SALGA, N	R	36	0	2020	R	6	0	2023	R	15	0	2030	R	15	Budget = R 3 mill per annum per d	0/4	0/4	1	1	1	NDP 2030 and SDG 6 resulted in the change from water services backlog eradication to providing reliable water services by 2019
	Gauteng	DM	Base zero A;A;A;B;B;11		2019	2025 WSA	DWS, CGTA, SALGA, N	R	36	0	2020	R	6	0	2023	R	15	0	2030	R	15	Budget = R 3 mill per annum per d	0/4	0/4	1	1	1	NDP 2030 and SDG 6 resulted in the change from water services backlog eradication to providing reliable water services by 2019
	KwaZulu-Natal	DM	Base zero A;A;A;B;B;11		2019	2025 WSA	DWS, CGTA, SALGA, N	R	36	0	2020	R	6	0	2023	R	15	0	2030	R	15	Budget = R 3 mill per annum per d	0/4	0/4	1	1	1	NDP 2030 and SDG 6 resulted in the change from water services backlog eradication to providing reliable water services by 2019
	Limpopo	DM	Base zero A;A;A;B;B;11		2019	2025 WSA	DWS, CGTA, SALGA, N	R	36	0	2020	R	6	0	2023	R	15	0	2030	R	15	Budget = R 3 mill per annum per d	0/4	0/4	1	1	1	NDP 2030 and SDG 6 resulted in the change from water services backlog eradication to providing reliable water services by 2019
	Mpumalanga	DM	Base zero A;A;A;B;B;11		2019	2025 WSA	DWS, CGTA, SALGA, N	R	36	0	2020	R	6	0	2023	R	15	0	2030	R	15	Budget = R 3 mill per annum per d	0/4	0/4	1	1	1	NDP 2030 and SDG 6 resulted in the change from water services backlog eradication to providing reliable water services by 2019
	North West	DM	Base zero A;A;A;B;B;11		2019	2025 WSA	DWS, CGTA, SALGA, N	R	36	0	2020	R	6	0	2023	R	15	0	2030	R	15	Budget = R 3 mill per annum per d	0/4	0/4	1	1	1	NDP 2030 and SDG 6 resulted in the change from water services backlog eradication to providing reliable water services by 2019
	Northern Cape	DM	Base zero A;A;A;B;B;11		2019	2025 WSA	DWS, CGTA, SALGA, N	R	36	0	2020	R	6	0	2023	R	15	0	2030	R	15	Budget = R 3 mill per annum per d	0/4	0/4	1	1	1	NDP 2030 and SDG 6 resulted in the change from water services backlog eradication to providing reliable water services by 2019
	Western Cape	DM	Base zero A;A;A;B;B;11		2019	2025 WSA	DWS, CGTA, SALGA, N	R	36	0	2020	R	6	0	2023	R	15	0	2030	R	15	Budget = R 3 mill per annum per d	0/4	0/4	1	1	1	NDP 2030 and SDG 6 resulted in the change from water services backlog eradication to providing reliable water services by 2019
Water services planning	National	N	One provincial MP(EC) and 7 Water A;A;A;B;B;8	Overarching provincial WMP and 144 W	2018	2030 DWS	CGTA, SAIGA, NT	R	626	8 provincial WMP	2020	R	62	0/4	0/4	R	154	0/4	0/4	R	410	Budget = R15.5 mill/annum per d	0/4	0/4	3	2	2	Regional Roads exceed EC norm compling to construction to develop MP
	National	N	Base zero A;A;A;B;B;8	Monitoring of the progress made with implementation of their WSDPs	2025	2030 DWS	CGTA, SAIGA, NT	R	360	0/4	0/4	0/4	Monitoring of the progress made with implementation of their WSDPs	2020	R	360	0/4	0/4	R	410	Budget = R15.5 mill/annum per d	0/4	0/4	3	2	2	Lack of WSA commitment to annually review their WSDPs that is build from a detailed WSDAP and MP process	
	Eastern Cape	WSA	1 Provincial MP A;A;A;B;B;8		2018	2025 WSA	DWS	R	26	3,0	2020	R	6	14	2023	R	15	14	2020	R	5	Budget = R15.5 mill/annum per d	0/4	0/4	3	2	2	Lack of WSA commitment to annually review their WSDPs that is build from a detailed WSDAP and MP process
	Free State	WSA	No Provincial MP A;A;A;B;B;8		2018	2025 WSA	DWS	R	35	4,1	2020	R	0	19	2023	R	20	19	2020	R	2	Budget = R15.5 mill/annum per d	0/4	0/4	3	2	2	Lack of WSA commitment to annually review their WSDPs that is build from a detailed WSDAP and MP process
	Gauteng	WSA	No Provincial MP A;A;A;B;B;8		2019	2025 WSA	DWS	R	17	1,9	2020	R	4	9	2023	R	10	9	2020	R	3	Budget = R15.5 mill/annum per d	0/4	0/4	3	2	2	Lack of WSA commitment to annually review their WSDPs that is build from a detailed WSDAP and MP process
	KwaZulu-Natal	WSA	No Provincial MP A;A;A;B;B;8		2018	2025 WSA	DWS	R	26	3,0	2020	R	6	14	2023	R	15	14	2020	R	5	Budget = R15.5 mill/annum per d	0/4	0/4	3	2	2	Lack of WSA commitment to annually review their WSDPs that is build from a detailed WSDAP and MP process
	Limpopo	WSA	No Provincial MP A;A;A;B;B;8		2019	2025 WSA	DWS	R	19	2,1	2020	R	4	10	2023	R	11	10	2020	R	4	Budget = R15.5 mill/annum per d	0/4	0/4	3	2	2	Lack of WSA commitment to annually review their WSDPs that is build from a detailed WSDAP and MP process
	Mpumalanga	WSA	No Provincial MP A;A;A;B;B;8		2018	2025 WSA	DWS	R	31	3,6	2020	R	7	12	2023	R	18	17	2020	R	6	Budget = R15.5 mill/annum per d	0/4	0/4	3	2	2	Lack of WSA commitment to annually review their WSDPs that is build from a detailed WSDAP and MP process
	North West	WSA	No Provincial MP A;A;A;B;B;8		2018	2025 WSA	DWS	R	19	2,1	2020	R	4	10	2023	R	11	10	2020	R	4	Budget = R15.5 mill/annum per d	0/4	0/4	3	2	2	Lack of WSA commitment to annually review their WSDPs that is build from a detailed WSDAP and MP process
	Northern Cape	WSA	No Provincial MP A;A;A;B;B;8		2019	2025 WSA	DWS	R	48	5,6	2020	R	11	26	2023	R	28	26	2020	R	9	Budget = R15.5 mill/annum per d	0/4	0/4	3	2	2	Lack of WSA commitment to annually review their WSDPs that is build from a detailed WSDAP and MP process
	Western Cape	WSA	No Provincial MP A;A;A;B;B;8		2018	2025 WSA	DWS	R	46	5,4	2020	R	11	25	2023	R	27	25	2020	R	9	Budget = R15.5 mill/annum per d	0/4	0/4	3	2	2	Lack of WSA commitment to annually review their WSDPs that is build from a detailed WSDAP and MP process
Water services infrastructure	National	N	1400 A;A;A;B;B;11		2068	2018	2030 WSA	DWS	R	87 425	1400	2020	R	32 169	1568	2023	R	55 256	0/4	R	410	Budget = R15.5 mill/annum per d	0/4	0/4	3	2	2	Total cost requirement exceeds the annual available funding allocation
	Eastern Cape	WSA	282 number of projects A;A;A;B;B;11		549	2018	2030 WSA	DWS	R	18 433	282	2020	R	8 809	267	2023	R	9 623	0/4	R	410	Budget = R15.5 mill/annum per d	0/4	0/4	3	2	2	Total cost requirement exceeds the annual available funding allocation
	Free State	WSA	347 number of projects A;A;A;B;B;11		438	2018	2030 WSA	DWS	R	8 607	347	2020	R	5 536	91	2023	R	3 071	0/4	R	410	Budget = R15.5 mill/annum per d	0/4	0/4	3	2	2	Total cost requirement exceeds the annual available funding allocation
	Gauteng	WSA	141 number of projects A;A;A;B;B;11		330	2018	2030 WSA	DWS	R	21 188	143	2020	R	6 197	187	2023	R	14 991	0/4	R	410	Budget = R15.5 mill/annum per d	0/4	0/4	3	2	2	Total cost requirement exceeds the annual available funding allocation
	KwaZulu-Natal	WSA	61 number of projects A;A;A;B;B;11		81	2018	2030 WSA	DWS	R	3 601	63	2020	R	1 347	28	2023	R	2 254	0/4	R	410	Budget = R15.5 mill/annum per d	0/4	0/4	3	2	2	Total cost requirement exceeds the annual available funding allocation
	Limpopo	WSA	104 number of projects A;A;A;B;B;11		171	2018	2030 WSA	DWS	R	9 440	104	2020	R	5 529	67	2023	R	5 910	0/4	R	410	Budget = R15.5 mill/annum per d	0/4	0/4	3	2	2	Total cost requirement exceeds the annual available funding allocation
	Mpumalanga	WSA	68 number of projects A;A;A;B;B;11		203	2018	2030 WSA	DWS	R	3 258	68	2020	R	662	153	2023	R	2 626	0/4	R	410	Budget = R15.5 mill/annum per d	0/4	0/4	3	2	2	Total cost requirement exceeds the annual available funding allocation
	North West	WSA	77 number of projects A;A;A;B;B;11		143	2018	2030 WSA	DWS	R	3 461	77	2020	R	1 795	66	2023	R	1 668	0/4	R	410	Budget = R15.5 mill/annum per d	0/4	0/4	3	2	2	Total cost requirement exceeds the annual available funding allocation
	Northern Cape	WSA	86 number of projects A;A;A;B;B;11		274	2018	2030 WSA	DWS	R	9 556	86	2020	R	1 293	188	2023	R	8 263	0/4	R	410	Budget = R15.5 mill/annum per d	0/4	0/4	3	2	2	Total cost requirement exceeds the annual available funding allocation
	Western Cape	WSA	230 number of projects A;A;A;B;																									

1.5.5	Implement adaptive source control and water quality management interventions, in accordance with relevant catchment plans and strategic SABs & SAsS	N, P, L	Mine-Water Management Policy developed and approved	IWQM TARGET #1: Integrated Water Quality Management (IWQM) shall be implemented at all levels, including the trans-boundary (international), national, Water Management Area (WMA) and sub-catchment levels	Execution of Action Plans for the implementation of the policy on mine water management	2019/2020 2030 and beyond Chamber of Mines DWS, CMA, CMR	R 9	18 Implementation Plan to support the Mine-water Policy	2020 R	3 Implementation Plan to support the Mine-water Policy	2023 R	5 Implementation Plan to support the Mine-water Policy	2020 R	10 Implementation Plan to support the Mine-water Policy	2020 R	1	2	1	1	Lack of implementation of policies and strategies
	Turn around the functionality of five, currently dysfunctional large wastewater treatment works containing waste generated by industrial activities and by economic activities that do not conform to discharge lawsfully and safely	N, P, L	IWWTW not performing optimally	IWQM TARGET #2: All wastewater treatment works shall be functioning optimally, followed by economic activities that do not conform to discharge lawsfully and safely	Public campaign and functional WWTWs with maintenance plans and turnaround strategy	2018/2019 2022/2023 DWS WSA, NT, SAIGA, CGOTA (Water Services)	R 9	153 Strategy and implementation plan developed	2020 R	3 Plan implemented	2023 R	100 Works monitored and adaptive improvements made	2020 R	50 Works monitored and adaptive improvements made	2020 R	100	1	1	1	Complex intergovernmental relations
	Turn around the functionality of the remaining dysfunctional wastewater treatment works	N	IWWTW not performing optimally	Programme to address the remaining WWTWs and functional WWTWs with maintenance plans	2023/2024 2029/2030 WSA, NT, SAIGA, CGOTA, INT	R 9	240 Improvement Strategy and Maintenance Action Plan developed	2020 R	10 Strategy and implementation plan rolled-out	2023 R	100 Strategy and implementation plan rolled-out	2020 R	150 Strategy and implementation plan rolled-out	2020 R	200	1	1	1	Complex intergovernmental relations	
	Ensure that at least one trans-boundary institution or authority can support IWQM in shared river basins	N, P	Trans-boundary institutions or authority can support IWQM in shared river basins	IWQM TARGET #3: Integrated Water Quality Management (IWQM) shall be implemented at all levels, including the trans-boundary (international), national, Water Management Area (WMA) and sub-catchment levels (SA16, SA21, SA22, SA23 & SA25)	Shared objectives and cooperation with respect to IWQM	2017/2019 2029/2030 DWS Co-basin states	R	22 Trans-boundary water quality management strategy developed	2020 R	8 Trans-boundary water quality management strategy implemented and monitored	2023 R	8 Trans-boundary water quality management strategy revised and implemented	2020 R	8 Trans-boundary water quality management strategy revised and implemented	2020 R	10	3	2	2	Complex intergovernmental relations, require stronger IGR
	Determine water quality trends and management priorities in South Africa through planning level reviews	N	Limited reviews of sufficient standards	IWQM TARGET #3: Integrated Water Quality Management (IWQM) shall be implemented at all levels, including the trans-boundary (international), national, Water Management Area (WMA) and sub-catchment levels	Planning-level review of water quality trends in South Africa	2019/2020 2030 and beyond DWS	R	18 Water Quality Trends report	2020 R	4 Water Quality Trends report	2023 R	6 Water Quality Trends report	2020 R	8 Water Quality Trends report	2020 R	10	3	2	2	
	Promulgate a Money Bill for the Waste Discharge Levy	N	Draft Money Bill developed	IWQM TARGET #5: Integrated Water Quality Management (IWQM) shall be implemented at all levels, including the trans-boundary (international), national, Water Management Area (WMA) and sub-catchment levels (SA16, SA21, SA22, SA23 & SA24)	Money Bill gazetted	2018/2019 2019/2020 NT(Noise-Maze, D-RPvD and CD: Legal Services)	R 9	3 Approved Money Bill	2020 R	1							1	1	1	Legislative amendments required, implementation readiness within DWS insufficient
	Plan and implement the WDCS in the Upper Crocodile (West) catchment	N, P, L	Draft WDCS Business plan for Upper Crocodile-West Marico	IWQM TARGET #5: Integrated Water Quality Management (IWQM) shall be implemented at all levels, including the trans-boundary (international), national, Water Management Area (WMA) and sub-catchment levels	Functional WDCS and collection of revenue	2018/2019 2030 and beyond CMA DWS	R	18 Final WDCS Business plan	2020 R	3 WDCS business plan implemented	2023 R	6 WDCS business plan implemented	2020 R	9 WDCS business plan implemented	2020 R	20	1	1	1	
	Plan and implement the WDCS in the Upper Vaal catchment	N, P, L	Draft WDCS Business plan for Upper Vaal	IWQM TARGET #5: Integrated Water Quality Management (IWQM) shall be implemented at all levels, including the trans-boundary (international), national, Water Management Area (WMA) and sub-catchment levels	Functional WDCS and collection of revenue	2018/2019 2030 and beyond CMA DWS	R	18 Final WDCS Business plan	2020 R	3 WDCS business plan implemented	2023 R	6 WDCS business plan implemented	2020 R	9 WDCS business plan implemented	2020 R	20	1	1	1	
	Plan and implement the WDCS in the Upper Olifants catchment	N, P, L	Draft WDCS Business plan for Upper Olifants	IWQM TARGET #5: Integrated Water Quality Management (IWQM) shall be implemented at all levels, including the trans-boundary (international), national, Water Management Area (WMA) and sub-catchment levels	Functional WDCS and collection of revenue	2018/2019 2030 and beyond CMA DWS	R	18 Final WDCS Business plan	2020 R	3 WDCS business plan implemented	2023 R	6 WDCS business plan implemented	2020 R	9 WDCS business plan implemented	2020 R	20	1	1	1	
	Reconfigure the DWS water management structures and functions and structures as needed to ensure efficiency and effectiveness	N, P, L	Existing DWS Structure	A3	Re-aligned water management function and structure in DWS	2017/2018 2019/2020 DWS HR Organisational Design	R	20 Revised IWQM structures approved	2020 R	5 IWQM functioning and structures reviewed and updated	2023 R	7 Degrading improvements to structures and functioning	2020 R	8 Degrading improvements to structures and functioning	2020 R	12	3	1	1	Uncertainty in WQM institutional arrangements
1.5.10	Establish governance framework to support engagements on water quality issues in the DWS, CMR, CMA, SA16, SA21, SA22, SA23, SA24, SA25, SA26 & SA28	N, P, L	Build from IGR framework and SADC protocols	IWQM TARGET #5: Integrated Water Quality Management (IWQM) shall be implemented at all levels, including the trans-boundary (international), national, Water Management Area (WMA) and sub-catchment levels	Action plan and relevant structures	2019/2020 2021/2022 DWS DMA, basin organisations	R 8	23 IWQM intergovernmental frameworks implemented	2020 R	2 IWQM intergovernmental frameworks implemented	2023 R	9 IWQM intergovernmental frameworks implemented	2020 R	12 IWQM intergovernmental frameworks implemented	2020 R	20	2	2	1	Poor IGR, uncertainty wrt institutional frameworks
	Establish an action plan to implement the required institutional structures for water quality management at trans-boundary (international), national and provincial levels to ensure efficient coordination and joint implementation supported by regular reporting	N, P, L																		
	Strengthen and foster strategic partnerships and public active participation of civil society organisations	N	DWPN operational and other partnerships under development	A3	Partnerships, catchment forums and active participation supporting IWQM	2018/2019 2030 and beyond DWS DMA, WSA	R 8	23 Partnership Guidelines Developed	2020 R	3 Partnerships developed and supported	2023 R	8 Partnerships developed and supported	2020 R	12 Partnerships developed and supported	2020 R	15	2	2	1	
	Secure the grant funding for mechanisms and partnerships to ensure a focus on maintaining and restoring existing infrastructure rather than the construction of new infrastructure	N, P, L	Existing Grants		Reduced grant funding mechanisms, including (Recycle planning (asset management) conditions, and prioritisation of maintenance grants for social schemes	2019/2020 2020/2021 DWS WSA (Water Services and Infrastructure Branch)	R 9	37 Protocol for Grants developed	2020 R	10 Monitoring of grants system and improvements	2023 R	12 Monitoring of grants system and improvements	2020 R	15 Monitoring of grants system and improvements			1	1	1	Significant budgetary constraints,
	Standardise and enforce required OEM budgeting and expenditure	N, L	Existing OEM policies and procedures are not being adequately applied		Sufficient budgets for OEM ensure infrastructure is adequately maintained	2019/2020 2020/2021 DWS WSA (Water Services Regulation)	R 9	38 Review of OEM expenditure and financing	2020 R	10 Strategy and implementation plan rolled-out to improve financing of OEM	2023 R	6 Three yearly reviews of infrastructure OEM	2020 R	20 Three yearly reviews of infrastructure OEM	2020 R	100	1	1	1	
	Develop an IWQM investment framework	N, P, L	Not developed to date		Investment framework for broadening funding sources and ring-fencing funds for IWQM	2019/2020 2021/2022 DWS DMA, NT	R	13 IWQM investment framework development initiated	2020 R	4 IWQM investment framework developed	2023 R	5 Investment framework implemented	2020 R	5 Investment framework implemented	2020 R	5	2	1	2	
	Develop and implement a programme for recruiting and retaining of qualified technical and managerial staff with technical and managerial skills in South Africa and externally	N, P, L	OB Framework developed	A7	Training committee appointed and training programme on IWQM developed and implemented	2018/2019 2030 and beyond DWS DMA, WMC, Universities	R	47 IWQM Training Programme implemented	2020 R	12 IWQM Training Programme implemented and revised	2023 R	15 IWQM Training Programme implemented and revised	2020 R	20 IWQM Training Programme implemented and revised	2020 R	50	1	1	1	Financial constraints, lack of coordination, poor capacity
	Develop and retain skills in core catchment career paths with defined training and the job requirements for a cadre of expert professionals	N, P, L	Career paths not developed	A7	Career paths defined and implemented	2018/2019 2019/2020 DWS Water Management and Water Services Institutions	R 8	11 Career paths and job specifications developed	2020 R	6 Approved and implemented job specification implemented and monitored	2023 R	2 Approved and implement job specification implemented and monitored	2020 R	3 Approved and implement job specification implemented and monitored	2020 R	6	2	2	2	
	Establish regulations required for qualifications and experience for substantive and technical positions in DWS and Water Management and Water Services Institutions	N, P, L	No regulations in place	A7	Gazetted regulations to appoint (a) responsible authority for the registration of professionals and the specification of tasks to be performed by them	2025/2026 2028/2029 DWS CGOTA (DWS HR)	R	9 regulations developed and gazetted	2020 R	4 Implementation of regulations monitored	2023 R	2 Implementation of regulations monitored	2020 R	3 Implementation of regulations monitored			3	2	3	
	Provide bursaries and/or scholarships pertaining to water quality management at tertiary level	N	Limited bursaries available	A7	Bursaries and/or scholarships pertaining to water quality management	2018/2019 2030 and beyond Public & private sector	DWS HR and Learning Academy	R 8	23 Policy and strategy for bursaries developed	2020 R	1 Bursary strategy implemented	2023 R	10 Bursary strategy implemented	2020 R	12 Bursary strategy implemented	2020 R	20	3	3	3
1.5.11	Develop and implement a programme for recruiting and retaining of qualified technical and managerial staff with technical and managerial skills in South Africa and externally	N, P, L	General retention strategy	A7	Programme for recruiting and retaining of experienced and qualified technical and managerial staff, and recruit and retain staff	2018/2019 2019/2020 DWS CGOTA, DRCDS, WSA (HR)	R 9	10 Revised recruitment and retention strategy developed	2020 R	4 Recruitment and retention strategy implemented and monitored	2023 R	2 Recruitment and retention strategy implemented and monitored	2020 R	4 Recruitment and retention strategy implemented and monitored	2020 R	6	1	2	1	
	Establish and strengthen IWQM awareness creation campaigns at national and municipal levels	N, P, L	DWS Website and some materials developed	Critical actions	IWQM awareness creation campaigns, including anti-litter campaigns	2019/2020 2030 and beyond DMA, WSA (DWS Communications)	R	22 IWQM Communication Strategy and materials developed	2020 R	6 IWQM Communication Strategy revised and materials developed	2023 R	10 IWQM Communication Strategy revised and materials developed	2020 R	12 IWQM Communication Strategy revised and materials developed	2020 R	20	3	2	1	Capacity constraints, IGR issues, and poor systems support
	Develop and implement a strategy that includes the regulation of land use	N	WOCs Strategy in place, IWQMs in place		Gazetted WDCS, Money Bill and Tariff Structure	2018/2019 2018-2020+ implementation to start from 2021	R 8	294 Monitoring of IWQMs	2020 R	42 Revised operational strategies	2023 R	77 Revised operational strategies	2020 R	175 Revised operational strategies	2020 R	30	2	2	2	Financial capacity constraints in provinces, systems issued to support the plan
	Berg-Olifants	L	On-going regulatory activity		Approved Business Plan	2022/2023 CMA DWS	R 8	36 IWQM plan developed	2020 R	6 IWQM plan implemented, monitored and revised	2023 R	20 IWQM plan implemented, monitored and revised	2020 R	35	2	2	2			
	Bredasdorp-Gouritz	L	On-going regulatory activity		Approved Business Plan	2022/2023 CMA DWS	R 8	32 Development of focused IWQM plan initiated	2019 R	4 IWQM plan developed	2021 R	9 IWQM plan implemented, monitored and revised	2020 R	20	2	2	2			
	Inkomati-Usuthu	L	On-going regulatory activity		Approved Business Plan	2020/2024 CMA DWS	R 8	36 IWQM plan developed	2020 R	6 IWQM plan implemented, monitored and revised	2023 R	21 IWQM plan implemented, monitored and revised	2020 R	25	3	2	2			
	Limpopo	L	Draft IWQM business plan for Upper Limpopo		Approved Business Plan	2019/2020 2019/2021 CMA DWS	R	29 Development of focused IWQM plan initiated	2020 R	3 IWQM plan developed	2024 R	8 IWQM plan implemented, monitored and revised	2020 R	18	2	2	2			
	Moembo-Mtshikama	L	On-going regulatory activity		Approved Business Plan	2022/2024 CMA DWS	R	25 Development of focused IWQM plan initiated	2020 R	3 IWQM plan developed	2024 R	6 IWQM plan implemented, monitored and revised	2020 R	16	3	2	2			
	Olifants	L	Draft IWQM business plan for Upper Olifants, IWQMs developed		Approved Business Plan	2019/2020 2020/2021 CMA DWS	R 8	34 IWQM plan developed	2020 R	6 IWQM plan revised	2024 R	19 IWQM plan implemented, monitored and revised	2020 R	20	1	1	1			
	Orange	L	On-going regulatory activity		Approved Business Plan	2020/2022 CMA DWS	R	27 Development of focused IWQM plan	2020 R	4 IWQM plan developed	2023 R	7 IWQM plan implemented, monitored and revised	2020 R	16	2	2	2			
1.6 Protecting and restoring ecological infrastructure	Pongola-Mtamvuna	L	On-going regulatory activity		Approved Business Plan	2020/2022 CMA DWS	R 8	30 Development of focused IWQM plan initiated	2020 R	4 IWQM plan developed	2023 R	8 IWQM plan implemented, monitored and revised	2020 R	18	2	2	2			
	Vaal	L	Draft IWQM business plan for Upper Vaal</																	

2.1 Creating effective water sector institutions

2.2 Managing Data and Inform

	Prologue (Data, Dams, Floods and Flows)	N	Currently within DWS website (projects and Programmes)	A.4	Fully functional dated and relevant reporting tool	2018	Annual DWS	R	5	5	Fully functional, dated and relevant reporting tool	2020 R	1	Fully functional dated and relevant reporting tool	2025 R	1	Fully functional, dated and relevant reporting tool	2030 R	1	Budget = R.5 for 2018/2020 then only R.2 until 2050	2030 R	4	1	2	2	The majority of the sites are updated on a regular basis but there are gaps that needs to be addressed
	Institutional Oversight	N	Currently within DWS website (projects and Programmes)	A.4	Fully functional dated and relevant reporting tool	2018	Annual DWS	R	5	5	Fully functional, dated and relevant reporting tool	2020 R	1	Fully functional dated and relevant reporting tool	2025 R	1	Fully functional, dated and relevant reporting tool	2030 R	1	Budget = R.5 for 2018/2020 then only R.2 until 2050	2030 R	4	1	1	1	The majority of the sites are updated on a regular basis but there are gaps that needs to be addressed
	Integrated Water Quality Management Plan (IWQMP)	N	Currently within DWS website (projects and Programmes)	A.4	Fully functional dated and relevant reporting tool	2018	Annual DWS	R	5	5	Fully functional, dated and relevant reporting tool	2020 R	1	Fully functional dated and relevant reporting tool	2025 R	1	Fully functional dated and relevant reporting tool	2030 R	1	Budget = R.5 for 2018/2020 then only R.2 until 2050	2030 R	4	2	2	2	The majority of the sites are updated on a regular basis but there are gaps that needs to be addressed
	Integrated Water Quality Management Strategy	N	Currently within DWS website (projects and Programmes)	A.4	Fully functional dated and relevant reporting tool	2018	Annual DWS	R	5	5	Fully functional, dated and relevant reporting tool	2020 R	1	Fully functional dated and relevant reporting tool	2025 R	1	Fully functional, dated and relevant reporting tool	2030 R	1	Budget = R.5 for 2018/2020 then only R.2 until 2050	2030 R	4	2	2	2	The majority of the sites are updated on a regular basis but there are gaps that needs to be addressed
	Integrated Water Resource Planning and Strategy Portal	N	Currently within DWS website (projects and Programmes)	A.4	Fully functional dated and relevant reporting tool	2018	Annual DWS	R	5	5	Fully functional, dated and relevant reporting tool	2020 R	1	Fully functional dated and relevant reporting tool	2025 R	1	Fully functional, dated and relevant reporting tool	2030 R	1	Budget = R.5 for 2018/2020 then only R.2 until 2050	2030 R	4	2	1	1	The majority of the sites are updated on a regular basis but there are gaps that needs to be addressed
	National Integrated Water Information System (NIWIS)	N	Currently within DWS website (projects and Programmes)	A.4	Fully functional dated and relevant reporting tool	2018	Annual DWS	R	5	5	Fully functional, dated and relevant reporting tool	2020 R	1	Fully functional dated and relevant reporting tool	2025 R	1	Fully functional, dated and relevant reporting tool	2030 R	1	Budget = R.5 for 2018/2020 then only R.2 until 2050	2030 R	4	2	2	2	The majority of the sites are updated on a regular basis but there are gaps that needs to be addressed
	National Water Resources Infrastructure Branch (NWRIB)	N	Currently within DWS website (projects and Programmes)	A.4	Fully functional dated and relevant reporting tool	2018	Annual DWS	R	5	5	Fully functional, dated and relevant reporting tool	2020 R	1	Fully functional dated and relevant reporting tool	2025 R	1	Fully functional, dated and relevant reporting tool	2030 R	1	Budget = R.5 for 2018/2020 then only R.2 until 2050	2030 R	4	2	2	2	The majority of the sites are updated on a regular basis but there are gaps that needs to be addressed
	Housing and Economic Regulations Reforms Project (PER88)	N	Currently within DWS website (projects and Programmes)	A.4	Fully functional dated and relevant reporting tool	2018	Annual DWS	R	5	5	Fully functional, dated and relevant reporting tool	2020 R	1	Fully functional dated and relevant reporting tool	2025 R	1	Fully functional, dated and relevant reporting tool	2030 R	1	Budget = R.5 for 2018/2020 then only R.2 until 2050	2030 R	4	2	2	2	The majority of the sites are updated on a regular basis but there are gaps that needs to be addressed
	Reconciliation Strategies	N	Currently within DWS website (projects and Programmes)	A.4	Fully functional dated and relevant reporting tool	2018	Annual DWS	R	5	5	Fully functional, dated and relevant reporting tool	2020 R	1	Fully functional dated and relevant reporting tool	2025 R	1	Fully functional, dated and relevant reporting tool	2030 R	1	Budget = R.5 for 2018/2020 then only R.2 until 2050	2030 R	4	2	2	2	The majority of the sites are updated on a regular basis but there are gaps that needs to be addressed
	Review, Evaluation and Improvement of National Water Resources Monitoring (NWRM) Network Project	N	Currently within DWS website (projects and Programmes)	A.4	Fully functional dated and relevant reporting tool	2018	Annual DWS	R	5	5	Fully functional, dated and relevant reporting tool	2020 R	1	Fully functional dated and relevant reporting tool	2025 R	1	Fully functional, dated and relevant reporting tool	2030 R	1	Budget = R.5 for 2018/2020 then only R.2 until 2050	2030 R	4	1	2	2	The majority of the sites are updated on a regular basis but there are gaps that needs to be addressed
	South African Youth Water Prize (SAWP)	N	Currently within DWS website (projects and Programmes)	A.4	Fully functional dated and relevant reporting tool	2018	Annual DWS	R	5	5	Fully functional, dated and relevant reporting tool	2020 R	1	Fully functional dated and relevant reporting tool	2025 R	1	Fully functional, dated and relevant reporting tool	2030 R	1	Budget = R.5 for 2018/2020 then only R.2 until 2050	2030 R	4	2	2	2	The majority of the sites are updated on a regular basis but there are gaps that needs to be addressed
	Water Allocation Reform	N	Currently within DWS website (projects and Programmes)	A.4	Fully functional dated and relevant reporting tool	2018	Annual DWS	R	5	5	Fully functional, dated and relevant reporting tool	2020 R	1	Fully functional dated and relevant reporting tool	2025 R	1	Fully functional, dated and relevant reporting tool	2030 R	1	Budget = R.5 for 2018/2020 then only R.2 until 2050	2030 R	4	2	2	2	The majority of the sites are updated on a regular basis but there are gaps that needs to be addressed
	Water Services/ Regulation Systems Menu (WSKWS)	N	Currently within DWS website (projects and Programmes)	A.4	Fully functional dated and relevant reporting tool	2018	Annual DWS	R	5	5	Fully functional, dated and relevant reporting tool	2020 R	1	Fully functional dated and relevant reporting tool	2025 R	1	Fully functional, dated and relevant reporting tool	2030 R	1	Budget = R.5 for 2018/2020 then only R.2 until 2050	2030 R	4	2	2	2	The majority of the sites are updated on a regular basis but there are gaps that needs to be addressed
	Water Tribunal	N	Currently within DWS website (projects and Programmes)	A.4	Fully functional dated and relevant reporting tool	2018	Annual DWS	R	5	5	Fully functional, dated and relevant reporting tool	2020 R	1	Fully functional dated and relevant reporting tool	2025 R	1	Fully functional, dated and relevant reporting tool	2030 R	1	Budget = R.5 for 2018/2020 then only R.2 until 2050	2030 R	4	2	2	2	The majority of the sites are updated on a regular basis but there are gaps that needs to be addressed
	Water Use Licensing, Registration and Revenue Collection (WARMIS) System	N	Currently within DWS website (projects and Programmes)	A.4	Fully functional dated and relevant reporting tool	2018	Annual DWS	R	5	5	Fully functional, dated and relevant reporting tool	2020 R	1	Fully functional dated and relevant reporting tool	2025 R	1	Fully functional, dated and relevant reporting tool	2030 R	1	Budget = R.5 for 2018/2020 then only R.2 until 2050	2030 R	4	2	2	2	The majority of the sites are updated on a regular basis but there are gaps that needs to be addressed
	Projects and feasibility studies	N	Currently within DWS website (projects and Programmes)	A.4	Fully functional dated and relevant reporting tool	2018	Annual DWS	R	5	5	Fully functional, dated and relevant reporting tool	2020 R	1	Fully functional dated and relevant reporting tool	2025 R	1	Fully functional, dated and relevant reporting tool	2030 R	1	Budget = R.5 for 2018/2020 then only R.2 until 2050	2030 R	4	2	2	2	The majority of the sites are updated on a regular basis but there are gaps that needs to be addressed
	Other (future relevant information to be included)	N	Incorporate additional / future projects / programme	A.4	Additional fully functional, dated and relevant reporting tool	2018	Annual DWS	R	5	5	Additional fully functional, dated and relevant reporting tool	2020 R	2	2	2	2	2	2	2	2	2	2	2	The majority of the sites are updated on a regular basis but there are gaps that needs to be addressed		
	2.3.2 Review and develop a comprehensive DWS information management strategy to be used among other:	National																						The majority of the sites are updated on a regular basis but there are gaps that needs to be addressed		
	• Amended authorisation conditions to provide for self regulation																									
	• Harmonisation of monitoring actions by all monitoring agencies																									
	• Perform information V&V audits																									
	2.3.3 Alignment of monitoring institutions to support National Environmental Reporting programme and eGMO	National	N				DWS	R	5	5																

2.3 Building Capacity for Action																																																									
Building capacity for action		National, Provincial & Local		N,P,L		Lack of requisite pool of skills results in poorly qualified staff being responsible for technical functions		Develop more formal requirements for staff in technical positions		Regulations and standards formalized		2018		2023 DWS		COGTA, SETA, Professional Bodies		R		Frameworks developed		2020 R		5		Regulations developed and finalised. Engagement and support to sector institutions		2023 R		5		Support to sector institutions to finalise regulations and standards		Ongoing		R		9		Ongoing support to sector institutions		Ongoing		R		10		1		1 (new for WSA), but review for other institutions		3		1		The sector did not recognise as a need. Due to collapsing services, this is now a need.	
	2.3.1	National, Provincial & Local	N,P,L	No recruitment policy or strategy	Develop a consistently capacitated water sector	Recruitment policy and strategy developed and implemented. Annual analyses undertaken.	2018	2020 DWS	R	27	Policy and strategy developed and tested with water sector	2020 R	15	Policy, strategy and implementation plan developed	2023 R	10	Implementation of strategy and plan	2020 R	15	Policy, strategy and implementation plan developed	2023 R	10	Implementation of strategy and plan	2020 R	15	Implementation of strategy and plan	2023 R	10	Implementation of strategy and plan	2020 R	15	Implementation of strategy and plan	2023 R	10	Implementation of strategy and plan	2020 R	15	Implementation of strategy and plan	2023 R	10	Implementation of strategy and plan	2020 R	15	Implementation of strategy and plan	2023 R	10	Implementation of strategy and plan										

Support the development of an innovation-based drinking water industry	D.6.13	National	n/a		Tech scan report	2018/19	2020/21	WRC	DST, DWS	R	2	Scan and sort	2020	R	2	2021		2020		
D.6.14	Drinking Water: Implement: Develop and demonstrate solutions that allow for the use of alternative sources of water for safe human consumption and water security				Test bed trials, tech validation reports	2018/19	Ongoing	DWS	WRC, Municipalities, Utilities	R	40		2020		Initiate demos	2020	R	20	2020	
D.6.15	Continue to invest in understanding and using contaminants (detection and treatment) in order to implement reuse, recycling and reuse, reclamation and recycling of water				Research reports and results	2018/19	Ongoing	DWS	WRC, Municipalities, Utilities	R	20	Initiate projects	2020	R	6	Initiate projects	2020	R	6 (2nd X10=20 million)	
D.6.16	Improving raw water quality: invest in Communities of practice that bring together South African infrastructure experts and solutions	National	n/a		CoP Coordinator contract and reporting	2018/19	Ongoing	DWS	DEA, SANBI, WRC, DST, Utilities	R	18	Initiate CoP	2020	R	3	Sustain CoP	2020	R	8 (1.5 mil per year X 10 year=15 million)	
Protecting and restoring ecological infrastructure	D.6.17	National			GEF Steering Committee Reporting	2018/19	2023/24	DWS	DEA, SANBI, WRC	R	-	Join GEF 6 processes	2020	R	-	Sustain engagement with GEF 6	2020	R	-	approximately 100 billion rand, to be administered by DWS on behalf of DSA
D.6.18	Continue to do research on land use impact on water linked ecosystems				Project deliverables	2018/19	Ongoing	WRC	DEA, DWS, DAFF, ARC, Utilities	R	27	Projects initiated	2020	R	9	Projects initiated	2020	R	9 (3mil X 9=27 million)	
D.6.19	Ongoing research, modelling and planning around climate change impacts on water security and water infrastructure needs to be continued				Project deliverables	2018/19	Ongoing	DWS	DEA, DST, WRC, Utilities	R	27	Projects initiated	2020	R	9	Projects initiated	2020	R	9 (3mil X 9=27 million)	
Managing data and information	D.6.20	National	n/a		Business plan, centre performance agreement	2018/19	2024	DWS	DEA, ARC, DAFF, WRC, DST, SANBI, ANC, CSIR, Stats SA	R	34	Initiate TBC scoping and feasibility	2020	R	2	Continue feasibility and scoping	2020	R	2	Initiate centre
D.6.21	Total cost of CT and citizen source tools for data sourcing		n/a		ICT demo	2018/19	Ongoing	WRC	DWS, WRC, DST, SANBI, SALGA, DLT, Municipalities, Utilities	R	9	Run demo through wader	2020	R	3	Run demo through wader	2020	R	3	Run demo through wader
D.6.22	Further seek institution to fund training of water sector practitioners in the curation, management and use of data as well as the associated technologies		n/a		Training role out	2021	Ongoing	DWS	EWSETA	R	15					Scope programme and initiate training	2020	R	15	
Building capacity for action	D.6.23	National	n/a	A.7	Desktop study	2022	DWS	WRC, SANBI, WISA, DHET	R	3	Initiate study	2020	R	3						2
2.7 Implementation of NW&MP																				
Implementation of NW&MP	D.7.1	National	N, P	A.6, B.7, B.12	1st Phakiso on Master Plan to be organised	2018	2019	DWS	IPME	R	141	National Phakiso	2020	R	60	Organise national conference	2020	R	10	Organise regional conferences to mobilize stakeholders
D.7.2	Determine cost required to implement NW&MP and identify where representation or cost savings can be used to address the NW&MP priorities	National	N, P, L	A.6, B.12	Determine cost for each MP activity	2018	2019	DWS	WSA	R	1	Cost per activity	2020	R	1	Prioritise activities	2020	R	1	
D.7.3	Define PMU organisation, identify relevant management, technical and programme manager resources Appoint resources	National	N	A.6, B.12	Define PMU organisation	2019	2020	DWS		R	12	Identify relevant management, technical and programme manager resources	2020	R	2	Define job descriptions for relevant resources	2020	R	5	Build capacity in PMU
D.7.4	Monitor, review, evaluate, report on and update NW&MP	National	N, P, L	A.6, B.12	- Establish a monitoring, evaluation, learning and reporting system for implementation of the NW&MP - Include reporting in KPIs of Senior management for all relevant departments, public entities, and other institutions identified in the NW&MP - Annual updating and reporting	2018	Annual report to Parliament	DPMU	DWS	R	68	Establish a monitoring, evaluation, learning and reporting system for implementation of the NW&MP - Include reporting in KPIs of Senior management for all relevant departments, public entities, and other institutions identified in the NW&MP - Annual updating and reporting	2020	R	8	Annual updating and reporting	2020	R	30	Annual updating and reporting

End of Record

List of DWS water resources development projects															
Project Name	Project Description	Province	Metro or District Municipality	Local Municipality	Water Management Area (WMA)	Catchment	Incremental Yield (million m³/a)	Procurement	Project Cost (R million)		Start Date	End Date	Coordinates		
									Fiscus	Off-budget			Latitude (South)	Longitude (East)	
									TOTAL (all)	R 73 581	R 57 000				
Surface Water															
Lesotho Highlands Water Project - Phase 2	The construction of the Polihali Dam, a tunnel and associated works to augment the Vaal River System, which supplies water to Gauteng and surrounding areas.	N/A	Cape Town (City of) Metropolitan Municipality	N/A	Orange	Senqu River Catchment (Lesotho)	470	Design	N/A	23 000	2020	2030			
Western Cape Water Supply System Augmentation Project	Voëlvlei Dam Supplement Scheme, including abstraction and bulk water conveyance infrastructure to augment the water supply to the City of Cape Town and the surrounding areas.	Western Cape	Cape Town (City of) Metropolitan Municipality		Berg_Olifants	Voelvlei River Catchment	20	Financing	400			2024	33°20'14.56"	19°02'1.25"	
Western Cape Water Supply System Desalination Plant and/or Water Re-use	Large Scale Desalination Plant and/or Water Re-use Plant that will require government assistance with funding.	Western Cape			Berg_Olifants		49	Concept and Viability		4 800		2025	33°55'32.41"	18°25'25.57"	
uMkhomazi Water Project: Phase 1 Raw Water	The construction of the Smithfield Dam, a balancing dam, tunnel and pipeline to augment the Mgeni Water Supply System (WSS) that supplies eThekweni, uMgungundlovu and the surrounding areas. The Mgeni WSS is already in deficit.	KwaZulu Natal		Ingwe Local Municipality (KZ5a1)	Pongola_Mzimkulu	uMkhomazi River Catchment	215	Concept and Viability		23 800	2023	2028	29°46'33.36"	29°56'26.62"	
Acid Mine Drainage (AMD) - Phase 2 Western Basin	The implementation of the long-term solution in the Witwatersrand Gold Fields Areas. The construction of water treatment plants, pipelines, and waste disposal facilities to address the AMD associated with the Eastern, Central and Western Basins, by desalination of the AMD to industrial and/or potable	Gauteng	Ekurhuleni Metropolitan Municipality (GT412)	Randfontein Local Municipality (GT412)	Vaal	Middle Vaal River Catchment	220	Financing	10 000		2019	2 021	26°08'03.06"	27°42'58.37"	
Acid Mine Drainage (AMD) - Phase 2 Central Basin			Ekurhuleni Metropolitan Municipality										26°13'01.71"	28°10'57.49"	
Acid Mine Drainage (AMD) - Phase 2 Eastern Basin			uThungulu District Municipality										26°14'59.47"	28°29'17.64"	
Thukela - Goedertrouw Emergency Water Transfer Scheme	Emergency scheme to transfer water from the Tugela River to the Goedertrouw Dam.	KwaZulu Natal	eThekweni Metropolitan Municipality	Umlazi Local Municipality (KZ284)	Pongola_Mzimkulu	Mhlatuze River Catchment	26	Design	420			2018	2021	28°46'29.86"	31°27'55.67"
Lower uMkhomazi Bulk Water Supply Scheme or South Coast Desalination at Illovo	Construction of the Ngwadini Off-channel Storage Dam and bulk water conveyance infrastructure, or the construction of the Illovo Desalination Plant, for augmentation of supply to the South Coast Water Supply Scheme.	KwaZulu Natal	Ugu District Municipality		Pongola_Mzimkulu	uMkhomazi River Catchment	36	Concept and Viability	3 600			2019	2023	30°06'06.89"	30°49'30.08"

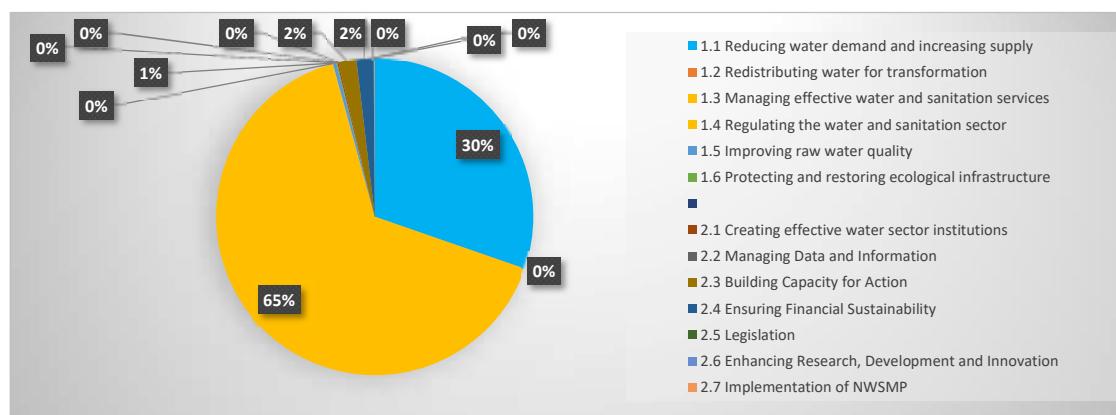
Mzimvubu Water Project	Construction of the Ntabelanga Dam and the Lalini Dam on the Itsitsa River, a water treatment plant and bulk water conveyance infrastructure for multi-purpose development of, inter alia, irrigation, hydropower stations and possible inter basin transfers for domestic and industrial use.	Eastern Cape	OR Tambo District Municipality	Mhlonglo Local Municipality (EC156)	Mzimvubu_Tsitsikama	Mzimvubu River Catchment	60	Financing	20 000			2019 (too early)	31°07'01.40"	28°40'20.45"
Algoa Water Supply System - Re-use	Large-scale Water Re-use Plant that will require government funding assistance.	Eastern Cape	Sarah Baartman District Municipality		Mzimvubu_Tsitsikama		18	Design	800			2025	33°56'27.88"	25°33'57.51"
Kouga River Development	Raising of the Kouga Dam or a new dam on the Kouga River at Guernkop.	Eastern Cape	Sarah Baartman District Municipality	Kouga Local Municipality (EC108)	Mzimvubu_Tsitsikama	Kouga River Catchment		Pre-Feasibility	To be determined		To be determined	To be determined	33°41'48.95"	24°30'4.38"
Lusikisiki Regional Water Supply Scheme	Construction of the Zalu Dam on the Xura River, a water treatment plant, bulk water conveyance infrastructure, reservoirs and groundwater development to secure water supply for domestic and small-scale irrigation in Lusikisiki and surrounding areas.	Eastern Cape	OR Tambo District Municipality	Ngqushwa Local Municipality (EC126)	Mzimvubu_Tsitsikama	Msikaba River Catchment	7	Financing	2 100			2022	31°22'6.06"	29°34'7.54"
Orange-Fish-Sundays River Government Water Scheme	Construction of a balancing dam and pipeline to, with the aim to provide additional storage for Nelson Mandela Bay Municipality's water allocation from the Orange River.	Eastern Cape	Sarah Baartman District Municipality		Mzimvubu_Tsitsikama			Feasibility	To be determined		To be determined	To be determined	33°56'27.88"	25°33'57.51"
Koonap River Development	The construction of the Foxwood Dam, a water treatment works and bulk water conveyance infrastructure to secure water supply for domestic use and small-scale irrigation in Adelaide and surrounding areas.	Eastern Cape	Amatole District Municipality	Nxuba Local Municipality (EC128)	Mzimvubu_Tsitsikama	Koonap River Catchment	17	Financing	3 100			2024	32°42'25.72"	26°17'42.86"
Clanwilliam Dam Raising and Weir	Raising of the Clanwilliam Dam and the construction of a weir, extension of the bulk water conveyance infrastructure to augment agricultural and domestic water supplies to meet increasing demands.	Western Cape	Cape Winelands District Municipality	Cederberg Local Municipality (WC012)	Berg_Olifants	Olifants River Catchment (Western Cape)		Concept and Viability	1 800			2023	32°11'4.84"	18°52'28.43
Greater Brandvlei Scheme Upgrading - Phase 1	Increase the yield of the scheme with 33 million m ³ /a through a small incremental raising of the freeboard (height of canal to prevent overtopping) of the gravity-fed canal.	Western Cape	Cape Winelands District Municipality	Breedek Valley Local Municipality (WC025)	Berg_Olifants	Breedek River Catchment		Identification	7,2		To be determined	To be determined	33°45'53.76"	19°28'20.24"
Greater Brandvlei Scheme Upgrading - Phase 2	Increase the yield of the scheme with a further 51 million m ³ /a through increasing the pump station capacity from 7 to 30 m ³ /s.	Western Cape	Cape Winelands District Municipality	Breedek Valley Local Municipality (WC025)	Berg_Olifants	Breedek River Catchment		Identification	To be determined		To be determined	To be determined	33°45'53.76"	19°28'20.24"

Mvoti Water Project	Dam developments on the Mvoti River, bulk water conveyance infrastructure and groundwater development to secure water supply for the domestic and industrial users in the Greytown and KwaDukza (Stanger) Areas, increased water availability in the Mvoti River Catchment and for supply to the KZN North Coast Areas.	KwaZulu Natal	Ugu District Municipality	Maphumulo Local Municipality (KZ294)	Pongola_Mzimkulu	Mvoti River Catchment	To be reviewed	Definition	To be determined	To be determined	To be determined	To be determined	29°15'00"	31°00'30.00"
Mzimkulu River: Ncwabeni Off-channel Storage Dam	Construction of a Off-channel Storage Dam, weir, pump station and pipeline to ensure a reliable water supply to the Northern Part of the Lower KZN South Coast during dry periods.	KwaZulu Natal	Ugu District Municipality	Umzumbe Local Municipality (KZ213)	Pongola_Mzimkulu	uMzimkhulu River Catchment	12	Concept and Viability	1 000		2020	2028	30°36'27.60"	30°14'21.64"
Mfolozi River: Regional Water Supply Scheme	Raising of the Klipfontein Dam and the construction of two new off-channel storage dams, and/or water transfer from the Thugela River, Phase 3, to meet the medium and long-term water requirements of the Mfolozi River Catchment as well as for Ulundi, Mtubatuba and Richards Bay.	KwaZulu Natal	Amajuba District Municipality	Abaqulusi Local Municipality	Pongola_Mzimkulu	White Mfolozi River Catchment	To be determined	Definition	To be determined	To be determined	To be determined	To be determined	27°50'15.14"	30°48'50.34"
Buffalo River System Water Resource Development Project	The construction of dams, off-channel storage dams, bulk water conveyance infrastructure and groundwater development to meet the medium and long-term water requirements of the Newcastle, Durban, Utrecht, Dundee/Glencoe, Nqutu, Nondweni, Pomeroy and Sampou Water Supply Schemes.	KwaZulu Natal	Amajuba District Municipality	Newcastle Local Municipality (KZ252)	Pongola_Mzimkulu	Buffalo River Catchment	To be determined	Identification	To be determined	To be determined	To be determined	To be determined	27°44'39.83"	29°56'13.25"
LTBWSS – Phase 2	Doubling the capacity of Phase 1 of the LTBWSS to further augment water supply to Umgeni Water for treatment to the KZN North Coast (Mdlioti to Thukela Areas).	KwaZulu Natal	iLembe District Municipality	KwaDukza Local Municipality (KZ292)	Pongola_Mzimkulu	Tugela River Catchment	20	Design	To be determined		To be determined	2021	29°10'05.81"	31°22'36.73"
KwaZulu Natal North Coast Water Re-use Scheme	Upgrading of the North Coast Waste Water Treatment Plants and planning for direct re-use of treated waste water.	KwaZulu Natal	iLembe District Municipality		Pongola_Mzimkulu	Mdlioti River Catchment		Design	To be determined		To be determined	From 2017 to 2020		
The Stephen Dlamini Dam	Construction of a dam on the Luhane River for supply to the Harry Gwala District Municipality Regional Bulk Water Supply Scheme.	KwaZulu Natal	Harry Gwala District Municipality	Ingwe Local Municipality (KZ5a1)	Pongola_Mzimkulu	Luhane River Catchment	3	Financing	510		2019	2024	29°50'22.39"	29°44'20.50"
Crocodile East Water Project	Construction of a dam and bulk water conveyance infrastructure to meet the long-term water requirements of the Crocodile East River catchment, including Mbombela (Nelspruit) and surrounding areas.	Mpumalanga	Ehlanzeni District Municipality	Mbombela Local Municipality (MP322)	Inkomathi_Ustuthu	Crocodile River East Catchment	To be determined	Definition	To be determined	To be determined	To be determined	2027	25°36'45.00"	31°16'15.00"

Lower Orange River - Vioolsdrift Dam	The construction a dam on the Orange River, which is jointly undertaken with Namibia, to increase the yield of the Orange River to cater for increasing demand in the area.	Northern Cape	Namakwa District Municipality	Nama Khoi Local Municipality (NCO62)	Orange	Lower Orange River Catchment	80	Feasibility	650	1000	2021	2024	28°45'28.59"	17°36'47.11"
Greater Mangaung Water Augmentation Project.	The construction of the Gariep Pipeline, abstraction works and pump stations to augment supply to Bloem Water Board's Supply Area.	Free State	Mangaung	Pixley Ka Seme Local Municipality (MP304)	Orange	Middle Orange River Catchment	To be determined	Pre-Feasibility and Feasibility	5200	Unknown	To be determined	To be determined	30°37'24.18"	25°30'24.36"
ORWRDP - Phases 2B to 2H	Bulk Distribution and Sub Phase 2C. Under Phase 2B a pipeline from Flag Boshelo Dam to Mokopane, (Phase 2C) will be constructed. The pipeline from the De Hoop Dam to Steelpoort will link Phase 2D and a second pipeline from Steelpoort to Mooihook, (Phases 2E to 2H) are under consideration. Balancing dams, operational infrastructure and appurtenant works will also be constructed.	Limpopo	Mopani District Municipality	Groblerdal (Greater) Local Municipality (NP03a5)	Olifants	Olifants River Catchment		Construction	2 800			2017	24°46'50.06"	29°25'32.66"
Groot Letaba Water Augmentation Project (GLeWAP) - Phase1	The Tzaneen Dam Raising and the construction of a water treatment plant, pipelines and reservoirs to meet the projected growing domestic water supply requirements to the year 2025 and to improve the water availability for the riverine ecosystem.	Limpopo	Mopani District Municipality	Tzaneen (Greater) Local Municipality (NP333)	Olifants	Groot Letaba River Catchment		Construction	125			2019	23°47'57.34"	30°9'58.43"
GLeWAP - Phase 2.	The construction of the Nwamitwa Dam in the Groot Letaba River, a water treatment plant, pipelines and reservoirs to meet the projected growing domestic water requirements to the year 2025, to improve the water availability for the riverine ecosystem and to make provision for new resource poor farmers.	Limpopo	Mopani District Municipality	Tzaneen (Greater) Local Municipality (NP333)	Olifants	Groot Letaba River Catchment		Procurement	1 700			2022	23° 45' 14.68"	30° 29' 28.89"
Mokolo/Crocodile West Water Augmentation Project - Phase 1	The construction of a pump station, pipelines and balancing dams to augment domestic and industrial water supplies to the new Eskom/IPP power station/s, extension of associated mining activities and fast-growing population in the Lephalale Area.	Limpopo	Waterberg District Municipality	Lephalale Local Municipality (NP362)	Limpopo	Crocodile River West Catchment		Construction	2 100			2023	24°36'02.76"	27°15'57.40"
Mokolo/Crocodile West Water Augmentation Project - Phase 2	The construction of bulk water conveyance infrastructure to augment domestic and industrial water supplies to the new Eskom/IPP power station/s, extension of associated mining activities and fast growing population in the Lephalale Area and river management system.	Limpopo	Waterberg District Municipality	Lephalale Local Municipality (NP362)	Limpopo	Crocodile River West Catchment		Feasibility	13 900			2019	24°36'02.76"	27°15'57.40"

Dam Safety Rehabilitation Programme	The rehabilitation of water related assets and dam safety work – continuous projects.				Various		Construction	2 800			Ongoing		
Desalination													
Mhlatuze desalination plant Phase 1		Kwazulu-Natal	King Cetswayo District Municipality	Mhlatuze Local Municipality					R	- R	4 400		
Mhlatuze desalination plant Phase 2		Kwazulu-Natal	King Cetswayo District Municipality	Mhlatuze Local Municipality			4.4 (12 Mℓ/d)					2038	
Tongaat/Ilovo		Kwazulu-Natal	iLembe District Municipality	KwaDukuza Local Municipality			55 (150 Mℓ/d)			4200		2022	
Mossel Bay Desal Plant		Western Cape	Eden District Municipality	Mossel Bay Local Municipality			5.5 (15 Mℓ/d)			200		2011	
Sedgefield Desal Plant		Western Cape	Eden District Municipality	George Local Municipality			0.7 (2 Mℓ/d)					2011	
Knysna Desal Plant		Western Cape	Eden District Municipality	Knysna Local Municipality			0.7 (2 Mℓ/d)					2012	
Plettenberg Bay Desal Plant		Western Cape	Eden District Municipality	Bitou Local Municipality			0.7 (2 Mℓ/d)					2012	
Lambers bay Desal Plant		Western Cape	West Coast District Municipality	Cederberg Local Municipality			4.3 (Ph 1: 1.7 Mℓ/d)					2016	
Southern Namaqualand GWS (Desal Plant)		Northern Cape	Namakwa District Municipality				1.8 (Final 5 Mℓ/d)					1983	
Bushman's River Mouth Desal Plant		Western Cape	Eden District Municipality	Knysna Local Municipality			0,292						
Port Alfred		Eastern Cape	Sarah Baartman District Municipality	Ndlambe Local Municipality			0,66						
Desal Plant							0.7 (2 Mℓ/d)						
Re-use													
Beaufort West	Western Cape	Western Cape					1.8 (5 Mℓ/d)		R	569	R	-	
Garden route dam	Eastern Cape	Eastern Cape					1.8 (5 Mℓ/d)						
Fishwater Flats Re-use	Eastern Cape	Eastern Cape	Cape Town (City of) Metropolitan Municipality				10						
City of Cape Town	Western Cape	Western Cape	uThungulu District Municipality				10						
Arboretum Effluent	KwaZulu Natal	KwaZulu Natal	iLembe District Municipality				10,95		569		2036		
Siza Water	KwaZulu Natal	KwaZulu Natal	iLembe District Municipality				0.18 (500 kℓ/d)				2015		
End of record													

	2018-2020	2021-2025	2026-2030	Present Value Cost (VAT excl.) (MP horizon)	
				%	R million (2018)
1. Water and Sanitation Management	145 815	336 461	66 360	548 637	
1.1 Reducing water demand and increasing supply	19 795	92 486	60 760	30,33%	173 041
1.2 Redistributing water for transformation	22	13	10	0,01%	45
1.3 Managing effective water and sanitation services	125 013	242 891	4 436	65,27%	372 340
1.4 Regulating the water and sanitation sector	443	231	145	0,14%	819
1.5 Improving raw water quality	341	705	901	0,34%	1 947
1.6 Protecting and restoring ecological infrastructure	201	135	108	0,08%	444
2. Enabling Environment	13 113	8 357	398		21 868
2.1 Creating effective water sector institutions	826	3	-	0,15%	828
2.2 Managing Data and Information	24	24	22	0,01%	70
2.3 Building Capacity for Action	10 091	90	108	1,80%	10 289
2.4 Ensuring Financial Sustainability	2 008	8 004	-	1,75%	10 012
2.5 Legislation	26	29	-	0,01%	55
2.6 Enhancing Research, Development and Innovation	68	173	233	0,08%	473
2.7 Implementation of NWSMP	71	35	35	0,02%	141
TOTAL	158 928	344 818	66 758		570 504



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Budget (2018/19 to 2020/21)

Available budget/funds

	MTEF			
	2018/19 (R million)	2019/20 (R million)	2020/21 (R million)	3 year total (R million)
Budget Vote 36				
Programme 1 Administration	R 1 715	R 1 808	R 1 922	R 5 445
Programme 2 Water Planning and Information Management	R 862	R 965	R 1 030	R 2 857
Programme 3 Water Infrastructure Development	R 12 496	R 13 233	R 13 959	R 39 687
Programme 4 Water Sector Regulation	R 499	R 461	R 499	R 1 459
DWS Total	R 15 572	R 16 467	R 17 409	R 49 447
DORA infrastructure transfers related to water				
Direct transfers				
<i>Municipal infrastructure grant</i>	<i>R 15 288</i>	<i>R 15 734</i>	<i>R 16 599</i>	<i>R 47 621</i>
Water component of MIG (50%)	R 7 644	R 7 867	R 8 300	R 23 811
Water Services Infrastructure	R 3 481	R 3 669	R 3 871	R 11 021
Regional bulk infrastructure	R 1 957	R 2 066	R 2 180	R 6 203
Indirect transfers				R 0
Regional bulk infrastructure	R 2 881	R 3 037	R 3 204	R 9 122
Water Services Infrastructure	R 608	R 642	R 678	R 1 928
				R 0
Municipal revenue	R 72 000	R 76 320	R 80 899	R 229 219
Equitable share	R 62 731	R 68 973	R 75 683	R 207 387
Equitable share for water and sanitation (10%)	R 6 273	R 6 897	R 7 568	R 20 739

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DRIVERS: SETTING THE TARGETS

No	Sub-Section	Description	Reference (page where found)	Target definition and initial target date
A	Sustainable Development Goals (SDGs) (United Nations, 2015)			
A.1	SDG 6.1	Equitable access to safe and affordable drinking water		2030
A.2	SDG 6.2	Equitable access to adequate sanitation		2030
A.3	SDG 6.3	Improve WQ and reduce pollution		2030
A.4	SDG 6.4	Increase water use efficiency		2030
A.5	SDG 6.5	Implement integrated water resource management		2030
A.6	SDG 6.6	Protect and restore water eco systems		2030
A.7	SDG 6.a	Expand international cooperation and capacity-building support		2030
A.8	SDG 6.b	Stakeholder participation to improve water and sanitation management		2030
B	National Development Plan, Vision 2030 (National Planning Commission, 2012)			
B.1	Enabling milestones	Ensure access to clean running water in all homes	Enabling milestones	
B.2	Critical actions	Finance through tariffs, taxes and loans	Critical actions	
B.3	Critical actions	Ensure environmental sustainability and resilience	Critical actions	
B.4	Critical actions	New spatial norms and standards	Critical actions	
B.5	Economic Infra: Obj.	Ensure access to clean, potable water and enough water for agriculture and industry, recognising trade-offs in use of water	Economic Infrastructure: Objectives	
B.6	Economic Infra: Obj.	Reduce water demand in urban areas to 15% below business as usual scenario	Economic Infrastructure: Objectives	15% below current by 2030
B.7	Economic Infra.: Act.	Comprehensive management strategy including Investment programme for water resource development, bulk water supply and wastewater management	Economic Infrastructure: Actions	For Major centres, by 2012 Review every 5 years
B.8	Economic Infra.: Act.	Timely development of several new water schemes to supply urban and industrial centres and National water conservation programme to improve water use and efficiency	Economic Infrastructure: Actions	
B.9	Economic Infra.: Act.	Create regional water and wastewater utilities and expand mandates of existing water boards	Economic Infrastructure: Actions	Between 2012 and 2017
B.10	Water resources/ services	Reliable water supply to meet their needs, while increasingly efficient agricultural water use will support productive rural communities	Water resources and services	All main urban and industrial centres by 2030
B.11	Water resources/ services	Local governments will retain responsibility for ensuring service provision in their areas and, in many cases, will continue to manage the services directly.	Water resources and services	Before 2030
B.12	Managing water resources	Managing, monitoring and protecting South Africa's water resources in a sustainable way while allowing for economic growth: Effective administration, regular review, prioritisation	Managing water resources	
C	Medium Term Strategic Framework 2014 -2019 (MTSF) (NPC, 2014)			
	Outcome 6	An efficient, competitive and responsive economic infrastructure network		
		Sub-Outcomes (SO),		
		Strategic Infrastructure Project (SIP)		
	SO 1	Regulation, funding and investment improved		
C.1	Action 3	Consider establishing an economic regulator for water, independent from the department	Sub-outcome 1 pg. 12	Memorandum to Cabinet: By July 2014
	SO 4	Maintenance and supply availability of our bulk water resources ensured		
C.2	SIP 3	South Eastern node & corridor development: Mzimvubu project	Sub-outcome 4 pg. 25	Construction commencement by 2014
C.3	SIP 5	Saldanha- Northern Cape development corridor: Vaal-Gamagara Bulk water supply scheme	Sub-outcome 4 pg. 25	Phase 1 commencement in 2014
C.4	SIP 5	Saldanha- Northern Cape development corridor: Clanwilliam dam project	Sub-outcome 4 pg. 25	Construction complete by 2019
C.5	SIP 7	Integrated Urban Space : Mool Mgeni Transfer Scheme	Sub-outcome 4 pg. 25	Complete by March 2016
C.6	SIP 7	Integrated Urban Space : Acid mine drainage	Sub-outcome 4 pg. 25	Complete short term by June 2015
C.7	SIP 17	Regional integration for African cooperation: Lesotho Highlands Phase 2: On-budget and scheduled delivery	Sub-outcome 4 pg. 28	100%
C.8	SIP 18	Water and Sanitation Infrastructure Master Plan: SIP projects implemented	Sub-outcome 4 pg. 26	90%
C.9	SIP 18	Water and Sanitation Infrastructure Master Plan: Establish National water resources infrastructure agency	Sub-outcome 4 pg. 26	Dec 16
C.10	SIP 18	Water and Sanitation Infrastructure Master Plan: Develop comprehensive investment programme	Sub-outcome 4 pg. 26	Plan implementation 100%
C.11	SIP 18	Water and Sanitation Infrastructure Master Plan: Finalise future institutional arrangements: Submit Institutional Review to Cabinet	Sub-outcome 4 pg. 27	100% institutions established by 2017
C.12	SIP 18	Water and Sanitation Infrastructure Master Plan: Establish regional water and waste water utilities	Sub-outcome 4 pg. 27	100% of Municipalities by 2019
C.13	SIP 18	Water and Sanitation Infrastructure Master Plan: Review existing water allocations	Sub-outcome 4 pg. 27	100% implementation, review by Dec 2014
C.14	SIP 18	Water and Sanitation Infrastructure Master Plan: Review water and sanitation norms and standards and financial provisions	Sub-outcome 4 pg. 27	100% implementation, review by Oct 2014
C.15	SIP 18	Water and Sanitation Infrastructure Master Plan: Additional water supply to Lephalale area	Sub-outcome 4 pg. 27	100% completion, Mar 2015
C.16	SIP 18	Water and Sanitation Infrastructure Master Plan: Investigate and implement water re-use and desalination: Memorandum on research findings to Cabinet	Sub-outcome 4 pg. 28	June 2015
C.17	SIP 18	Water and Sanitation Infrastructure Master Plan: Establish a dedicated national programme to reduce water demand and improve water-use efficiency in Agricultural sector	Sub-outcome 4 pg. 28	Approval by June 2015
	Outcome 7	Vibrant, equitable, sustainable rural communities contributing towards food security for all		
C.18	SO 1	Develop and implement spatial development plans: National Rural Spatial development plan approved	Sub-outcome 1 pg. 3	75% of municipalities, by Mar 2016
C.19	SO 3	Develop under-utilised land in communal areas	Sub-outcome 3 pg. 6	1 million ha, by Mar 2019
C.20	SO 4	Expand land under irrigation	Sub-outcome 4 pg. 7	Additional 1250 ha , by Mar 2019

C.21	SO 4	Support to smallholder producers to ensure production efficiencies	Sub-outcome 4 pg. 8	Additional 80 000 smallholder producers, by Mar 2019
C.22	SO 5	Eradicate infrastructure backlog in rural schools	Sub-outcome 5 pg. 8	100% of rural schools, Mar 2019
C.23	SO 5	Provide access to sanitation services in rural areas	Sub-outcome 5 pg. 9	90% of Households, Mar 2019
C.24	SO 5	Bucket system eradicated in rural areas	Sub-outcome 5 pg. 10	Zero bucket system, Mar 2019
		Outcome 9 Revised Chapter 9: Responsive, accountable, effective and efficient developmental local government system		
C.25		Members of society have sustainable and reliable access to basic services : Water	Revised Chapter 9 MTSF	90%, 5,2 million additional HH by 2019
C.26		Members of society have sustainable and reliable access to basic services : Sanitation	Revised Chapter 9 MTSF	90%, 2,5 million additional HH, by 2019
C.27		Members of society have sustainable and reliable access to basic services : Bucket sanitation in formal areas	Revised Chapter 9 MTSF	0% by 2019
		Outcome 10 Protect and enhance our environmental assets and natural resources		
C.28	SO 1	Implement strategies for water conservation and demand management: Reduction of projected demand for 8 large water supply systems	Sub-outcome 1 pg. 5	20% by 2019
C.29	SO 1	Water resource protection: Water use license applications processed	Sub-outcome 1 pg. 5	80% annually
C.30	SO 1	Number of water resources classified	Sub-outcome 1 pg. 5	10
C.31	SO 1	Number of sites with river health programme implemented	Sub-outcome 1 pg. 5	550 sites
C.32	SO 1	Maintain or improve watershed services: Number of significant, integrated water related ecological infrastructure maintenance or improvement interventions	Sub-outcome 1 pg. 5	20 Integrated interventions, Mar 2019
C.33	SO 1	Implement environmental regulations: Number of environmentally significant areas identified and published for restriction for mining activities	Sub-outcome 1 pg. 7	1 by 2016
C.34	SO 1	Implement environmental regulations: Number of catchments identified for Acid mine drainage	Sub-outcome 1 pg. 7	6
C.35	SO 1	Implement environmental regulations: Number of mines monitored for non-compliance in accordance with water license conditions	Sub-outcome 1 pg. 7	450
C.36	SO 2	Development and implementation of sector adaptation strategies/plans: Number of sector adaptation strategies/plans completed	Sub-outcome 2 pg. 10	5 Sectors by 2019
C.37	SO 2	Research in Climate services	Sub-outcome 2 pg. 10	2 reports by 2019
C.38	SO 4	Enhance compliance monitoring and enforcement capacity within the sector: Compliance inspections/criminal investigations/enforcement notices	Sub-outcome 4 pg. 14	14 750/1605/3150 by 2019

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Useful information

Water loss (DWS No Drop Report) (2018)

Province	Population	System Input Volume (SIV) (m ³ /annum)	NRW (m ³ /annum)	% Non-Revenue Water	% Water Losses (WL)	l/c/d	Infrastructure Leakage Index (ILI)
EC	4 477 918	332 151 376	158 647 165	47,8%	45,0%	200	4,8
FS	2 723 028	207 835 805	106 908 574	51,4%	46,6%	209	4,8
GT	12 978 281	1 473 100 700	528 839 540	35,9%	27,4%	305	5,8
KZN	8 491 508	697 751 184	327 444 107	46,9%	43,0%	225	6,2
LIM	4 225 967	281 235 907	155 016 679	55,1%	55,1%	182	5
MP	3 622 506	270 990 713	129 852 490	47,9%	43,9%	205	4,3
NC	1 085 944	94 205 305	45 418 308	48,2%	45,5%	238	7,1
NW	3 039 995	206 496 825	105 577 898	51,1%	51,1%	186	4,7
WC	6 108 993	482 695 411	102 720 237	21,3%	16,7%	201	2,4
National	46 754 140	4 046 463 225	1 659 588 711	41,0%	35,9%	233	5,3

Green Drop Certification Summaries

Province	Number of WSAs (2003)	Number of WSAs with Certified Systems (2016)	Number of Works (2016)	Number of Certified Works	No of 27 Priority DMs (2012)	No of DMs
Eastern Cape	14	1	196	1	5	8
Free State	19	1	120	1	1	5
Gauteng	9	2	103	7	1	5
KwaZulu-Natal	14	5	298	19	10	11
Limpopo	10	1	144	1	5	5
Mpumalanga	17	2	184	3	1	3
North West	10	0	92	0	3	4
Northern Cape	26	1	146	1	1	5
Western Cape	25	8	207	26	0	6
Totals:	144	21	1490	59	27	

National Standards for Drinking Water quality

- Microbiological Compliance [%] 95,5 %
- Chemical Compliance [%] 98,1 %
- Physical Compliance [%] 98,0%
- Operational Compliance [%] 87,2 %
- Compliance Comparison 94,7 %

Municipal Water Services Projects - Total Perspective (March 2018)

Province	Project Main Category	Total no of Water Project	Total Project Cost	Total 3 year MTEF	3 year Total Fund Allocation
Eastern Cape	Water	1006	R48 161 8 41 050	581	R17 895 7 47 114
Free State	Water	458	R14 281 2 38 925	291	R3 772 4 62 107
Gauteng	Water	372	R9 151 3 76 634	176	R4 800 5 15 376
KwaZulu-Natal	Water	626	R61 014 3 26 371	444	R21 934 6 96 388
Limpopo	Water	1495	R67 934 1 03 166	820	R21 667 0 35 378
Mpumalanga	Water	776	R17 541 3 02 276	407	R7 619 3 97 804
North West	Water	401	R14 647 2 34 233	236	R5 287 3 90 182
Northern Cape	Water	679	R22 991 3 67 805	288	R5 640 6 62 104
Western Cape	Water	880	R17 037 1 26 279	241	R2 054 8 52 231
TOTAL		R272 759 9 16 738		R90 672 7 58 684	
Province	Project Main Category	Total No of Sanitation projects	Total Project Cost	Total 3 year MTEF	3 year Total Fund Allocation
Eastern Cape	Sanitation	549	R18 432 0 71 778	282	R8 809 4 62 276
Free State	Sanitation	438	R8 606 6 36 876	347	R5 535 9 69 913
Gauteng	Sanitation	330	R21 188 0 91 434	143	R6 196 9 22 812
KwaZulu-Natal	Sanitation	81	R3 600 9 05 963	63	R1 346 5 01 793
Limpopo	Sanitation	171	R9 439 6 00 184	104	R3 529 2 82 324
Mpumalanga	Sanitation	203	R3 268 1 27 911	68	R661 9 03 539
North West	Sanitation	143	R3 460 7 32 675	77	R1 795 1 82 669
Northern Cape	Sanitation	274	R9 556 1 67 959	86	R1 293 2 23 284
Western Cape	Sanitation	779	R9 872 7 49 926	230	R3 000 8 41 697
TOTAL		R87 425 0 84 705		R32 169 2 90 308	

Geographical and other place names

Province	District Municipality	Local Municipality	Water Services Authority	WMAs	Responsible Institutions	27 Priority DMs			
Eastern Cape	Alfred Nzo	Mataatile Local Municipality	Eastern Cape	Alfred Nzo	Berg-Olifants	DWS	Eastern Cape	Alfred Nzo	DC44
Eastern Cape	Alfred Nzo	Mizibana Local Municipality	Eastern Cape	Amathole	Bredene-Gouritz	CoGTA	Eastern Cape	Amathole	DC12
Eastern Cape	Alfred Nzo	Ntubankulu Local Municipality	Eastern Cape	Buffalo City	Inkomathi-Ustuthu	WSAs	Eastern Cape	Chris Hani	DC13
Eastern Cape	Alfred Nzo	Umzimvubu Local Municipality	Eastern Cape	Chris Hani	Limpopo	DMR	Eastern Cape	O.R. Tambo	DC15
Eastern Cape	Amathole	Amahlathi Local Municipality	Eastern Cape	Joe Gqabi	Mzimvubu-Tsitsikama	SALGA	Eastern Cape	Joe Gqabi	DC14
Eastern Cape	Amathole	Great Kei Local Municipality	Eastern Cape	Nelson Mandela Bay	Olifants	LM	Free State	Xhariep	DC16
Eastern Cape	Amathole	Mthatha Local Municipality	Eastern Cape	O.R. Tambo	Orange	CMA	Gauteng	West Rand DM	DC48
Eastern Cape	Amathole	Mqumqa Local Municipality	Eastern Cape	Blue Crane Route Local Municipality	Pongola-Mzimkulu		KwaZulu-Natal	iLembe	DC29
Eastern Cape	Amathole	Ngqushwa Local Municipality	Eastern Cape	Dr Beyers Naudé Local Municipality	Vaal		KwaZulu-Natal	Ugu	DC21
Eastern Cape	Amathole	Raymond Mhlaba Local Municipality	Eastern Cape	Kouga Local Municipality			KwaZulu-Natal	uMqungundlovu	DC22
Eastern Cape	Buffalo City	Buffalo City Local Municipality	Eastern Cape	Kou-Kamma Local Municipality			KwaZulu-Natal	uMkhanyakude	DC27
Eastern Cape	Chris Hani	Emalahleni Local Municipality	Eastern Cape	Makana Local Municipality			KwaZulu-Natal	uMzinyathi	DC24
Eastern Cape	Chris Hani	Engcobo Local Municipality	Eastern Cape	Ndlambe Local Municipality			KwaZulu-Natal	uThukela	DC23
Eastern Cape	Chris Hani	Enono Mqijima Local Municipality	Eastern Cape	Sundays River Valley Local Municipality			KwaZulu-Natal	uThungulu	DC28
Eastern Cape	Chris Hani	Intsikile Yethu Local Municipality	Free State	Mafube Local Municipality			KwaZulu-Natal	Zululand	DC26
Eastern Cape	Chris Hani	Inkuba Yethema Local Municipality	Free State	Metsimaholo Local Municipality			KwaZulu-Natal	Amajuba	DC25
Eastern Cape	Chris Hani	Sakhisizwe Local Municipality	Free State	Moghaka Local Municipality			KwaZulu-Natal	Sisonke	DC43
Eastern Cape	Joe Gqabi	Elundini Local Municipality	Free State	Ngwathe Local Municipality			Limpopo	Capricorn	DC35
Eastern Cape	Joe Gqabi	Sengu Local Municipality	Free State	Masilonyana Local Municipality			Limpopo	Mopani	DC33
Eastern Cape	Joe Gqabi	Walter Sisulu Local Municipality	Free State	Matjhabeng Local Municipality			Limpopo	Sekhukhune	DC47
Eastern Cape	Nelson Mandela Bay	Nelson Mandela Bay Local Municipality	Free State	Nala Local Municipality			Limpopo	Vhembe	DC34
Eastern Cape	O.R.Tambo	King Sabata Dalindyebo Local Municipality	Free State	Tokologo Local Municipality			Limpopo	Waterberg	DC36
Eastern Cape	O.R.Tambo	Mhlongo Local Municipality	Free State	Tswelopole Local Municipality			Mpumalanga	Ehlanzeni	DC32
Eastern Cape	O.R.Tambo	Ngquma Hill Local Municipality	Free State	Mangaung			North West	Bojanala Platinum	DC37
Eastern Cape	O.R.Tambo	Nyandeni Local Municipality	Free State	Dihlabeng Local Municipality			North West	Dr Ruth Segomotsi Mompati	DC39
Eastern Cape	O.R.Tambo	Port St Johns Local Municipality	Free State	Maluti a Phofung Local Municipality			North West	Ngaka Modiri Molema	DC38
Eastern Cape	Sarah Baartman	Blue Crane Route Local Municipality	Free State	Mantsopha Local Municipality			Northern Cape	John Taolo Gaetsewe	DC45
Eastern Cape	Sarah Baartman	Dr Beyers Naudé Local Municipality	Free State	Nketoana Local Municipality					
Eastern Cape	Sarah Baartman	Kouga Local Municipality	Free State	Phumelela Local Municipality					
Eastern Cape	Sarah Baartman	Kou-Kamma Local Municipality	Free State	Setsoto Local Municipality					
Eastern Cape	Sarah Baartman	Makana Local Municipality	Free State	Kopanong Local Municipality					
Eastern Cape	Sarah Baartman	Ndlambe Local Municipality	Free State	Letsemeng Local Municipality					
Eastern Cape	Sarah Baartman	Sundays River Valley Local Municipality	Free State	Mohokare Local Municipality					
Free State	Feezile Dabi	Mafube Local Municipality	Gauteng	City of Johannesburg					
Free State	Feezile Dabi	Metsimaholo Local Municipality	Gauteng	City of Tshwane					
Free State	Feezile Dabi	Moqhaka Local Municipality	Gauteng	Ekurhuleni					
Free State	Feezile Dabi	Ngwathe Local Municipality	Gauteng	Emfuleni Local Municipality					
Free State	Lejweleputswa	Masitoryana Local Municipality	Gauteng	Lesedi Local Municipality					
Free State	Lejweleputswa	Matjhabeng Local Municipality	Gauteng	Midvaal Local Municipality					
Free State	Lejweleputswa	Nala Local Municipality	Gauteng	Merafong City Local Municipality					
Free State	Lejweleputswa	Tokologo Local Municipality	Gauteng	Mogale City Local Municipality					
Free State	Lejweleputswa	Tswelopole Local Municipality	Gauteng	Rand West City Local Municipality					
Free State	Mangaung	Mangaung Local Municipality	KwaZulu-Natal	Amajuba					
Free State	Thabo Mofutsanyane	Dihlabeng Local Municipality	KwaZulu-Natal	Newcastle Local Municipality					
Free State	Thabo Mofutsanyane	Matatsha Phofuna Local Municipality	KwaZulu-Natal	eThekweni					
Free State	Thabo Mofutsanyane	Mantsopha Local Municipality	KwaZulu-Natal	Sisonke					
Free State	Thabo Mofutsanyane	Nketoana Local Municipality	KwaZulu-Natal	iLembe					
Free State	Thabo Mofutsanyane	Phumelela Local Municipality	KwaZulu-Natal	uMhlathuze Local Municipality					
Free State	Thabo Mofutsanyane	Setsoho Local Municipality	KwaZulu-Natal	King Cetshwayo					
Free State	Xhariep	Kopanong Local Municipality	KwaZulu-Natal	Ugu					
Free State	Xhariep	Letsemeng Local Municipality	KwaZulu-Natal	The Msunduzi Local Municipality					
Free State	Xhariep	Mohokare Local Municipality	KwaZulu-Natal	Umgungundlovu					
Gauteng	City of Johannesburg	City of Johannesburg Local Municipality	KwaZulu-Natal	Umkhanyakude					
Gauteng	City of Tshwane	City of Tshwane Local Municipality	KwaZulu-Natal	Umrinqithi					
Gauteng	Ekurhuleni	Ekurhuleni Local Municipality	KwaZulu-Natal	Uthukela					
Gauteng	Sedibeng	Emfuleni Local Municipality	KwaZulu-Natal	Zululand					
Gauteng	Sedibeng	Lesedi Local Municipality	Limpopo	Capricorn					
Gauteng	Sedibeng	Midvaal Local Municipality	Limpopo	Polokwane Local Municipality					
Gauteng	West Rand	Merafong City Local Municipality	Limpopo	Mopani					
Gauteng	West Rand	Mogale City Local Municipality	Limpopo	Sekhukhune					
Gauteng	West Rand	Rand West City Local Municipality	Limpopo	Vhembe					
Kwazulu-Natal	Amajuba	Dannhauser Local Municipality	Limpopo	Bela-Bela Local Municipality					
Kwazulu-Natal	Amajuba	Emadlengeni Local Municipality	Limpopo	Lephalaale Local Municipality					
Kwazulu-Natal	Amajuba	Newcastle Local Municipality	Limpopo	Mogalakwena Local Municipality					
Kwazulu-Natal	eThekweni	eThekweni Local Municipality	Limpopo	Mookgophong/Modimolle Local Municipality					
Kwazulu-Natal	Harry Gwala	Greater Kokstad Local Municipality	Limpopo	Thabazimbi Local Municipality					
Kwazulu-Natal	Harry Gwala	Nikosazana Dlamini-Zuma Local Municipality	Mpumalanga	Bushbuckridge Local Municipality					
Kwazulu-Natal	Harry Gwala	Uphlebezwe Local Municipality	Mpumalanga	Mbombela/Umjinji Local Municipality					
Kwazulu-Natal	Harry Gwala	Umrinqithu Local Municipality	Mpumalanga	Nkomazi Local Municipality					
Kwazulu-Natal	iLembe	KwaDukuza Local Municipality	Mpumalanga	Thaba Chweu Local Municipality					
Kwazulu-Natal	iLembe	Mandeni Local Municipality	Mpumalanga	Chief Albert Luthuli Local Municipality					
Kwazulu-Natal	iLembe	Maphumlo Local Municipality	Mpumalanga	Dipaleseng Local Municipality					
Kwazulu-Natal	iLembe	Ndwedwe Local Municipality	Mpumalanga	Dr Pixley Ka Isaka Seme Local Municipality					
Kwazulu-Natal	King Cetshwayo	Mthonjaneni Local Municipality	Mpumalanga	Govan Mbeki Local Municipality					
Kwazulu-Natal	King Cetshwayo	Nkandla Local Municipality	Mpumalanga	Lekwa Local Municipality					
Kwazulu-Natal	King Cetshwayo	uMfolozini Local Municipality	Mpumalanga	Mkhondo Local Municipality					
Kwazulu-Natal	King Cetshwayo	uMhlathuze Local Municipality	Mpumalanga	Msukaligwa Local Municipality					
Kwazulu-Natal	King Cetshwayo	uMlalazi Local Municipality	Mpumalanga	Dr JS Moroka Local Municipality					
Kwazulu-Natal	Ugu	Ray Nkonyeni Local Municipality	Mpumalanga	Emakhazeni Local Municipality					
Kwazulu-Natal	Ugu	Umdoni Local Municipality	Mpumalanga	Emalahleni Local Municipality					
Kwazulu-Natal	Ugu	uMuziwabantu Local Municipality	Mpumalanga	Steve Tshwete Local Municipality					
Kwazulu-Natal	Ugu	Uzumbe Local Municipality	Mpumalanga	Thembisa Local Municipality					
Kwazulu-Natal	Umgungundlovu	Impendzi Local Municipality	Mpumalanga	Victor Khanye Local Municipality					
Kwazulu-Natal	Umgungundlovu	Mkhambathini Local Municipality	North West	Kgelleengrivier Local Municipality					
Kwazulu-Natal	Umgungundlovu	Moofana Local Municipality	North West	Local Municipality of Madibeng					
Kwazulu-Natal	Umgungundlovu	Richmond Local Municipality	North West	Moretele Local Municipality					
Kwazulu-Natal	Umgungundlovu	Ths Msunduzi Local Municipality	North West	Moses Kotane Local Municipality					
Kwazulu-Natal	Umgungundlovu	uMngeni Local Municipality	North West	Rustenburg Local Municipality					
Kwazulu-Natal	Umgungundlovu	uMshwathi Local Municipality	North West	City of Mafatlana Local Municipality					
Kwazulu-Natal	Umkhanyakude	Big 5 Hlabisa Local Municipality	North West	Maquassi Hills Local Municipality					
Kwazulu-Natal	Umkhanyakude	Jozini Local Municipality	North West	Tlokwe/Verdersorp Local					
Kwazulu-Natal	Umkhanyakude	Mutubatuba Local Municipality	North West	Dr Ruth Segomotsi Mompati					
Kwazulu-Natal	Umkhanyakude	Umlabuvalyunganana Local Municipality	North West	Ngaka Modiri Molema					
Kwazulu-Natal	Umzinyathi	Endumeni Local Municipality	Northern Cape	Dikgatlong Local Municipality					
Kwazulu-Natal	Umzinyathi	Msinga Local Municipality	Northern Cape	Magareng Local Municipality					
Kwazulu-Natal	Umzinyathi	Noqufu Local Municipality	Northern Cape	Phokwane Local Municipality					
Kwazulu-Natal	Umzinyathi	Umvoti Local Municipality	Northern Cape	Sol Plaatjie Local Municipality					
Kwazulu-Natal	Uthukela	Alfred Duma Local Municipality	Northern Cape	Gamagara Local Municipality					
Kwazulu-Natal	Uthukela	Inkosi Langalibalele Local Municipality	Northern Cape	Ga-Segonyana Local Municipality					
Kwazulu-Natal	Uthukela	Okhahlamba Local Municipality	Northern Cape	Joe Morolong Local Municipality					
Kwazulu-Natal	Zululand	Abagulusi Local Municipality	Northern Cape	Hantam Local Municipality					
Kwazulu-Natal	Zululand	eDumbe Local Municipality	Northern Cape	Kamiesberg Local Municipality					
Kwazulu-Natal	Zululand	Nongoma Local Municipality	Northern Cape	Karoo Hoogland Local Municipality					
Kwazulu-Natal	Zululand	Ulundu Local Municipality	Northern Cape	Khai-Ma Local Municipality					
Kwazulu-Natal	Zululand	uPhongolo Local Municipality	Northern Cape	Nama Khoi Local Municipality					
Limpopo	Capricorn	Blouberg Local Municipality	Northern Cape	Richtersveld Local Municipality					
Limpopo	Capricorn	Lepelle-Nkumpi Local Municipality	Northern Cape	Emthileni Local Municipality					
Limpopo	Capricorn	Molemo Local Municipality	Northern Cape	Kareberg Local Municipality					
Limpopo	Capricorn	Polokwane Local Municipality	Northern Cape	Renosterberg Local Municipality					
Limpopo	Mopani	Ba-Phalaborwa Local Municipality	Northern Cape	Siyancuma Local Municipality					
Limpopo	Mopani	Greater Guyani Local Municipality	Northern Cape	Siyathemba Local Municipality					
Limpopo	Mopani	Greater Letaba Local Municipality	Northern Cape	Thembelelo Local Municipality					
Limpopo	Mopani	Greater Tzaneen Local Municipality	Northern Cape	Ubuntu Local Municipality					
Limpopo	Mopani	Maruleng Local Municipality	Northern Cape	Umsobomvu Local Municipality					
Limpopo	Sekhukhune	Elias Motsoaledi Local Municipality	Northern Cape	IKheis Local Municipality					
Limpopo	Sekhukhune	Ephraim Mogale Local Municipality	Northern Cape	Dawid Kruiper Local Municipality					
Limpopo	Sekhukhune	Fetakgomo/Greater Tubatse Local Municipality	Northern Cape	Kai Garib Local Municipality					
Limpopo	Sekhukhune	Makguduthamaga Local Municipality	Northern Cape	Kgatelopele Local Municipality					
Limpopo	Vhembe	Collins Chabane Local Municipality	Northern Cape	Tsantsabane Local Municipality					
Limpopo	Vhembe	Makhado Local Municipality	Western Cape	Breede Valley Local Municipality					
Limpopo	Vhembe	Musina Local Municipality	Western Cape	Drakenstein Local Municipality					
Limpopo	Vhembe	Thulamela Local Municipality	Western Cape	Langeberg Local Municipality					
Limpopo	Waterberg	Bela-Bela Local Municipality	Western Cape	Stellenbosch Local Municipality					
Limpopo	Waterberg	Lephalale Local Municipality	Western Cape	Witzenberg Local Municipality					
Limpopo	Waterberg	Mogalakwena Local Municipality	Western Cape	Beaufort West Local Municipality					
Limpopo	Waterberg	Mookgophong/Modimolle Local Municipality	Western Cape	Laingsburg Local Municipality					
Limpopo	Waterberg	Thabazimbi Local Municipality	Western Cape	Prince Albert Local Municipality					
Mpumalanga	Ehlanzeni	Bushbuckridge Local Municipality	Western Cape	City of Cape Town					

Province	District Municipality	Local Municipality	Water Services Authority	WMAs	Responsible Institutions	27 Priority DMs	
Mpumalanga	Shianzeni	City of Mbombela Local Municipality	Western Cape	Bitou Local Municipality			
Mpumalanga	Shianzeni	Nkomazi Local Municipality	Western Cape	George Local Municipality			
Mpumalanga	Ehlanzeni	Thaba Chweu Local Municipality	Western Cape	Hessequa Local Municipality			
Mpumalanga	Gert Sibande	Chief Albert Luthuli Local Municipality	Western Cape	Kannaland Local Municipality			
Mpumalanga	Gert Sibande	Dipaleseng Local Municipality	Western Cape	Knysna Local Municipality			
Mpumalanga	Gert Sibande	Dr Pixley ka Isaka Seme Local Municipality	Western Cape	Mossel Bay Local Municipality			
Mpumalanga	Gert Sibande	Govan Mbeki Local Municipality	Western Cape	Oudtshoorn Local Municipality			
Mpumalanga	Gert Sibande	Lekwa Local Municipality	Western Cape	Cape Agulhas Local Municipality			
Mpumalanga	Gert Sibande	Mkhondo Local Municipality	Western Cape	Overstrand Local Municipality			
Mpumalanga	Gert Sibande	Msukaligwa Local Municipality	Western Cape	Swellendam Local Municipality			
Mpumalanga	Nkangala	Dr JS Moroka Local Municipality	Western Cape	Theewaterskloof Local Municipality			
Mpumalanga	Nkangala	Emakhazeni Local Municipality	Western Cape	Bergvrijer Local Municipality			
Mpumalanga	Nkangala	Emalahleni Local Municipality	Western Cape	Cederberg Local Municipality			
Mpumalanga	Nkangala	Steve Tshwete Local Municipality	Western Cape	Matzikama Local Municipality			
Mpumalanga	Nkangala	Thembisaile Hani Local Municipality	Western Cape	Saldanha Bay Local Municipality			
Mpumalanga	Nkangala	Victor Khanye Local Municipality	Western Cape	Swartland Local Municipality			
North West	Bojanala	Kgatengvrijer Local Municipality					
North West	Bojanala	Local Municipality of Madibeng					
North West	Bojanala	Moretele Local Municipality					
North West	Bojanala	Moses Kotane Local Municipality					
North West	Bojanala	Rustenburg Local Municipality					
North West	Dr Kenneth Kaunda	City of Matlosana Local Municipality					
North West	Dr Kenneth Kaunda	Maquassi Hills Local Municipality					
North West	Dr Kenneth Kaunda	Tlokwe/Ventersdorp Local Municipality					
North West	Dr Ruth Segomotsi Mompati	Greater Taung Local Municipality					
North West	Dr Ruth Segomotsi Mompati	Kagisano/Molopo Local Municipality					
North West	Dr Ruth Segomotsi Mompati	Lekwa-Teemane Local Municipality					
North West	Dr Ruth Segomotsi Mompati	Mamusa Local Municipality					
North West	Dr Ruth Segomotsi Mompati	Naledi Local Municipality					
North West	Ngaka Modiri Molema	Diebopho Local Municipality					
North West	Ngaka Modiri Molema	Mahikeng Local Municipality					
North West	Ngaka Modiri Molema	Ramotshere Moloa Local Municipality					
North West	Ngaka Modiri Molema	Ratlou Local Municipality					
North West	Ngaka Modiri Molema	Tswaing Local Municipality					
Northern Cape	Frances Baard	Dikgatlong Local Municipality					
Northern Cape	Frances Baard	Magareng Local Municipality					
Northern Cape	Frances Baard	Phokwane Local Municipality					
Northern Cape	Frances Baard	Sol Plaatjie Local Municipality					
Northern Cape	John Taolo Gaetsewe	Gamagara Local Municipality					
Northern Cape	John Taolo Gaetsewe	Ga-Segonyana Local Municipality					
Northern Cape	John Taolo Gaetsewe	Joe Morolong Local Municipality					
Northern Cape	Namakwa	Hantam Local Municipality					
Northern Cape	Namakwa	Karniesberg Local Municipality					
Northern Cape	Namakwa	Karoo Hoogland Local Municipality					
Northern Cape	Namakwa	Khai-Ma Local Municipality					
Northern Cape	Namakwa	Nama Khoi Local Municipality					
Northern Cape	Namakwa	Richtersveld Local Municipality					
Northern Cape	Pixley ka Seme	Emthanjeni Local Municipality					
Northern Cape	Pixley ka Seme	Kareerberg Local Municipality					
Northern Cape	Pixley ka Seme	Renosterberg Local Municipality					
Northern Cape	Pixley ka Seme	Siyancuma Local Municipality					
Northern Cape	Pixley ka Seme	Siyathemba Local Municipality					
Northern Cape	Pixley ka Seme	Thembelihle Local Municipality					
Northern Cape	Pixley ka Seme	Ubuntu Local Municipality					
Northern Cape	Pixley ka Seme	Umsobomvu Local Municipality					
Northern Cape	Z F Mgcawu	Ikheis Local Municipality					
Northern Cape	Z F Mgcawu	Dawid Kruiper Local Municipality					
Northern Cape	Z F Mgcawu	Kai Igarib Local Municipality					
Northern Cape	Z F Mgcawu	Kgatelopele Local Municipality					
Northern Cape	Z F Mgcawu	Tsantsabane Local Municipality					
Western Cape	Cape Winelands	Breedek Valley Local Municipality					
Western Cape	Cape Winelands	Drakenstein Local Municipality					
Western Cape	Cape Winelands	Langeberg Local Municipality					
Western Cape	Cape Winelands	Stellenbosch Local Municipality					
Western Cape	Cape Winelands	Witzenberg Local Municipality					
Western Cape	Central Karoo	Beaufort West Local Municipality					
Western Cape	Central Karoo	Laingsburg Local Municipality					
Western Cape	Central Karoo	Prince Albert Local Municipality					
Western Cape	City of Cape Town	City of Cape Town Local Municipality					
Western Cape	Eden	Bitou Local Municipality					
Western Cape	Eden	George Local Municipality					
Western Cape	Eden	Hessequa Local Municipality					
Western Cape	Eden	Kannaland Local Municipality					
Western Cape	Eden	Knysna Local Municipality					
Western Cape	Eden	Mossel Bay Local Municipality					
Western Cape	Eden	Oudtshoorn Local Municipality					
Western Cape	Overberg	Cape Agulhas Local Municipality					
Western Cape	Overberg	Overstrand Local Municipality					
Western Cape	Overberg	Swellendam Local Municipality					
Western Cape	Overberg	Theewaterskloof Local Municipality					
Western Cape	West Coast	Bergvrijer Local Municipality					
Western Cape	West Coast	Cederberg Local Municipality					
Western Cape	West Coast	Matzikama Local Municipality					
Western Cape	West Coast	Saldanha Bay Local Municipality					
Western Cape	West Coast	Swartland Local Municipality					

Acronym	Description
ACIP	Accelerated Community Infrastructure Program
AIP	Alien Invasive Plants
AMCOW	African Ministers' Council on Water
AMD	Acid Mine Drainage
ARC	Agricultural Research Council
b/a	billion per annum
BBBEE	Broad-Based Black Economic Empowerment
bn	Billion= 1000 000 000
BRICS	Brazil, Russia, India, China and South Africa
CARA	Central Adoption Resource Authority
CHE	Council on Higher Education
CMA	Catchment Management Agency
CME	Compliance, Monitoring and Enforcement
CMF	Catchment Management Forum
CMS	Catchment Management Strategy
COP 17	17th Conference of the Parties
CRDP	Comprehensive Rural Development Program
CRU	Central RIA Unit
CSI	Corporate Social Investment
CSIR	Council for Scientific and Industrial Research
CSO	Civil Society Organization
DAFF	Department of Agriculture, Forestry and Fisheries
DBE	Departments of Basic Education
DBSA	Development Bank of Southern Africa
DDT	Dichlorodiphenyltrichloroethane
DEA	Department of Environmental Affairs
DCoG	Department of Cooperative Governance
DHET	Department of Higher Education and Training
DM	District Municipality
DMR	Department of Mineral Resources
DOE	Department of Energy
DHS	Department of Human Settlements
DPE	Department of Public Enterprises
DPSA	Department of Public Service & Administration
DRD&LR	Department of Rural Development & Land Reform
DST	Department of Science and Technology
DTI	Department of Trade and Industry
DWA	Department of Water Affairs
DWAf	Department of Water Affairs & Forestry
DWM	Developmental Water Management
e.g.	for example
EU	European Union
ELU	Existing Lawful Use
etc.	etcetera; and so on
EWSETA	Energy and Water Sector Education and Training Authority
EXCO	Executive Committee
FAO	Food and Agriculture Organisation
FET	Further Education and Training
FETWater	Framework Programme for Research, Education and Training in Water, South Africa (UNESCO initiative)
G8	The Group of Eight (world's eight wealthiest western countries)
GA	General Authorisations
GCM	Global Circulation Models
GCIS	Government Communication Information System
GDP	Gross Domestic Product
GET	General Education and Training
GFETQSF	General and Further Education and Training Qualifications Sub-Framework
GG	Government Gazette
GGP	Gross Geographic Product
GIS	Geographical Information System
GLeWAP	Groot Letaba River Water Development Project
GN	Government Notice
GRIP	Groundwater Resource Information Project
HDI	Historically disadvantaged individuals
ha	Hectares
HE	Higher Education
HEI	Higher Education Institutes
HEQSF	Higher Education Qualifications Sub-framework
HRDS	Human Resources Development Strategy
HYDSTRA	Integrated water resources management software
IB	Irrigation board
IBSA	The India-Brazil-South Africa Dialogue Forum
IDP	Integrated Development Plan
IDZ	Industrial Development Zone
i.e.	that is
IHP	International Hydrological Programme
IPAP3	Industrial Policy Action Plan 3
IPP	Independent Power Producers
IRP	Integrated Resource Plan
IRR	Institutional Reform and Realignment
IT	Information technology
i.t.o.	in terms of
IUA	Integrated Units of Analysis
IWA	International Water Association
IWRM	Integrated Water Resource Management
IWWMP	Integrated Water and Waste Management Plan
IWTTSA	Industry Water Task Team of South Africa
JPTC	Joint Permanent Technical Committee
JSE	Johannesburg Stock Exchange
JWC	Joint Water Commission
KNP	Kruger National Park
KPI	Key performance indicator
LEDP	Local Economic Development Plan
LGSETA	Local Government Sector Education & Training Authority
LHDA	Lesotho Highlands Development Authority
LHWP	Lesotho Highlands Water Project
LRAD	Land Reform for Agricultural Development
LTAS	Long Term Adaptation Scenarios
LWC	Limpopo Watercourse Commission
m ³ /a	cubic meter per annum
mm/year	millimetres per year
mg/l	milligrams per litre
Ml/day	megalitres per day= 1 000 000 litres/day
MAR	mean annual runoff

Description	Standard unit
Elevation	m.a.s.l.
Acceleration	m/s ²
Ampere	A, kA
Area	m ² , ha or km ²
Density	kg/m ³
Diameter	mm dia., m dia.
Dimension	mm, m
Discharge	m ³ /s
Distance	m, km
Electric power	kVA, kW, MW
Energy	kJ, MJ
Force, weight	N, kN, MN
Gradient (V:H)	%
Height	m
Mass	kg, ton
Mean annual runoff	million m ³ /a
Moment, torque	Nm, kNm, MNm
Power	kW, MW
Pressure	Pa, kPa, MPa
Slope (H:V) or (V:H)	1:5 (H:V) or 5:1 (V:H)
Velocity, speed	m/s, km/hr
Volt	V, kV
Volume (storage)	m ³ , million m ³ , Ml/day
Yield	million m ³ /a

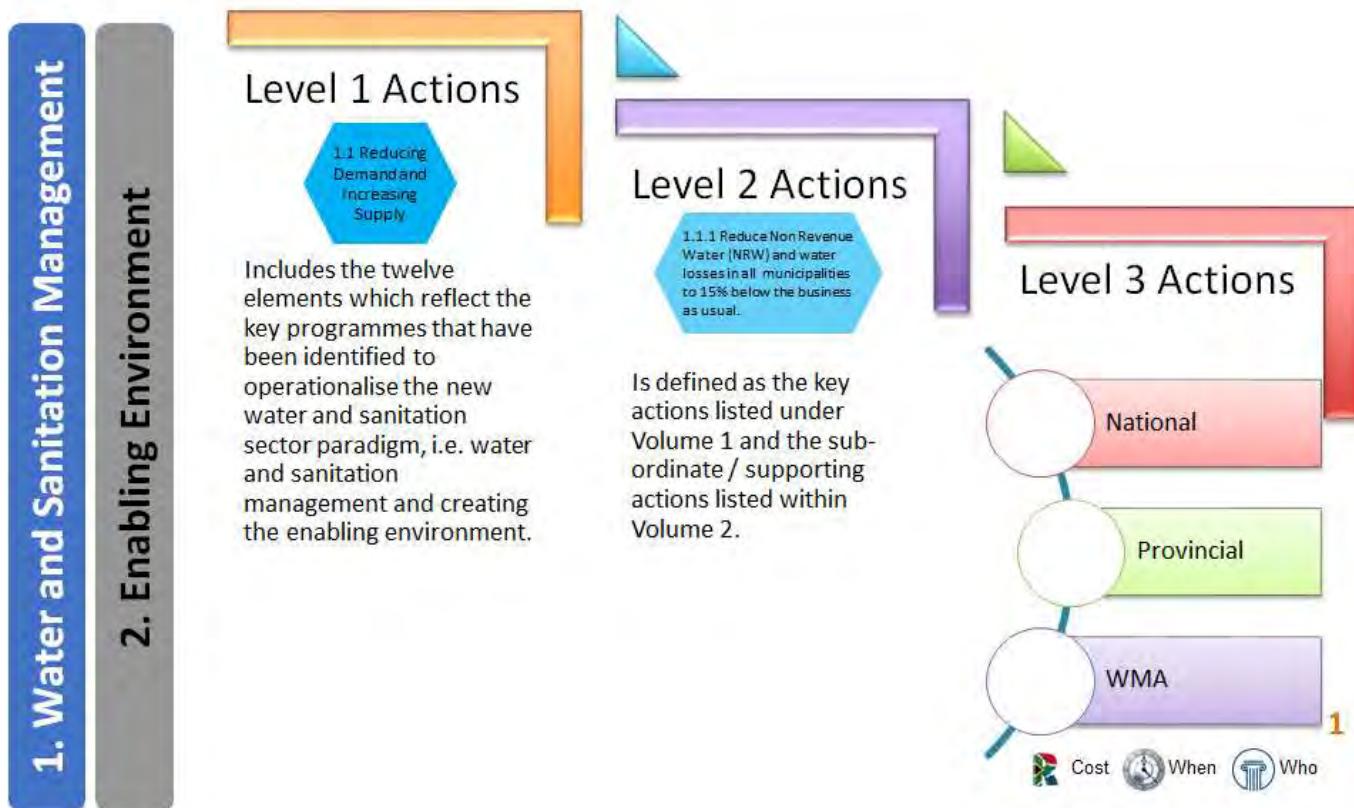
MDG	Millennium Development Goals
MFMA	Municipal Finance Management Act
MIG	Municipal Infrastructure Grant
MISA	Municipal Infrastructure Support Agency
MMTS2	Mooi-Mgeni Transfer Scheme Phase 2
MoU	Memorandum of Understanding
MTEF	Medium Term Expenditure Framework
MWIG	Municipal Water Infrastructure Grant
MW	Megawatts
NATED	National Technical Education
NCBF	National Capacity Building Framework for Local Government
NDP	National Development Plan
NEMA	National Environmental Management Act
NFEPA	National Freshwater Ecosystem Priority Areas
NGA	National Groundwater Archive
NGP	New Growth Path
NGO	Non-government organisation
NGS	National Groundwater Strategy
NMBMM	Nelson Mandela Bay Metropolitan Municipality
NPC	National Planning Commission
NPS	Non-point source
NPSS	Non-Point Source Strategy
NQF	National Qualifications Framework
NRF	National Research Foundation
NRW	Non-Revenue Water
NSA	National Skills Accord
NSDP	National Spatial Development Perspective
NSDS	National Skills Development Strategy
NSI	National System of Innovation
NT	National Treasury
NWA	National Water Act (Act 36 of 1998)
NWAC	National Water Advisory Council
NWRI	National Water Resource Institute
NWRS	National Water Resource Strategy
NWRS1	National Water Resource Strategy (first edition, 2004)
NWRS2	National Water Resource Strategy (second edition 2013)
ODA	Official Development Assistance
OECD	Organisation for Economic Cooperation and Development
ORASECOM	Orange-Senqu (River Basin) Commission
ORWRDP	Olifants River Water Resource Development Project
OQSF	Occupational Qualifications Sub-Framework
OSD	Occupation Specific Dispensation
PALAMA	Public Administration Leadership and Management Academy
PES	Present Ecological State
Ph	Phase
PFMA	Public Finance Management Act
PGDP	Provincial Growth and Development Plan
PGDS	Provincial Growth and Development Strategy
PMU	Project Management Unit
PPP	Public Private Partnerships
P/S	pump station
PWC	Permanent Water Commission
QCTO	Quality Council for Trades and Occupations
R&D	Research and Development
R&I	Research and Innovation
RBIG	Regional Bulk Infrastructure Grant
RBO	River Basin Organizations
RDM	Resource Directed Measures
RDP	Reconstruction and Development Programme
REGIS	Software system developed in the Netherlands, currently under investigation for its application in South Africa
RIA	Regulatory Impact Assessment
RIDMP	Regional Infrastructure Development Master Plan
RISDP	Regional Indicative Strategic Development Plan
Rio+20	United Nations Conference on Sustainable Development, 2012
RPL	Recognition of Prior Learning
RQO	Resource Quality Objectives
RSA	Republic of South Africa
RSAPIII	Regional Strategic Action Plan III
RWH	Rainwater harvesting
RWU	Regional Water Utility
RWQO	Receiving Water Quality Objective
SA	South Africa
SAAWU	South African Association of Water Utilities
SADC	Southern African Development Community
SAICE	South African Institution of Civil Engineering
SALGA	South African Local Government Association
SAWS	South African Weather Service
SDC	Source Directed Controls
SETA	Sector Education & Training Authority
SIP	Strategic Integrated Project
SIWI	Stockholm International Water Institute
SULP	Sustainable Utilization Plans
SWPN	Strategic Water Partnership Network
TAC	Technical Advisory Committee
TCTA	Trans Caledon Tunnel Authority
UDF	Urban Development Framework
UN	United Nations
UNCSD	United Nations Conference on Sustainable Development
UNEP	United Nations Environment Programme
GEMS	Global Environment Monitoring System
UNFCCC	United Nations Framework Convention on Climate Change
UNESCO	United Nations Educational, Scientific and Cultural Organization
VGG	Vaal Gamagara
WAR	Water Allocation Reform
WAS	Water Accounting System
WARMS	Water Registration Management System
WARS	Water Allocation Reform Strategy
WCWSS	Western Cape Water Supply System
WCWDM	Water Conservation and Water Demand Management
WDCS	Waste Discharge Charge System
WISA	Water Institute of Southern Africa
WMA	Water Management Area
WMP	Water Management Plan
WMS	Water Management System
WRA	Water Research Act
WRC	Water Research Commission
WRM	Water Resource Management
WRTC	Water Resources Technical Committee

WS	Water Services
WSA	Water Services Authority
WS Act	Water Services Act (Act 108 of 1997)
WSDP	Water Services Development Plans
WSLG	Water Sector Leadership Group
WSP	Water Services Provider
WMA	Water Management Area
WTW	water treatment works
WWC	World Water Council
WWTW	waste water treatment works
WUL	Water Use License

3. DETERMINANTS

The following determinants were applied when the content of Volume 3 was developed and are illustrated in **Figure 3-1** below:

Figure 3-1: Content of Volume 3



- Each action is associated with levels of detail, which are as follows:
 - Level 1 includes the twelve elements that reflect the key identified programmes to operationalise the new water and sanitation sector paradigm, i.e. water and sanitation management and creating the enabling environment.
 - Level 2 is defined as the key actions listed under Volume 1 and the sub-ordinate / supporting actions listed within Volume 2.
 - Level 3 is defined as the area level on which the action must be achieved and breaks down to a maximum of provincial or systems level. Not all the actions will be drilled down to provincial or catchment level as this detailed breakdown is impractical for a NW&SMP.
- All the actions within Volume 3 are cross referenced back to Volume 1 and Volume 2. Furthermore, the same numbering format that is used in Volumes 1 and 2 is also used in Volume 3.
- Clear cognisance should be taken of the fact that the NW&SMP, and specifically Volume 3, do not intend to replace the existing planning processes at local level, but rather to agree with all stakeholders on the set targets at provincial and catchment levels. The provincial and local authorities should align

their local master planning in a manner that will result in achieving these set targets as illustrated within **Figure 3-2** below.

Figure 3-2: Alignment of National Planning Process with Sectorial & Departmental Planning Process



- The NW&SMP sets out the framework for how South Africa will manage its water resources and implement water and sanitation programmes to achieve targets set in Government's National Development Plan, Medium Term Strategic Framework (MTSF) and Medium-Term Expenditure Framework (MTEF). Furthermore, the NW&SMP also addresses the global and African agendas outlined in the Sustainable Development Goals (SDGs) and the African Union's (AU) Agenda 2063. Each action within Volume 3 will be justified for its position in relation to the set targets to be achieved by Government.

3.1 INTERNAL LINKAGES OF ACTIONS

Actions identified under the twelve master plan elements cannot be separated from each other.

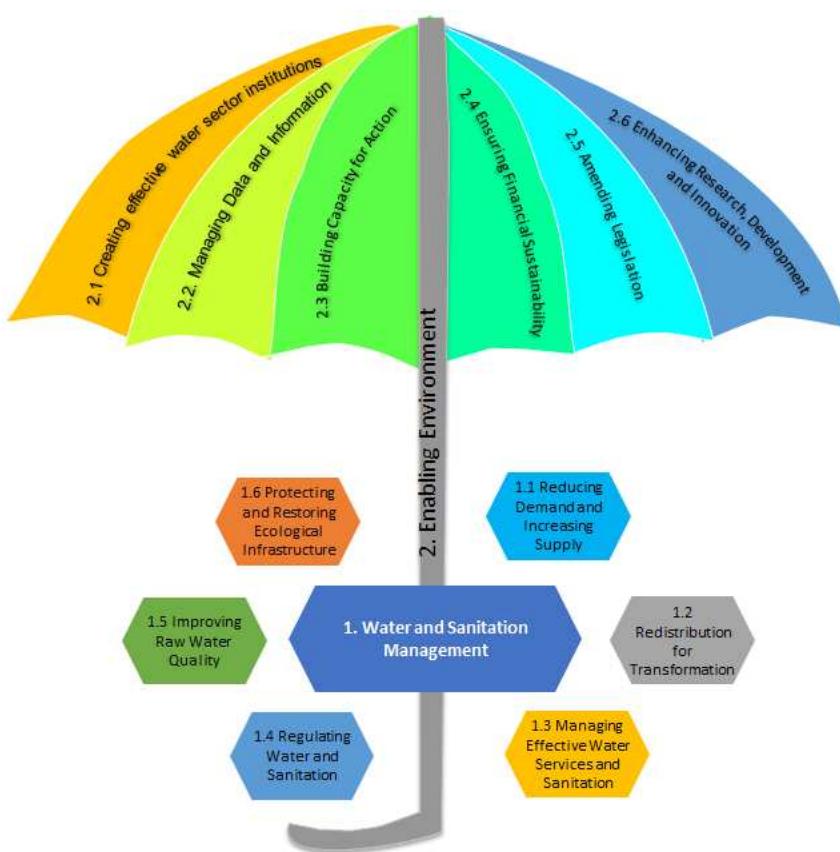


Figure 3-3: Linkages between Actions

iterative process in dealing with the sequence of key actions and supporting actions as certain actions must happen before others that would have a bigger impact on business as usual, which should also consider the following:

- Importance and consequences of delayed implementation;
- Value for money/low lying fruits;
- Committed funds and projects underway;
- Government priorities, international obligations, drivers; and
- Ascertain available funding and practicalities. If not met, shift actions into the future.

3.3 ASSUMPTIONS/CRITERIA/PRINCIPLES USED FOR DETERMINATION OF COSTS

In order to ensure that the NW&SMP remains a ‘living’ document, it is important that all assumptions pertaining to determining the cost requirement are properly documented per action. The following first order assumptions were made:

- The associated cost to implement an action represents a present day value and is the year when the NW&SMP was developed, i.e. 2018.

Actions under the Enabling Environment should be seen as “umbrella” actions that simultaneously support / guide a number of elements or groups under Water and Sanitation Management

3.2 PROPOSED ACTION PRIORITISATION APPROACH

Volume 3 is the Implementation Plan of the NW&SMP and constitutes a breakdown of activities that should be executed in a logical and prioritised order to achieve the national targets. It is foreseen that priorities will be assigned to Level 2 and Level 3 actions, i.e. where an action is only detailed up to Level 2, a priority will be assigned. The reader should also note that this is a first order prioritisation approach that could be further optimised and re-applied during the Phakisa.

The prioritisation approach is an

- The NW&SMP includes action costs until 2030 and beyond and no escalation has been considered for now. However, the following could be used as a guideline of elements that will lead to escalation for inclusion in determining on how it will be dealt with in future:
 - Present value costs reflect a high level cost estimate before the detailed design was completed;
 - Infrastructure projects of similar size and nature currently underway were considered that would also result in an underestimation of material and labour cost;
 - Possible solutions to actions were costed that needs to be negotiated and approved during future implementation;
 - DWS / Municipalities, etc. operational cost excluded, as well as Operation and Maintenance (O&M) cost are excluded;
 - The site location of projects and local conditions affect labour and material;
 - Changes in the global market affects construction costs; and
 - Regulatory changes could result in changing the design standards.
- A record of assumptions and pricing per action are kept for auditing and future amendments;
- All cost estimates exclude VAT of 15%; and
- Cost estimates excludes salary costs for governmental staff.

3.4 FUTURE INCLUSIONS TO BE CONSIDERED UNDER VOLUME 3

The reader must take note that Volume 3 is currently still under development, its full functionality and interactiveness is therefore currently work in progress. As Volume 3 is communicated to the Water Sector, additional functionalities that could be incorporated in future, are the following:

- Schedule of Actions to be area specific, i.e. extracting the actions that is only relevant to the Limpopo province. It must be noted that it should also include the higher order actions that would also have an impact on the manner in which the province implements the NW&SMP;
- Include a search facility;
- Consider the spatial representation of actions;
- Consider the further development, application and roll-out of the NW&SMP within a web enabled database environment;
- Consider the inclusion of Monitoring and Evaluation (M&E) functionality as part of Volume 3 to enable real-time progress with the implementation of the NW&SMP;
- User rights to be assigned to ensure that the content Volume 3 is protected and user rights must be determined during the final stages of development; and
- Interconnectivity between actions should be included.

4. FUNCTIONALITY:

Information on how to navigate within Volume 3 spreadsheet is described in the call out buttons. The basic navigation principles between the various sheets are the same.

Figure 4-1: Volume 3 Dashboard-Home page



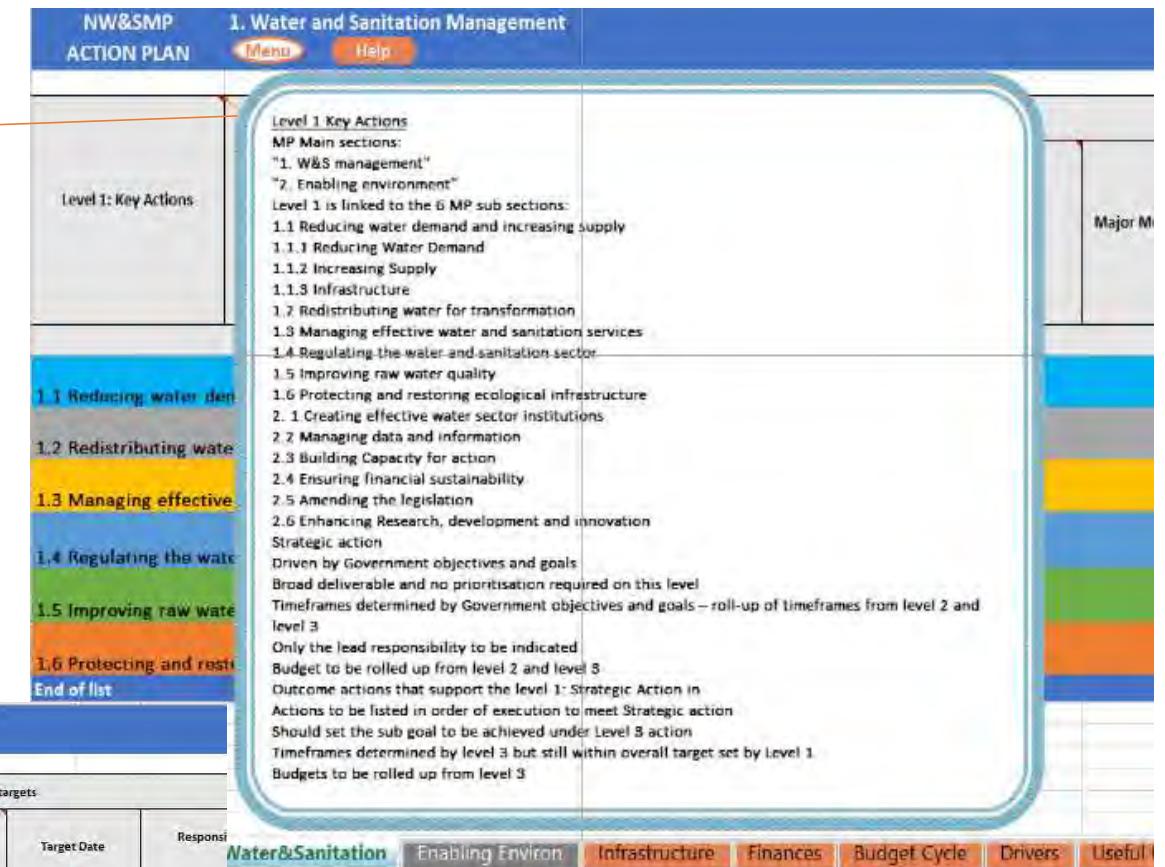
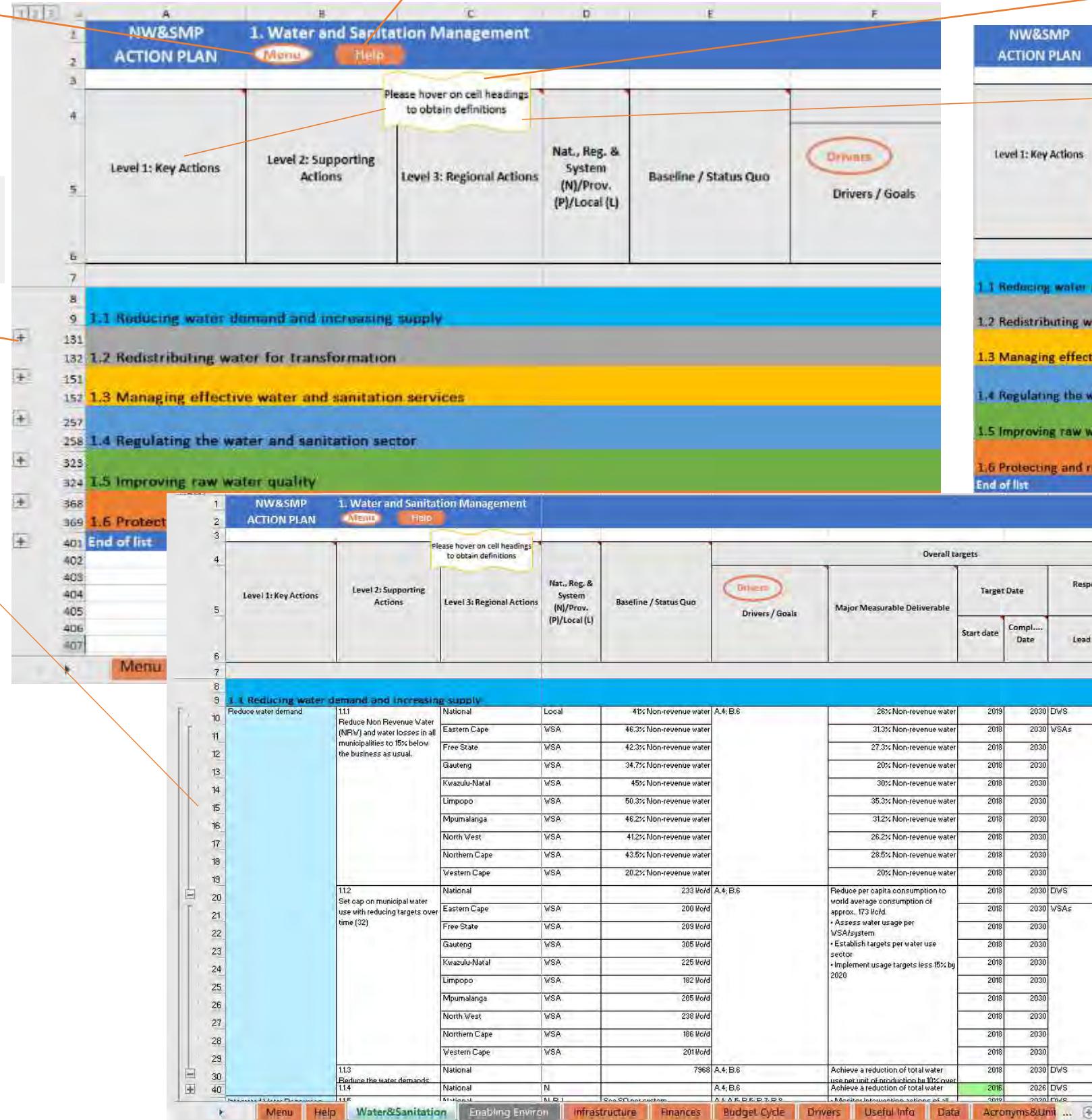
Once the viewer clicked on a NW&SMP Section, it will jump to that sheet

The Viewer can return to the Home Screen by clicking on Menu

The Viewer can access definitions of the spreadsheet by clicking on the Help Button

The Viewer can also access definitions of the spreadsheet by placing their cursor on a cell heading and a definition of the heading will appear

The Viewer can click on the + buttons to access the detailed actions under that NW&SMP section



4.1 CONTENTS OF THE VARIOUS TABS

Infrastructure

Menu

Surface water

Desalination

Re-use

List of DWS water resources development projects

Project Name	Project Description	Province	Metro or District Municipality	Local Municipality	Water Management Area (WMA)	Catchment	Incremental Yield (million m³/a)	Procurement	TOTAL
Lesotho Highlands Water Project - Phase 2	The construction of the Polihale Dam, a tunnel and associated works to augment the Vaal River System, which supplies water to Gauteng and surrounding areas.	N/A	Cape Town (City of Metropolitan Municipality)	N/A	Orange	Senqu River Catchment (Lesotho)	470	Design	
Western Cape Water Supply System Augmentation Project	Voelvlei Dam Supplement Scheme, including abstraction and bulk water conveyance infrastructure to augment the water supply to the City of Cape Town and the surrounding areas.	Western Cape	Cape Town (City of Metropolitan Municipality)		Berg_Olifants	Voelvlei River Catchment	20	Financing	
Western Cape Water Supply System Desalination Plant and/or Water Re-use	Large Scale Desalination Plant and/or Water Re-use Plant that will require government assistance with funding.	Western Cape			Berg_Olifants		49	Concept and Viability	
uMkhomazi Water Project: Phase 1 Raw Water	The construction of the Smithfield Dam, a balancing dam, tunnel and pipeline to augment the Mgeni Water Supply System (WSS) that supplies eThekwin, uMgungundlovu and the surrounding areas. The Mgeni WSS is already in deficit.	KwaZulu Natal		Ingwe Local Municipality (KZa)	Pongola_Mzimkulu	uMkhomazi River Catchment	215	Concept and Viability	
Acid Mine Drainage (AMD) - Phase 2: Western Basin	The implementation of the long-term solution in the Witwatersrand Gold Fields Areas	Gauteng	Ekurhuleni Metropolitan Municipality	Randfontein Local Municipality	Vaal	Middle Vaal River Catchment	220	Financing	
Acid Mine Drainage (AMD) - Phase 2: Central	The construction of water treatment plants, pipelines and		Ekurhuleni Metropolitan						

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Help

Water&Sanitation

Enabling Environ

Infrastructure

Finances

Budget Cycle

Drivers

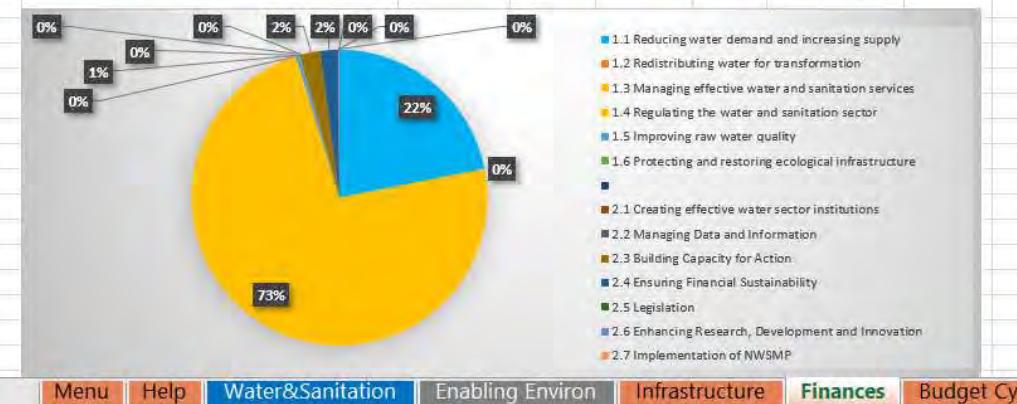
Useful in

...

This sheet lists the special Infrastructure related projects to be implemented by DWS. These infrastructure projects are subdivided into the following:

- Surface water
- Desalination
- Re-use

The viewer can click on any of the text boxes to navigate between the various types of infrastructure projects.

Finances			2018-2020	2021-2025	2026-2030	Present Value Cost (VAT excl.) (MP horizon)		487 003 checked																													
						%	R million (2018)																														
1. Water and Sanitation Management																																					
1.1 Reducing water demand and increasing supply	17 525	64 968	28 914	21.89%	111 407	23%																															
1.2 Redistributing water for transformation	22	13	10	0.01%	45	0.0%																															
1.3 Managing effective water and sanitation services	125 013	242 891	4 436	73.17%	372 340	76%																															
1.4 Regulating the water and sanitation sector	443	231	145	0.16%	819	0.2%																															
1.5 Improving raw water quality	341	705	901	0.36%	1 947	0.4%																															
1.6 Protecting and restoring ecological infrastructure	201	135	108	0.09%	444	0.1%																															
2. Enabling Environment	13 043	8 322	363		21 868 OK																																
2.1 Creating effective water sector institutions	826	3	-	0.16%	828	4%																															
2.2 Managing Data and Information	24	24	22	0.01%	70	0.3%																															
2.3 Building Capacity for Action	10 091	90	108	2.02%	10 289	47%																															
2.4 Ensuring Financial Sustainability	2 008	8 004	-	1.97%	10 012	45%																															
2.5 Legislation	26	29	-	0.01%	55	0.3%																															
2.6 Enhancing Research, Development and Innovation	68	175	233	0.09%	473	2%																															
2.7 Implementation of NWSMP	71	35	35	0.03%	141	1%																															
 <table border="1"> <thead> <tr> <th>Sub-section</th> <th>Percentage</th> </tr> </thead> <tbody> <tr><td>1.1 Reducing water demand and increasing supply</td><td>22%</td></tr> <tr><td>1.2 Redistributing water for transformation</td><td>0%</td></tr> <tr><td>1.3 Managing effective water and sanitation services</td><td>73%</td></tr> <tr><td>1.4 Regulating the water and sanitation sector</td><td>0%</td></tr> <tr><td>1.5 Improving raw water quality</td><td>0%</td></tr> <tr><td>1.6 Protecting and restoring ecological infrastructure</td><td>0%</td></tr> <tr><td>2.1 Creating effective water sector institutions</td><td>1%</td></tr> <tr><td>2.2 Managing Data and Information</td><td>0%</td></tr> <tr><td>2.3 Building Capacity for Action</td><td>2%</td></tr> <tr><td>2.4 Ensuring Financial Sustainability</td><td>0%</td></tr> <tr><td>2.5 Legislation</td><td>0%</td></tr> <tr><td>2.6 Enhancing Research, Development and Innovation</td><td>0%</td></tr> <tr><td>2.7 Implementation of NWSMP</td><td>0%</td></tr> </tbody> </table>										Sub-section	Percentage	1.1 Reducing water demand and increasing supply	22%	1.2 Redistributing water for transformation	0%	1.3 Managing effective water and sanitation services	73%	1.4 Regulating the water and sanitation sector	0%	1.5 Improving raw water quality	0%	1.6 Protecting and restoring ecological infrastructure	0%	2.1 Creating effective water sector institutions	1%	2.2 Managing Data and Information	0%	2.3 Building Capacity for Action	2%	2.4 Ensuring Financial Sustainability	0%	2.5 Legislation	0%	2.6 Enhancing Research, Development and Innovation	0%	2.7 Implementation of NWSMP	0%
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2.6 Enhancing Research, Development and Innovation	0%																																				
2.7 Implementation of NWSMP	0%																																				
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Budget cycle																																					
1	Menu	Budget (2018/19 to 2020/21)																																			
2																																					
3																																					
4	Available budget/funds	MTEF																																			
5		2018/19	2019/20	2020/21	3 year tots																																
6		(R million)	(R million)	(R million)	(R million)																																
7	Budget Vote 36																																				
8	Programme 1 Administration	R 1 715	R 1 808	R 1 922	R 5 4																																
9	Programme 2 Water Planning and Information Management	R 862	R 965	R 1 030	R 2 8																																
10	Programme 3 Water Infrastructure Development	R 12 496	R 13 233	R 13 959	R 39 6																																
11	Programme 4 Water Sector Regulation	R 499	R 461	R 499	R 1 4																																
12	DWS Total	R 15 572	R 16 467	R 17 409	R 49 4																																
13																																					
14	DORA infrastructure transfers related to water																																				
15	Direct transfers																																				
16	Municipal infrastructure grant	R 15 288	R 15 734	R 16 599	R 47 6																																
17	Water component of MIG (50%)	R 7 644	R 7 867	R 8 300	R 23 8																																
18	Water Services Infrastructure	R 3 481	R 3 669	R 3 871	R 11 0																																
19	Regional bulk infrastructure	R 1 957	R 2 066	R 2 180	R 6 2																																
20	Indirect transfers																																				
21	Regional bulk infrastructure	R 2 881	R 3 037	R 3 204	R 9 1																																
22	Water Services Infrastructure	R 608	R 642	R 678	R 1 9																																
23																																					
24	Municipal revenue	R 72 000	R 76 320	R 80 899	R 229 2																																
25	Equitable share	R 62 731	R 68 973	R 75 683	R 207 3																																
26	Equitable share for water and sanitation (10%)	R 6 273	R 6 897	R 7 568	R 20 7																																
27																																					
28																																					

This sheet provides a summary of the total budget requirements for the NW&SMP, split into NW&SMP Section, sub section and into allocations per time period.

The viewer should take note that the majority of the funding requirement falls under the NW&SMP Sub section, Managing effective water and sanitation services (72%). At least two thirds of this amount can be ascribed to the inclusion of the water services projects earmarked for implementation by the Municipalities / Water Services Authorities.

The total requirement should also be compared with the funding available within the next three-year MTEF cycle indicated under the Budget Cycle-tab.

This sheet provides information on the available funding for water services in the next three- year MTEF cycle.

The available budget for the next three years for the DWS and Municipalities is R 97 068 billion. This is substantially less than the total budget required under the Finances tab until 2020 that shows at least R 155 billion is required.

DRIVERS: SETTING THE TARGETS					
1	2	3	4	5	
No	Sub-Section	Description		Reference (page where found)	Target definition and initial target date
A Sustainable Development Goals (SDGs) (United Nations, 2015)					
6	A.1 SDG 6.1	Equitable access to safe and affordable drinking water			2030
7	A.2 SDG 6.2	Equitable access to adequate sanitation			2030
8	A.3 SDG 6.3	Improve WQ and reduce pollution			2030
9	A.4 SDG 6.4	Increase water use efficiency			2030
10	A.5 SDG 6.5	Implement integrated water resource management			2030
11	A.6 SDG 6.6	Protect and restore water eco systems			2030
12	A.7 SDG 6.a	Expand international cooperation and capacity-building support			2030
13	A.8 SDG 6.b	Stakeholder participation to improve water and sanitation management			2030
B National Development Plan, Vision 2030 (National Planning Commission, 2012)					
16	B.1 Enabling milestones	Ensure access to clean running water in all homes		Enabling milestones	
17	B.2 Critical actions	Finance through tariffs, taxes and loans		Critical actions	
18	B.3 Critical actions	Ensure environmental sustainability and resilience		Critical actions	
19	B.4 Critical actions	New spatial norms and standards		Critical actions	
20	B.5 Economic Infras. Obj.	Ensure access to clean, potable water and enough water for agriculture and industry, recognising trade-offs in use of water		Economic Infrastructure: Objectives	
21	B.6 Economic Infras. Obj.	Reduce water demand in urban areas to 15% below business as usual scenario		Economic Infrastructure: Objectives	15% below current by 2030
22	B.7 Economic Infras.: Act.	Comprehensive management strategy including investment programme for water resource development, bulk water supply and wastewater management		Economic Infrastructure: Actions	For Major centres, by 2012 Review every 5 years
Menu Help Water&Sanitation Enabling Environ Infrastructure Finances Budget Cycle Drivers Useful In ... +					
Ready 					

This sheet provides the detailed information on the various National Drivers of the NW&SMP.

The Drivers are linked to each one of the NW&SMP actions. It only shows the linkage using the No. and Sub section as the reference number.

NW&SMP		1. Water and Sanitation Management			
ACTION PLAN		Menu		Help	
		Please hover on cell headings to obtain definitions			
Level 1: Key Actions	Level 2: Supporting Actions	Level 3: Regional Actions	Nat., Reg. & System (N)/Prov. (P)/Local (L)	Baseline / Status Quo	Overall ta
				Drivers	Major Measurable Deliverable
1.1 Reducing water demand and increasing supply					
Reduce water demand	1.1.1	National	Local	41% Non-revenue water	A.4; B.6
	Reduce Non Revenue Water (NRW) and water losses in all municipalities to 15% below the business as usual.	Eastern Cape	WSA	46.3% Non-revenue water	26% Non-revenue water
		Free State	WSA	42.3% Non-revenue water	31.3% Non-revenue water
		Gauteng	WSA	34.7% Non-revenue water	27.3% Non-revenue water
		Kwazulu-Natal	WSA	48% Non-revenue water	20% Non-revenue water
		Limpopo	WSA	50.3% Non-revenue water	30% Non-revenue water
		Mpumalanga	WSA	46.2% Non-revenue water	35.3% Non-revenue water
					31.2% Non-revenue water

Useful information provides the base line / status quo information as at 2018. The NW&SMP actions then derived the minimum target the action would like to achieve over a certain period.

This information would enable the DWS to monitor progress in the implementation of the NW&SMP.

1. Water and Sanitation Management						
ACTION PLAN		Menu		Help		
		Please hover on cell headings to obtain definitions				
Level 1: Key Actions	Level 2: Supporting Actions	Level 3: Regional Actions	Net. Reg. & System (N)/Prov. (P)/Local (L)	Baseline / Status Quo	Drivers / Goals	Overall ta
					Drivers	Major Measurable Deliverable
1.1 Reducing water demand and increasing supply						
Reduce water demand	11.1	National	Local	41% Non-revenue water	A.4, B.6	26% Non-revenue water
	Reduce Non Revenue Water (NRW) and water losses in all municipalities to 10% below the business as usual:	Eastern Cape	WSA	46.3% Non-revenue water		31.3% Non-revenue water
		Free State	WSA	42.3% Non-revenue water		27.3% Non-revenue water
		Gauteng	WSA	34.7% Non-revenue water		20% Non-revenue water
		Kwazulu-Natal	WSA	45% Non-revenue water		30% Non-revenue water
		Limpopo	WSA	50.3% Non-revenue water		35.3% Non-revenue water
		Mpumalanga	WSA	46.2% Non-revenue water		31.2% Non-revenue water

Data

Menu

Geographical and other place names

Province	District Municipality	Local Municipality	Water Services Authority	WMAs	Responsible Institution	27 Priority DMs			
4 Eastern Cape	Alfred Nzo	Matatiele Local Municipality	Eastern Cape	Alfred Nzo	Berg Olifants	DWS	Eastern Cape	Alfred Nzo	DC4
5 Eastern Cape	Alfred Nzo	Mbizana Local Municipality	Eastern Cape	Amathole	Brede Gouritz	CoGTA	Eastern Cape	Amathole	DC1
6 Eastern Cape	Alfred Nzo	Ntabankulu Local Municipality	Eastern Cape	Buffalo City	Inkomathi Usuthu	WSAs	Eastern Cape	Chris Hani	DC1
7 Eastern Cape	Alfred Nzo	Umzimvubu Local Municipality	Eastern Cape	Chris Hani	Limpopo	DMR	Eastern Cape	O.R. Tambo	DC1
8 Eastern Cape	Amathole	Amahlathi Local Municipality	Eastern Cape	Joe Gqabi	Mzimvubu Tsitsikama	SALGA	Eastern Cape	Joe Gqabi	DC1
9 Eastern Cape	Amathole	Great Kei Local Municipality	Eastern Cape	Nelson Mandela Bay	Olifants	LM	Free State	Xhaneq	DC1
10 Eastern Cape	Amathole	Mbhashe Local Municipality	Eastern Cape	O.R Tambo	Orange	CMA	Gauteng	West Rand DM	DC4
11 Eastern Cape	Amathole	Mnguma Local Municipality	Eastern Cape	Blue Crane Route Local Municipality	Pongola Mzimkulu		KwaZulu-Natal	iLembe	DC2
12 Eastern Cape	Amathole	Ngqushwa Local Municipality	Eastern Cape	Dr Beyers Naudé Local Municipality	Vaal		KwaZulu-Natal	Ugu	DC2
13 Eastern Cape	Amathole	Raymond Mhlaba Local Municipality	Eastern Cape	Kouga Local Municipality			KwaZulu-Natal	uMgungundlovu	DC2
14 Eastern Cape	Buffalo City	Buffalo City Local Municipality	Eastern Cape	Kou-Kamma Local Municipality			KwaZulu-Natal	uMkhanyakude	DC2
15 Eastern Cape	Chris Hani	Emalahleni Local Municipality	Eastern Cape	Makana Local Municipality			KwaZulu-Natal	uMzinyathi	DC2
16 Eastern Cape	Chris Hani	Engcobo Local Municipality	Eastern Cape	Ndlambe Local Municipality			KwaZulu-Natal	uThukela	DC2
17 Eastern Cape	Chris Hani	Enoch Mgijima Local Municipality	Eastern Cape	Sundays River Valley Local Municipality			KwaZulu-Natal	uThungulu	DC2
18 Eastern Cape	Chris Hani	Intsika Yethu Local Municipality	Free State	Mafube Local Municipality			KwaZulu-Natal	Zululand	DC2
19 Eastern Cape	Chris Hani	Inxuba Yethemba Local Municipality	Free State	Metsimaholo Local Municipality			KwaZulu-Natal	Amajuba	DC2
20 Eastern Cape	Chris Hani	Sakhisizwe Local Municipality	Free State	Mogokha Local Municipality			KwaZulu-Natal	Sisonke	DC4
21 Eastern Cape	Joe Gqabi	Elundini Local Municipality	Free State	Ngwathe Local Municipality			Limpopo	Capricorn	DC3
22 Eastern Cape	Joe Gqabi	Sengu Local Municipality	Free State	Masiyonyana Local Municipality			Limpopo	Mopani	DC3
23 Eastern Cape	Joe Gqabi	Walter Sisulu Local Municipality	Free State	Mathabeng Local Municipality			Limpopo	Sekhukhune	DC4
24 Eastern Cape	Nelson Mandela Bay	Nelson Mandela Bay Local Municipality	Free State	Ndale Local Municipality			Limpopo	Vhembe	DC3
25 Eastern Cape	O.R Tambo	King Sabata Dalindyebo Local Municipality	Free State	Tokologo Local Municipality			Limpopo	Waterberg	DC3
26 Eastern Cape	O.R Tambo	Mhlongo Local Municipality	Free State	Tsvelopale Local Municipality			Mpumalanga	Ehlanzeni	DC3
27 Eastern Cape	O.R Tambo	Ngqura Hill Local Municipality	Free State	Mangang			North West	Bojanala Platinum	DC3
28 Eastern Cape	O.R Tambo	Nyandeni Local Municipality	Free State	Dihlabeng Local Municipality			North West	Dr Ruth Segomotsi Mogopadi	DC3
29 Eastern Cape	O.R Tambo	Port St Johns Local Municipality	Free State	Maluti a Phofung Local Municipality			North West	Ngaka Modiri Molema	DC3
30 Eastern Cape	Sarah Baartman	Blue Crane Route Local Municipality	Free State	Manispa Local Municipality					
31 Eastern Cape	Sarah Baartman	Dr Beyers Naudé Local Municipality	Free State	Niketoana Local Municipality					
32 Eastern Cape	Sarah Baartman	Kouga Local Municipality	Free State	Phumelela Local Municipality					
33 Eastern Cape	Sarah Baartman	Kou-Kamma Local Municipality	Free State	Setsoto Local Municipality					
34 Eastern Cape	Sarah Baartman	Makana Local Municipality	Free State	Kopanong Local Municipality					
35 Eastern Cape	Sarah Baartman	Ndlambe Local Municipality	Free State	Letsemeng Local Municipality					

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The sheet provides the viewer the levels of detail the NW&SMP action should be implemented e.g. Provincial, Municipal, WMA levels to name only a few.

It also lists the names of the District Municipalities, Local Municipalities as well as the 27 Priority District Municipalities.

4.2 SPECIFICATIONS:

Level 1: Key Actions	Level 2: Supporting Actions	Level 3: Regional Actions	Nat., Reg. & System (N)/Prov. (P)/Local (L)	Baseline / Status Quo	Overall targets					Breakdown of deliverables per time segment										Note	Priority										
					Drivers	Major Measurable Deliverable	Target Date		Responsible Institutions	Present Value Cost (VAT excl.) R million (2018)	2018-2020			2021-2025			2026-2030 (current NW&SMP horizon, to vary in future)			2031-2050 (beyond current NW&SMP horizon)			Deliverable	Date	PV Cost R million	Deliverable	Date	PV Cost R million	Deliverable	Date	PV Cost R million
							Start	Compl.			Deliverable	Date	PV Cost R million	Deliverable	Date	PV Cost R million	Deliverable	Date	PV Cost R million	Deliverable	Date	PV Cost R million	Deliverable	Date	PV Cost R million						
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA	AB				

Definition										Example																			
A Level 1 Key Action										NW&SMP Main sections: 1. W&S management 2. Enabling environment Level 1 is linked to the 6 NW&SMP sub sections: 1.1 Reducing water demand and increasing supply 1.1.1 Reducing Water Demand 1.1.2 Increasing Supply 1.1.3 Infrastructure 1.2 Redistributing water for transformation 1.3 Managing effective water and sanitation services 1.4 Regulating the water and sanitation sector 1.5 Improving raw water quality 1.6 Protecting and restoring ecological infrastructure 2. 1 Creating effective water sector institutions 2.2 Managing data and information 2.3 Building Capacity for action 2.4 Ensuring financial sustainability 2.5 Amending the legislation 2.6 Enhancing Research, development and innovation Strategic action Driven by Government objectives and goals Broad deliverable and no prioritisation required on this level Timeframes determined by Government objectives and goals – roll-up of timeframes from level 2 and level 3 Only the lead responsibility to be indicated Budget to be rolled up from level 2 and level 3 Outcome actions that support the level 1: Strategic Action in Actions to be listed in order of execution to meet Strategic action Should set the sub goal to be achieved under Level 3 action Timeframes determined by level 3 but still within overall target set by Level 1										W&S Management Reduce water demand									

Definition			Example	
		Budgets to be rolled up from level 3		
B	Level 2: Supporting Action	<p>Include supporting action(s) ordered chronologically to meet sub goal</p> <p>Outcome actions that support the level 1: Strategic Action in</p> <p>Actions to be listed in order of execution to meet Strategic action</p> <p>Should set the sub goal to be achieved under Level 3 action</p> <p>Timeframes determined by level 3 but still within overall target set by Level 1</p> <p>Budgets to be rolled up from level 3</p>	Reduce Non-Revenue Water (NRW) and water losses in all municipalities to 15% below the business as usual.	
C	Level 3: Regional Action	<p>Detailed action(s) required to meet sub-goal set under Level 2</p> <p>Actions to be listed in order of execution to meet sub goal (propose “bottom to top” approach)</p> <p>Timeframes will depend on current SQ specific to the level (N, P, L, WB, System) but must be within target set at Level 1</p> <p>Budgets to be level specific</p>	List per province: No of WSAs per provinces / NRW target	
D	Level (N, P, L)	Nat , Reg. & System (N)/Prov. (P)/Local (WSA)	<p>Level to meet the target could be;</p> <p>National(N), Provincial (P), Local (WSA), Water Board (WB)</p>	P
E	Baseline / Status Quo	Status Quo	46.3	
F	Overall targets	Drivers	<p>Each action shall be linked to National Strategic Drivers, e.g. Service Delivery Goals(SDGs), the National Development Plan 2030 (NDP 2030); Strategic Intervention Project</p> <p>These Drivers are listed under the Drivers tab within the spreadsheet</p>	A.3, B11
G		Major Measurable Deliverable	<p>Overall Sub goal set to meet the strategic action</p>	20 % NRW per WSA
H		Target Start Date	Pre-defined criteria to be set per detailed action where possible until overall target is met. May vary between and within levels	Reduce NRW by 15% per annum per province until national goal of 20% is reached
I		Target Completion date	Start date should be indicated per financial year in which the action will start	2018
J		Responsible Institutions	Completion date should be indicated per financial year in which the action will be completed	2030
K		National(N), Provincial (P), Local (WSA), Water Board (WB)	WSA, DWS, CoGTA	
K	Present Value Cost (VAT excl) R million	Present cost is defined as total current value in year 2018 R million to complete action over time period. Costs exclude VAT.	Cost should reflect the total cost requirement over the full period	R 439,2
L	Breakdown of deliverables per time segment	2018-2020 Deliverable	Reduce overall target to meet strategic action	Reduce NRW by 15% per annum until national strategic target of 20% is met
M		Date	Start date should be indicated per financial year	2018
N		Cost	Multiply no of entities not meeting target with unit cost per and the total no of financial years	R 16
O		2021-2025Deliverable	Reduce overall target to meet strategic action	Reduce NRW by 15% per annum until national strategic target of 20% is met
P		Date	Start date should be indicated per financial year	2021
Q		Costs	Multiply no of entities not meeting target with unit cost per and the total no of financial years	R 40
R		2026-2030 (current MP horizon, to vary in future) Deliverable	Reduce overall target to meet strategic action	Reduce NRW by 15% per annum until national strategic target of 20% is met

Definition			Example
S	2031-2050 (beyond current MP horizon) Deliverable	Date	Start date should be indicated per financial year
T		Cost	Multiply no of entities not meeting target with unit cost per and the total no of financial years
U		2031-2050 (beyond current MP horizon) Deliverable	Maintain overall strategic target
V		Date	Start date should be indicated per financial year
W		Costs	Responsible entity should include budget to maintain national strategic target
X		Notes	Provide additional comments where applicable
Y	Magnitude or impact if action does not occur		Impact if strategic target is not achieved should be indicated as follows: (1) Critical, (2) Serious, (3) important (4) minor
Z	Is it a foundation action		Status of action should be indicated as follows: (1) Other actions highly dependent; (2) Few direct dependencies (3) no direct dependencies
AA	What level of impact will the investment generate?		Where possible, the impact should be indicated as follows: (1) Major benefit (>x10); (2) moderate benefit (>x2) (3) limited benefit
AB	What has prevented action from being completed to date?		WSAs