REVISION OF THE NATIONAL RAW WATER PRICING STRATEGY:

Future Infrastructure Build Charge

Report to the
Water Research Commission

by

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This is the final report for WRC project no. C2021/22-01037.

EXECUTIVE SUMMARY

BACKGROUND

In terms of the National Water Act, 36 of 1998, the Minister may from time to time establish a pricing strategy for any water use within the framework of existing relevant government policy.

The 2015 draft Pricing Strategy introduced several changes, chief amongst them was the introduction of the Future Infrastructure Build Charge (FIBC), which replaced the Return on Assets Charge included in the previous drafts.

The FIBC is intended to support the development of social and economic development stimulus infrastructure.

Queries were however raised on the FIBC, from amongst others, National Treasury, which required the Department of Water and Sanitation to revisit the way that the FIBC was set out in the 2015 draft Pricing Strategy.

AIMS

The main aim of this project is to fully understand the rationale, policy and context underpinning the FIBC and to develop suitable wording for the insertion of the FIBC in Pricings Strategy that describes the FIBC, its purpose and its calculation.

METHODOLOGY

An analysis was done of the relevant legislation and policies, including:

- Constitution of South Africa
- National Water Act
- Division of Revenue Act
- Water and Sanitation Master Plan
- National Water Resource Strategy
- Medium Term Strategic Framework 2019-2024
- Policy on Land Redistribution for Agricultural Development 2001
- The draft Bill on a National Water Resource Infrastructure Agency
- The 2015 and prior National Water Pricing Strategies

Stakeholder comments were considered, which included:

- Concerns of the FIBC being a tax
- Duplication and overlaps with other infrastructure charges
- Overlap and alignment with the Return on Assets Charge
- Clarity on what will be funded through the FIBC
- Impact of excluding the CUC users in the determination of the FIBC volumes
- Inter-generational equity
- Social and economic development stimulus infrastructure should be funded entirely from the FIBC

Five options to the FIBC were identified and compared:

- Retain the current ROA model or the Do Nothing Option. Given the need and the limitations of the ROA model, this would not be seen as a viable option

- Strengthening the ROA model: Given that the ROA charge is meant to be levied on water user to ensure that the department is able to develop new water schemes or improve already existing schemes, DWS considered a few alternatives when conceptualising the FIBC
- On-budget funding: Funding of social and economic infrastructure on budget (not included as a charge in the National Raw Water Pricing Strategy)
- A single NWRIA capital charge: A single NWRIA capital charge that also covers infrastructure funded off-budget and social and economic development stimulus infrastructure
- Future Infrastructure Build Charge levied as a national charge to support social and economic development stimulus infrastructure

It was confirmed that the FIBC was the most appropriate and practical approach to fund social infrastructure.

The structure of the FIBC was clarified, including:

- Which infrastructure will be funded by the FIBC
- The role of appropriations from National Revenue Fund
- That the FIBC will be a National charge
- That the charge will be based on use not on yield
- Who collects the charge
- What happens to the FIBC collected funds that will only be spent in the future
- Who administers the FIBC fund or reserve
- How will shortfalls of social project expenditure be funded if the FIBC is only going to be collected in the future
- Differentiation of FIBC from the CUC
- What policy definitions are still required

The approach to calculating the FIBC was developed. Cost and water demand information was based on that used in the NWRIA financial model. A basic Excel model was prepared and calculations were done on a number of scenarios, including:

- A Base scenario
- A High and Low Collection scenarios
- All commercial users pay scenario
- A National Treasury contribution scenario

A virtual meeting was held with National Treasury to introduce the approach and to invite comments. These comments will be included in the draft Pricing Strategy by the drafting team.

RESULTS AND DISCUSSION

The project achieved the aims of clarifying the FIBC, proposing a calculation methodology and proposing wording for the National Water Pricing Strategy.

Should the FIBC be implemented, DWS will need to regularly update the national ten year infrastructure development plan projections and classify the portions of the projects in that plan that are social or economic.

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ACRONYMS & ABBREVIATIONS

AFS	Annual Financial Statements
CMA	Catchment Management Agency
CUC	Capital Unit Charge
D&I	Domestic and Irrigation
DORA	Division of Revenue Act (enacted annually)
DWS	Department of Water and Sanitation
FIBC	Future Infrastructure Build Charge
NPV	Net Present Value
NWA	National Water Act 36 of 1998
NWRIA	National Water Resource Infrastructure Agency
NWSMP	National Water and Sanitation Master Plan
O&M	Operations and Maintenance
ROA	Return on Assets
SOE	State Owned Entity
TCTA	Trans Caledon Tunnel Authority
WRC	Water Research Commission
WTE	Water Trading Entity

CHAPTER 1: BACKGROUND

1.1 INTRODUCTION

In terms of the National Water Act, the Minister may from time to time establish a pricing strategy for any water use within the framework of existing relevant government policy. The pricing strategy is intended to fund the protection, development and control of the country's water resources. The pricing strategy has undergone one revision, in 2007, since it was first developed in November 1999 and the department developed a draft version in 2015, which was not finalised.

The 2015 draft introduced several changes, chief amongst them was the introduction of the Future Infrastructure Build Charge (FIBC), which replaced the Return on Assets Charge included in the previous drafts. The FIBC is intended to fund water resource development, through providing for the costs of investigation, planning, design, construction and pre-financing of new infrastructure and the betterment of existing infrastructure. Provision is made for the FIBC to support the development of social and economic development stimulus infrastructure. Social infrastructure refers to water resources infrastructure supplying basic water requirements of municipal water users in rural areas. Economic stimulus infrastructure provides for future economic water use where there are currently no users, or where existing users cannot afford the water supply, but where the water supply is necessary to provide for future economic development.

While many of the changes responded to the sector needs, stakeholder comments on the gazetted 2015 Draft Pricing Strategy, as they relate to the FIBC, indicated that additional work was required to unpack and refine the FIBC. The comments range from issues of policy uncertainty to challenges with implementation of the FIBC. The finalization of the pricing strategy has been flagged as a department priority, and it is within this context that Madi Water Solutions was appointed to support with the refinement of the FIBC.
The scope of the appointment entailed:

1.2 PROJECT AIMS

The following were the aims of the project:

1. Refine the concept of the FIBC by revisiting the theoretical foundations and existing, relevant policy principles and intent underpinning the conceptualisation of the FIBC, including its relationship to the DWS 10-year infrastructure plan and the dimension of intergenerational equity
2. Provide a detailed definition of the FIBC and a distinction from the Operation and Maintenance (O&M) Charge, Depreciation Charge and Capital Unit Charge (CUC) to eliminate existing contradictions and ambiguity in the current draft of the Pricing Strategy for Water Use Charges
3. Develop and test a methodology for calculating and implementing the FIBC at a national level, and estimating the impact (costs and benefits) of the proposed FIBC
4. Formulate draft guiding policy for accountability mechanisms to manage FIBC funds

1.3 SCOPE AND LIMITATIONS

The project was practically directed at populating the FIBC section of the National Pricing Strategy and as such can be differentiated from a purely academic research assignment that is intended to broaden the knowledge of water pricing.

CHAPTER 2: ANALYSIS OF STAKEHOLDER COMMENTS

2.1 INTRODUCTION

This section documents the stakeholder comments and issues raised during the public consultation process on the draft Pricing Strategy and our engagement in the course of undertaking this project.

Stakeholder comments gleaned through public participation processes on the gazetted 2015 Draft Pricing Strategy indicated that additional work would be required to unpack and refine the FIBC. The comments range from issues of policy uncertainty to challenges with implementation of the current infrastructure charges, to potential challenges with implementing the FIBC. The analysis revealed that many of the comments stemmed from ambiguity in the draft and that there was fundamentally no deal breaking issues, precluding the rollout of the FIBC.

The list of stakeholder issues assessed and discussed as part of this project include:

- Concerns of the FIBC being a tax.
- Duplication and overlaps with other infrastructure charges
- Overlap and alignment with the Return on Assets Charge
- Clarity on what will be funded through the FIBC.
- Impact of excluding the CUC users in the determination of the FIBC volumes
- Inter-generational equity.
- Social and economic development stimulus infrastructure should be funded entirely from the FIBC.

The analysis and impacts of these comments are presented below.

2.2 CONCERNS OF THE FIBC BEING A TAX

In this regard, the Constitution (s213) provides for all revenue of National Government to be paid into the National Revenue Fund unless excluded by an Act of Parliament. Money may be withdrawn from the National Revenue Fund only in terms of an appropriation by an Act of Parliament; or as a direct charge against the National Revenue Fund, when it is provided for in the Constitution or an Act of Parliament.

The primary question raised is firstly, whether there is legislation or policy that provides for DWS to collect revenue over and above user charges (the FIBC) and secondly, whether DWS may then use that surplus to cross subsidise water use charges paid by municipalities.

A detailed analysis of the legislation and associated policies are included in Annexure 1. The ensuing paragraphs provide a summary which support the concept of the FIBC and allays the concerns of the FIBC being an additional tax burden to water users.

In addressing the first question, the National Water Act expressly provides for water use charges (s56 (2)) associated with funding of infrastructure, i.e. charges over and above user charges.

The Act lists the expenditure items incurred in funding of water resource development and the use of waterworks that may be recouped through water use charges. Therefore while not, specifically named, as was the case with the ROA charge, the Act makes provision for all elements of the FIBC.

In terms of the second question, i.e. DWS cross subsidising municipalities, the NWA empowers the Minister, when setting water use charges, to differentiate between different geographic areas on the basis of the socio-economic aspects within the area in question.

Presumably then, the Minister is mandated to determine lower tariffs for poorer areas or for areas where socio-economic development is being facilitated by water provision, but such socio-economic development has not yet reached the stage where firm off-take agreements are possible. Likewise then, the Minister is mandated to determine water use charges payable in geographic areas by commercial users which can contribute towards the expenditures incurred in the funding of water resource development and the use of waterworks.

In addition the NWA provides for water use charges to be determined within a specific water management area or on a national or regional basis.

While some charges like the water resources management charges lend themselves to being set at a WMA level, infrastructure related costs lend themselves to charges linked to the geographic reach of the infrastructure system or the jurisdiction of the institution responsible for developing, operating and maintaining that infrastructure.

Where funds are collected in one geographic area and utilized or disbursed in a different geographic area or institutional area of jurisdiction it would be more difficult to make the argument that the charge is a user charge and not a levy or a tax. Where however the funds are collected in the same geographic area or area of jurisdiction as the funds are being utilized or disbursed it is easier to make the argument that the funds are user charges.

Given the scale of the infrastructure backlog, DWS would presumably not want to be restricted to utilizing the funds in the same geographically viable area where it was collected. A national charge would consequently be preferred in that it allows more flexibility in where the funds are disbursed. In other words the charges collected nationally could be utilized nationally. Institutional arrangements must however facilitate such a national charge.

A national charge would consequently be preferred in that it allows more flexibility in where the funds are disbursed. In other words the charges collected nationally could be utilized nationally. Institutional arrangements must however facilitate such a national charge.

2.3 DUPLICATION AND OVERLAPS WITH OTHER INFRASTRUCTURE CHARGES

An analysis of the 2015 Pricing Strategy (Annexure 2) highlights that there are no overlaps or duplications in the 4 infrastructure sub-charges. Each charge has a specific objective and with a clear basis for their calculation. There is general alignment between the FIBC and ROA, which it will replace, in terms of intent (what will be funded), with differences in the geographic application

2.4 OVERLAP AND ALIGNMENT WITH THE FIBC

It is intended that the FIBC will replace the ROA in its entirety.

Table 1: Comparison of ROA and FIBC

Return on Assets	Future Infrastructure Build Charge
ROA reflects payment towards Government water schemes and may be used to fund both new social water works and betterments.	The FIBC will only be used to fund social water works and water works that facilitate development.
ROA is based on the social opportunity cost of capital to government and this should approach a level sufficient to fund the annual capital expenditure budget requirement for the development of new social waterworks and betterment of existing infrastructure.	The FIBC will be expressly calculated to fund the annual capital expenditure budget requirement for the development of new social waterworks and betterment of existing infrastructure that is not funded by Treasury allocation
Annual ROA charge is set at 4% of revalued assets. Replacement and depreciation costs is based on engineering valuations repeated within maximum intervals of 10 years.	The FIBC is unrelated to the value of assets and is determined at an amount to meet the investment requirements of social and development facilitating infrastructure.
ROA is determined on a scheme or system basis.	FIBC is determined on a national basis.
ROA charged on State funded and owned assets. ROA not charged to users of off budget schemes during the loan repayment period, but is charged on off-budget schemes once the loan on such schemes has been repaid.	The current FIBC is similar, however the impact of not charging on off budget schemes during the loan repayment period will be determined below. The question is whether users benefiting from the FIBC should be charged.
The ROA revenue is to be held in a ring-fenced provision account (as a reserve fund) and will be applied on a prioritised bases on social projects – betterments and new government waterworks.	How the accumulated FIBC revenue is dealt with depends on whether or not a National Water Resource Infrastructure Agency has been established. If so the programme of social investment should match the FIBC as close as possible to minimise the maintaining of long terms reserves.

2.5 CLARITY ON WHAT WILL BE FUNDED THROUGH THE FIBC

While there is general agreement that the FIBC would fund social and economic development stimulus infrastructure, the classification of which is being dealt with by a parallel WRC project, there were varying views on which aspects of the project delivery lifecycle would be covered. The general view was that it would fund all aspects including planning, feasibility assessments, through to project development. However, some stakeholders were of the view that only the project preparation costs should be covered – with the project development costs being funded on budget.

Given that the National Water Act makes provision for funding of the full infrastructure delivery cycle, the current funding constraints and potential socioeconomic impact, it would be prudent to fund all project development costs.

2.6 INFRASTRUCTURE SUB-CHARGES HAS RESULTED IN AUDIT QUERIES

While not exclusively aimed at the FIBC, TCTA indicated that there was an expectation by the Auditor General that income derived from the various sub-charges would be ring-fenced and therefore maintaining these as separate charges will continue to raise audit queries.

Further comments on the separation of the charges was that while it makes sense to have the individual infrastructure sub-charges – in practice this revenue is very seldom used for the intended purpose. Utilities prioritised debt repayment or meeting operational funding requirements over deploying the funds for infrastructure development.

It is therefore important to match the funding need to revenue raised so that DWS does not build up long term reserve.

2.7 IMPACT OF EXCLUDING THE CUC

Users could significantly reduce the volumes on which the FIBC could be levied. Stakeholders indicated that the CUC current volumes (and future) are significant and that excluding those domestic and industrial users from paying the FIBC will have a material impact on the eventual tariff. Current CUC volumes are 2,83 million m^3 and excluding these users from the FIBC reduces the applicable volumes by approximately 40% and has an approximately 40% impact on the tariff.

It was noted that there is an absence of a specific policy framework to guide the decision on the inclusion or exclusion of water users from paying specific water use charges. Nonetheless, these comments were noted and were modelled in the calculation scenarios documented in section 4 of this report. Further policy guidance will be required in this regard.

2.8 INTER-GENERATIONAL EQUITY

Some stakeholders have argued that funding term should be more closely aligned with the asset lifespan to minimise the burden on current generations having to pay for assets with future benefits.

While there are merits to the argument from a debt funding perspective, the funding term is largely guided by the financial markets. 20 year loan periods are not inconsistent with funding of infrastructure in other sectors.

Inter-generational equity risks can however be mitigated by ensuring that spend on social infrastructure is balanced against FIBC revenue and National Treasury appropriations so that large multi-year surpluses are not held in reserve.

2.9 SOCIAL AND ECONOMIC DEVELOPMENT STIMULUS INFRASTRUCTURE WILL BE FUNDED ENTIRELY FROM THE FIBC

Some stakeholders were of the view that, water resources infrastructure should not be funded on budget and therefore the full capital budget for social and economic development stimulus infrastructure should be funded through the FIBC.

Apart from periods of budget constraints, water resources infrastructure has historically been funded on budget. This aligns with the policy provisions contained in the National Water Resources Strategy and National

Infrastructure Master Plan. Given that there were no changes to these policies, it has been assumed that on budget funding of social infrastructure will continue.

The allocation of funds from the National Revenue Fund is done through the national budgeting process, and more specifically though the DORA. This is fairly transparent, subject to political scrutiny, and is an inclusive process. Funding allocated to this process includes the Equitable Share, MIG, RBIG and social grant.

These funding options should not be seen as mutually exclusive but rather as complementary. Excluding National Treasury appropriations as a source of funding will have a material impact on the quantum of the FIBC. Nonetheless, these comments were noted and were modelled in the calculation scenarios documented below. Further policy guidance will be required from DWS in this regards.

CHAPTER 3: ANALYSIS OF THE FIBC

3.1 THE CASE FOR CHANGE

The ROA is administered in terms of section 56 of the NWA. It reflects payment towards Government water schemes and may be used to fund both new social water works and betterments. It is a scheme specific charge, set at an annual rate of 4% of the revalued assets. The ROA is based on the social opportunity cost of capital to government, and this should approach a level sufficient to fund the annual capital expenditure budget requirement for the development of new social waterworks and betterment of existing infrastructure.

Stakeholders highlighted that the ROA charge has limitations and has not achieved the desired outcomes: Apart from flaws in its calculations there are a number of implementation issues. Some of the issues raised include:

- There is no rationale behind the translation of a 4% increase in water demand into a 4% ROA, and there is little evidence that the 4% bears any direct relation to the actual costs that need to be funded.
- There is no clarity on the actual financial requirements of future developments that are to be funded through the ROA and over what period – this is necessary to support the calculation of the charge
- The ROA is a scheme specific charge. ROA on newer schemes are likely to be higher than those on older schemes (unless assets are valued on the Depreciated Replacement Cost)
- There is under-recovery on underutilised schemes because the ROA is based on the scheme yield and it would mean that current users would be penalised if it were to be based on actual volumes abstracted.
- The term RoA has private sector connotations that do not apply in the public sector which tends to confuse its purpose.
- It has not been ring-fenced and there is little indication that it has been applied to the intended purpose. Indications are that with under-recovery of water user charges in general, ROA funds have been utilised to service current debt repayment on commercial schemes.
- The ROA is not charged on off-budget schemes until such time as the loan has been paid off, at which point a reduced ROA is planned to be charged to users. There is a concern that this amounts to double charging these users who are currently paying the full costs of the infrastructure that is developed to serve them, and who will pay any further developments through off-budget financing

These limitations and challenges would, anecdotally, suggest that there is a need for change and that DWS should consider and alternative – in this case the FIBC.

3.2 RECONFIRMING THE FIBC OBJECTIVES

Given the time elapsed since the 2015 Draft Pricing Strategy, it was important to establish whether there were material changes to the policy frameworks or sector that may have diminished the effectiveness of the FIBC as a funding instrument. Consultation with key stakeholders has revealed that the FIBC objectives remains relevant and that there were no major policy or sectoral changes that would impact the FIBC.

The primary objectives of the FIBC as envisaged in the Draft National Raw Water Pricing Strategy (2015) was to support the development of social and economic development stimulus infrastructure listed under Section 56(2)(b)(i, ii and iii) of the NWA. These are the costs of investigation, planning, design, construction and pre-financing of new infrastructure and the betterment of already existing infrastructure.

The FIBC aligns with the provisions of the National Water Act and supports its socio economic and transformational objectives. The underlying principle of the FIBC is consequently one of cross subsidization, namely the collection of additional revenue on a national basis and using this revenue to cross subsidize resource poor farmers, poorer municipalities, and new schemes that are not yet viable because there are no guaranteed or contracted for off-take agreements.

3.3 LTERNATIVES TO THE FIBC

While the FIBC objectives were still relevant, it was important to establish whether the FIBC is still the most appropriate mechanism. It was unclear whether an options analysis was previously undertaken as no such documentation could be sourced. Nonetheless, 5 options were identified and analysed through a high level analysis.

- Retain the current ROA model: The Do Nothing Option. Given the need and the limitations of the ROA model, this would not be seen as a viable option
- Strengthening the ROA model: Given that the ROA charge is meant to be levied on water users to ensure that the department is able to develop new water schemes or improve already existing schemes, DWS considered a few alternatives when conceptualising the FIBC
- On-budget funding: Funding of social and economic infrastructure on budget (not included as a charge in the National Raw Water Pricing Strategy).
- A single NWRIA capital charge: A single NWRIA capital charge that covers infrastructure funded off-budget and social and economic development stimulus infrastructure
- A single NWRIA capital charge that covers infrastructure funded off-budget and social and economic development stimulus infrastructure: Future Infrastructure Build Charge levied as a national charge to social and economic development stimulus infrastructure

3.4 OPTIONS ANALYSIS

The FIBC still remains the most suitable option to achieve the desired outcomes

Table 2: Options to FIBC. (Table starts on page 9)

	Return on Assets	Strengthened ROA	On Budget	Single NWRIA Tariff	FIBC
Description	Maintain the status quo	The ROA model could be strengthen by more accurately determining the development and betterment projections by doing the estimates more regularly or calculating water demand growth as a measure of infrastructure development and betterment.	This alternative recognises that it is the duty of the National Revenue Fund to accrue funds that should be equitably allocated between national, provincial and local governments and that it is this allocation process that should address the needs of the social user.	A single NWRIA capital charge that covers infrastructure funded off-budget and social and economic development stimulus infrastructure, e.g. Eskom doesn't have a separate charge for individual power stations. It will only work when the agency is established.	The FIBC is intended to fund the activities listed under section 56(2)(b)(i, ii and iii) of the National Water Act. These are the costs of investigation, planning, design, construction and pre-financing of new infrastructure and the betterment of already existing infrastructure. The FIBC will be augmented by on budget allocations.
Strengths	It is currently being implemented. The systems, processes and methodologies are embedded in DWS over the years.	It builds on an existing system and introduces a stronger rational in the calculation	This allocation process is run through the national budget and specifically DORA. This process is transparent and subject to the political process. In other words this process should be better at gaining acceptance of the social needs and the need for support than a discretionary DWS fund. Examples of this approach is Equitable Share, MIG and RBIG	This charge can be differentiated on assurance of supply and on socio economic circumstances but does not have to be separated into the various expenditure items such as CUC, FBIC, O&M, depreciation. The various expenditure items would however be transparent in the annual budget of the Agency and it's financial plan.	The FIBC is a purpose directed charge in that there is a direct correlation between its purpose and calculation. It is simple, transparent and has a practical basis for calculation. It minimises revenue risk because it is applied to a broader spectrum of water users and is based on water use abstraction as opposed to system yields.
Weaknesses	The ROA has serious limitations in respect of the method of calculation, alignment with the funding objectives and its implementation.	This requires the execution of a number of complicated steps and would also likely result in the setting of unrealistic charges – whether too low	Given the national budgetary constraints, this too, would seem an infeasible option and would likely contribute further to the infrastructure	There isn't a direct correlation between the intended purpose and the calculation. Unless stringent governance is applied over the collected	Ministerial discretion on the classification of schemes introduces subjectivity and could skew the FIBC. It still requires complementary

	Return on Assets	Strengthened ROA	On Budget	Single NWRIA Tariff	FIBC
Description	Maintain the status quo	The ROA model could be strengthen by more accurately determining the development and betterment projections by doing the estimates more regularly or calculating water demand growth as a measure of infrastructure development and betterment.	This alternative recognises that it is the duty of the National Revenue Fund to accrue funds that should be equitably allocated between national, provincial and local governments and that it is this allocation process that should address the needs of the social user.	A single NWRIA capital charge that covers infrastructure funded off-budget and social and economic development stimulus infrastructure, e.g. Eskom doesn't have a separate charge for individual power stations. It will only work when the agency is established.	The FIBC is intended to fund the activities listed under section 56(2)(b)(i, ii and iii) of the National Water Act. These are the costs of investigation, planning, design, construction and pre-financing of new infrastructure and the betterment of already existing infrastructure. The FIBC will be augmented by on budget allocations.
Strengths	It is currently being implemented. The systems, processes and methodologies are embedded in DWS over the years.	It builds on an existing system and introduces a stronger rational in the calculation	This allocation process is run through the national budget and specifically DORA. This process is transparent and subject to the political process. In other words this process should be better at gaining acceptance of the social needs and the need for support than a discretionary DWS fund. Examples of this approach is Equitable Share, MIG and RBIG	This charge can be differentiated on assurance of supply and on socio economic circumstances but does not have to be separated into the various expenditure items such as CUC, FBIC, O&M, depreciation. The various expenditure items would however be transparent in the annual budget of the Agency and it's financial plan.	The FIBC is a purpose directed charge in that there is a direct correlation between its purpose and calculation. It is simple, transparent and has a practical basis for calculation. It minimises revenue risk because it is applied to a broader spectrum of water users and is based on water use abstraction as opposed to system yields.
	(see need for change on page 14)	or too high. If this is the approach to be taken, it is critical that there be an annual review to the water demand growth figures.	backlog and result in a decline in the state of current infrastructure (inability to fund betterments, etc.).	revenue, the funds could be directed for purposes other than the funding of social and economic development stimulus infrastructure.	on budget funding to ensure the tariffs are affordable. While not a weakness, the FIBC will require a greater degree of accuracy in the infrastructure

	Return on Assets	Strengthened ROA	On Budget	Single NWRIA Tariff	FIBC
Description	Maintain the status quo	The ROA model could be strengthen by more accurately determining the development and betterment projections by doing the estimates more regularly or calculating water demand growth as a measure of infrastructure development and betterment.	This alternative recognises that it is the duty of the National Revenue Fund to accrue funds that should be equitably allocated between national, provincial and local governments and that it is this allocation process that should address the needs of the social user.	A single NWRIA capital charge that covers infrastructure funded off-budget and social and economic development stimulus infrastructure, e.g. Eskom doesn't have a separate charge for individual power stations. It will only work when the agency is established.	The FIBC is intended to fund the activities listed under section 56(2)(b)(i, ii and iii) of the National Water Act. These are the costs of investigation, planning, design, construction and pre-financing of new infrastructure and the betterment of already existing infrastructure. The FIBC will be augmented by on budget allocations.
Strengths	It is currently being implemented. The systems, processes and methodologies are embedded in DWS over the years.	It builds on an existing system and introduces a stronger rational in the calculation	This allocation process is run through the national budget and specifically DORA. This process is transparent and subject to the political process. In other words this process should be better at gaining acceptance of the social needs and the need for support than a discretionary DWS fund. Examples of this approach is Equitable Share, MIG and RBIG	This charge can be differentiated on assurance of supply and on socio economic circumstances but does not have to be separated into the various expenditure items such as CUC, FBIC, O&M, depreciation. The various expenditure items would however be transparent in the annual budget of the Agency and it's financial plan.	The FIBC is a purpose directed charge in that there is a direct correlation between its purpose and calculation. It is simple, transparent and has a practical basis for calculation. It minimises revenue risk because it is applied to a broader spectrum of water users and is based on water use abstraction as opposed to system yields.
				Can only be implemented once the NWRIA is established – which at this stage is likely to only be done in 2023/24	planning, stronger governance in the collection and disbursement of funds.

3.5 CONFIRMATION OF FIBC AS THE PREFERRED MECHANISM

The above analysis confirmed that the FIBC was the preferred mechanism for funding social infrastructure. The FiBC is:

- Purpose directed: Clear linkage between the calculation and the intended outcomes;
- Simple: Simple, transparent and practical basis for the calculation. Apart from the requirement of a more accurate 10 year infrastructure plan;
- Equitable: Uniform tariff. All users pay the same tariff
- Tariff is based on estimated water use and is collected against actual water use. It requires more accurate forecasting.

CHAPTER 4: STRUCTURE OF THE FIBC

4.1 FIBC CALCULATION

The primary objectives of the FIBC as outlined in the Draft National Raw Water Pricing Strategy (2015) was to support the development of social and economic development stimulus infrastructure listed under Section 56(2)(b)(i, ii and iii) of the NWA. These include the costs of investigation, planning, design, construction and pre-financing of new infrastructure and the betterment of already existing infrastructure.

The FIBC will be expressly calculated to fund the annual capital expenditure budget requirement for the development of new social waterworks and betterment of existing infrastructure that is not funded by Treasury allocation. It is unrelated to the value of assets and is determined at an amount to meet the investment requirements of social and development facilitating infrastructure.

4.2 WHAT INFRASTRUCTURE WILL BE FUNDED BY THE FIBC?

Primarily Social and Economic Development Stimulus Infrastructure will be funded by the FIBC.

The classification of projects as commercial or social will influence the calculation of the FIBC and National Treasury budget allocations for infrastructure development. The basis for the classification and other related issues have not been dealt with in this work package, on the understanding that the policy will be developed by a parallel work stream. Notwithstanding this, we would assume that the Minister should classify infrastructure after consultation with the Ministers responsible for local government and agriculture and the relevant water boards and CMAs.

The FIBC will fund the development and betterments of social and economic development stimulus infrastructure. Development includes the costs of investigation, planning, design, construction and pre-financing of new infrastructure and the betterment of already existing infrastructure. Betterment implies an improvement of existing water resource infrastructure resulting in an increased functional performance and/or real term capital value thereof. Examples are the raising of an existing dam to increase the yield and the enlargement of a canal to increase capacity.

The 2015 draft Pricing Strategy proposed that the FIBC be based on a 10 year projection. There is little policy or good practice guidance to present a contrary perspective. Intuitively, a 10 year projection would allow:

- for tariff smoothing and adjustments to the FIBC to accommodate changes to the project costs
- implementation time frames for large (mega) infrastructure projects
- for the build-up of sufficient reserves without having to accumulate long term reserves.

The National Water and Sanitation Masterplan 2017 (or any subsequent approved NWSMP) is the government's official baseline projection and will provide a credible platform for the calculation of the FIBC. Nonetheless the following must be considered:

The FIBC calculation must consider the levels of confidence in the budgets/projection at the various stages of the project delivery cycle. There is generally a significant variance between the planned costs and the actual costs for implementation. The appropriate policies, processes and governance mechanisms must be developed to strengthen the confidence in the infrastructure development costs.

Water resources development projects tend to be multi-year projects, whose spend curves are not particularly smooth. If the FIBC were to be based on these spending patterns then it would result in significant fluctuations. It may therefore be necessary to annualise the costs in order to obtain a smooth tariff.

The Net Present Value (NPV) of the 10 year projected costs (social portion and economic development stimulus infrastructure costs) should be used as the basis for calculation.

4.3 PRACTICALITIES OF THE FIBC

4.3.1 Appropriation from National Revenue Fund

Government contributes towards the development costs of social infrastructure through on budget National Treasury appropriations. The amount to be funded through the FIBC must therefore exclude government contribution towards the social infrastructure. The government contribution plus the FIBC revenue equates to the total spend on social infrastructure.

4.3.2 National charge:

The establishment of a NWRIA will facilitate a national charge and this might be fairer as funds will not necessarily be spent in the paying catchment or on the paying system.

4.3.3 Classification of infrastructure (national, regional, water resource, bulk water services, economic component, social component:

The Minister should classify infrastructure after consultation with the Ministers responsible for local government and agriculture and the relevant water boards and CMAs. Generally infrastructure serves both commercial and social users. The focus should consequently be on classifying users rather than infrastructure.

4.3.4 Charge based on use not on yield:

FIBC charge should be calculated on the volume of water sold nationally and not on yield otherwise billing will produce a shortfall.

4.3.5 Which users pay the FIBC?

Commercially/Economically viable users who receive high assurance of supply should pay the FIBC.

4.3.6 When do users pay FIBC

All users, including those paying the CUC should be required to pay the FIBC.

4.3.7 Who collects the charge?

DWS or the NWRIA should bill and collect the FIBC. The FIBC is not a catchment management charge and should not be collected by the relevant CMA, unless under a billing agent arrangement.

However, non-collection would impact on the viability of the NWRIA and consequently the NWRIA should bill and collect the funds due to it.

4.3.8 What happens to the FIBC collected funds that will only be spent in the future?

There should be a reserve and the funds invested according to National Treasury prescripts.

4.3.9 Who administers the FIBC fund or reserve?

DWS might have difficulty as a National Government Department to retain reserves spanning multiple years.

The NWRIA would have a Treasury function, as does the TCTA, and as a State Owned Entity is allowed to roll funds over from one year to the next. However social investment should be balanced against the FIBC and National Treasury appropriations so that huge multi-year surpluses are not held in reserve.

4.3.10 How will shortfalls of social project expenditure be funded if the FIBC is only going to be collected in the future?

Temporary shortfalls can be bridged through private off-budget bridging loans secured by the FIBC. Permanent shortfalls should be funded by National Treasury allocations. The amount should be determined by means of a financial model.

4.3.11 Differentiation of FIBC from the CUC

CUC is currently a user charge to repay off-budget debt raised from the private sector to finance commercially viable projects.

4.3.12 What policy definitions are required?

Clear definition of the social or economic development portion of a project linked to affordability; and using similar criteria to that used for other grants Equitable Share, RBIG, MIG, agricultural grants, etc.

4.4 FIBC CALCULATION

This section outlines the variables to the calculation and some of the key elements associated with the determination of the FIBC tariff. The details of the FIBC calculation are set out in table 3 below.

Table 3: Details of the FIBC calculation

Item	Description
Capital cost projection	•The NWRIA Financial model was made available. The construction cost projections for all new schemes could be copied.
Infrastructure costs	•Development costs comprises costs of investigation, planning, design, construction and prefinancing of new infrastructure and the betterment of existing infrastructure.
Time period	A 10 year time period starting from 2023 was analysed.
Percentage social	•The NWRIA Financial model indicated the economic portion of each scheme. •The remaining portion was consequently the non-economic portion of the cost and it was assumed for this exercise that that portion would be funded by the FIBC.
Interest rate	•A real interest rate of 2% p.a. was assumed, meaning inflation plus 2%. It must be noted that the prevailing interest rate should be used in the calculation and that the 2% was merely used for illustrative purposes.

4.4.1 Water Use Volumes

The NWRIA Financial model shows water billing in three categories for 2023:

- TCTA = 2 833 million cubic meters (volume of water billed to users who pay the CUC.)
- D&I (Domestic and Industrial) = 4 011 million cubic meters; and
- Irrigation = 6 061 million cubic meters.

The base scenario for the FIBC calculation uses only the D&I volumes. Addition scenarios which include billing those currently paying the CUC were considered.

4.4.2 Cost recovery

The draft NWRIA model assumed a cost recovery of 93%. It appears that this high level of cost recovery might reflect a mismatch of cash receipts being payments from previous years. Receivables increased from R14,6 billion to R17,7 billion or R3,1 billion on water sales of R11,9 billion. Collections was accordingly in the order of 74% for the 2019/20 financial year. DWS has confirmed that collections have subsequently improved but it is deemed appropriate that a sensitivity analysis be done on a collection rate of 74%.

4.4.3 Smoothing of costs

Investments in government water works is lumpy. It is consequently necessary to annualise the costs in order to obtain a smooth break even FIBC charge.

The NPV of the costs of the social portion of the construction costs was calculated over the 10 year period. An annual payment (PMT function) was determined to pay the NPV back over the 10 year period in constant real instalments.

A real interest rate of 2% p.a. was assumed. Meaning an interest charge equivalent to inflation plus 2%.

4.4.4 Scenarios and results of the FIBC calculation

Base scenario:

The annualised payment on social infrastructure was divided by the volume billed to the Domestic and Industrial users, excluding TCTA users, for the period. In this scenario TCTA users will not pay the FIBC because they are still responsible for paying the TCTA debt.

High and low collection scenarios:

The breakeven FIBC would increase proportionately with a decrease in cost recovery. The NWRIA financial model projects a cost recovery of 93%. This means that collections are 93% of the amount billed. In this scenario the volume billed in the base scenario was adjusted by a collection rate of 74%.

All commercial users pay scenario:

In this scenario the volume billed to both D&I and TCTA users was used, meaning that the users currently paying CUC would also pay the FIBC.

National Treasury contribution scenario:

Any projects funded from National Treasury allocations would not be funded by the FIBC and could be omitted from the calculation. In this scenario it was assumed that National Treasury would fund 30% of the cost of the social projects via the DWS capital budget. This is in line with the Medium Term Strategic Framework ratios of public sector investment to private sector investment.

All commercial users would pay the remaining 70% through the FIBC.

4.4.5 Results

The FIBC charge resulting from the above scenarios are shown in the table below:
Indicative FIBC charge for various scenarios:

Table 4: Results of the FIBC Calculation

	Volume (Million cubic meters per annum)	Cost recovery	FIBC
Charge on D&I excluding CUC	4 011	93%	R0.84
Charge on D&I excluding CUC	4 011	74%	R1.06
Charge on D&I including CUC	6 844	93%	R0.49
Charge on D&I including CUC	6 844	74%	R0.62

CHAPTER 5: IMPLEMNTATION OF THE FIBC

5.1 IMPLEMENTATION ISSUES

5.1.1 Refinement of the National Water and Sanitation Masterplan

The FIBC is based on the 10 year masterplan – the accuracy of planning costs and budget versus actual is a serious concern for under recovery or over-recovery, nonetheless the establishment of a dedicated reserve could provide a buffer to assist with smoothing of tariffs, etc.

The appropriate policies, processes and governance mechanisms must be developed to strengthen the confidence in the infrastructure development costs.

5.1.2 Guiding policy for managing the accrued FIBC funds

The following policy directives are suggested with regard the management of the FIBC funds:

- Excess revenue from FIBC should be held in a ring-fenced reserve fund. These funds may only be applied to benefit water users that meet objective criteria that has been developed in consultation with National Treasury and that is aligned with criteria used for determining allocations through DORA:
- The excess funds held in the reserve should be minimised by aligning capital expenditure on social projects as closely as is practical with revenue from the FIBC and National Treasury budgetary allocations;
- The reserve should be managed by a special finance and internal auditing committee comprising DWS officials, and TCTA/NWRIA executives;
- The revenue accruing into the reserve and the disbursements from the reserve should be clearly reported on in the notes to the Annual Financial Statement of DWS or the NWRIA;
- The economic model supporting the investment in development facilitation projects should be done by experts and the results should be consulted on.

5.2 FURTHER POLICY GUIDANCE

5.2.1 An objective approach is required to classifying Schemes;

The Inception Report of the Classification of Social and Commercial Projects proposes:

- Social users of water are residential users of water with low affordability and use water to cater for basic human needs only and produce social and public goods;
- Commercial water users are both non-residential and residential with high affordability, which use water beyond basic human need threshold to produce private goods.

It is suggested that the classification of water users (rather than projects) should be based on similar objective criteria to those used in allocating the Equitable Share and driven by the results of Stats SA Household surveys.

In addition the subsidisation of economic facilitation development should be determined on the basis of sound economic analysis which proves the future ability of the subsidised projects to be self-supporting in a reasonable return period.

5.2.2 Percentage contribution from FIBC and percentage from National Treasury:

Historically National Treasury funded all national water resource projects.

Subsequent to TCTA receiving directives from the Minister to fund projects off-budget only limited water resource project funding has been allocated by National Treasury;

The appropriate mix of cross subsidisation and National Treasury allocations for socio-economic projects in future MTEF cycles needs to be confirmed and it is suggested that this mix should reflect the mix proposed in the Medium Term Strategic Framework for investment in infrastructure by both the private and public sectors.

NWRIA and the governance of collecting the FIBC and managing the FIBC reserve;

An institutional change from the current DWS custodianship of the infrastructure development and management function is required to properly roll over funds and to develop a sound Treasury function to manage the investments.

The National Water Resource Infrastructure Agency could provide such an institutional capability.

The Agency will however not be established before 2023.

It should consequently be decided whether the Pricing Strategy should be kept as is until the Agency is established or whether some provisions of the revised strategy only become active once the agency has been established.

5.2.3 Cross subsidisation:

The draft Pricing Strategy made provision for the waiver of the FIBC to Resource Poor Farmers (and Commercial Farmers). While that is the case, there is a policy vacuum within DWS, as it relates to support to the agricultural sector, and more specifically to resource poor farmers.

The question is therefore whether DWS should be cross-subsidizing resource poor farmers or whether support to resource poor farmers and to farmers to whom land has been redistributed should be dealt with comprehensively through provisions for utility charges by the Department of Agriculture, Land Reform and Rural Development.

The role of supporting resource poor farmers is primarily that of the Department of Agriculture, Land Reform and Rural Development. This Department has a policy on Land Redistribution for Agricultural Development (2001). This policy appears to focus on the capital cost of obtaining the land and does not explicitly state that it will support the utility costs, such as the cost of water and electricity.

The approach to the capping of charges for agricultural water use and the duration over which charges for emerging farmers should to be phased in should be confirmed in consultation with the Department responsible for Agriculture.

It is unlikely that full cost recovery through water use charges will be affordable to the agricultural sector in the short term

Similarly, the extent to which municipalities require be supported beyond Equitable Share, MIG, RBIG and other DORA transfers, should be determined in consultation with National Treasury and the Department responsible for local government.

5.2.4 The difference between O&M, depreciation vis a vis refurbishment, rehabilitation, betterments, new projects

Depreciation is an accounting concept and not a cash flow. It is the conversion over time of an asset into an expenditure, which reduces the net asset value and which results in a reduction of net income.

The Depreciation charge can however be set equivalent to the cashflow requirement of the rehabilitation/refurbishment programme and this would give a cash neutral charge.

Betterments or improvements is new works that adds capacity, yield or functionality to an existing scheme but is budgeted for and financed like a new project.

New projects are generally green fields investment.

Clear definitions can be flexible so long as the budgets on which the various charges are based are all inclusive and do not double count.

5.2.5 Whether NWRIA would be better served by a single break even tariff which covers O&M, debt repayment and all other costs;

Most water utilities (water boards) determine a single tariff/charge that is meant to be sufficient to recover costs (break even).

After the establishment of a NWRIA a single national integrated charge, with a provision for a basic charge for socio-economic poorer areas, could be implemented. However, a challenge with a single integrated tariff is that it does not give price signals as to the relevant cost of developing infrastructure or supplying water in the different basins and nor does it signal water scarcity. A water scarcity or drought surcharge could however be developed which gives the correct pricing signals that disincentivises over-consumption in water scarce areas.

CHAPTER 6: TEXT FOR THE DRAFT PRICING STRATEGY

6.1 SUGGESTED TEXT FOR FIBC WRITE UP IN THE DRAFT PRICING STRATEGY

The suggested text for including the FIBC in the draft Pricing Strategy is as follows:

"The FIBC will contribute towards the funds for the development of social and economic development stimulus water resource infrastructure, including the costs of investigation planning, design, construction and finance.

The FIBC shall not be used to subsidise operations and maintenance expenditure.

Social infrastructure is water resources infrastructure that supplies water to poorer users who cannot afford to pay for the capital costs of the water supply as well. Economic development stimulus infrastructure is infrastructure necessary to provide for future economic development but where there are currently insufficient users to pay for the capital costs of the infrastructure.

The Minister shall classify all new water resource projects and all new water resource project betterments as either social or commercial, or designate a proportion of each new project and betterment as social or commercial, after consultation with the Ministers responsible for finance, local government and agriculture.

When classifying a project or portion of a project as social or commercial the Minister must at least take into account recent Stats SA household data for the supply area as well as any relevant land use plans by the national, provincial and local government departments responsible for local government, agriculture and economic development in the geographic areas being supplied. (To be revised based on outputs of the UJ team)

The Minister may, from time to time, reclassify the portion of the scheme that is social and the portion that is commercial, as economic development and household incomes improve in a project supply area.

The FIBC will be determined at a national level.

The FIBC will be paid by all water use categories: including strategic water use, municipal, industrial, energy, agriculture and mining.

The Minister may determine a lower differentiated FIBC for users who are currently still paying the CUC on privately funded commercial projects or on the commercial portion of such projects.

Irrigation users and other users supplied with water from a project or portion of a project that has been classified as social will not pay the FIBC.

The quantum of the FIBC will be based on the annualised costs of the Department's 10-year infrastructure development plan as defined in the latest version of the National Water and Sanitation Masterplan, less any budgetary allocations towards the social development costs made by National Treasury.

Excess FIBC funds accrued in any year shall be placed in a Reserve.
The FIBC should be matched as closely as possible to the funding requirements of the next ten years social and economic development stimulus infrastructure so that excessive long terms reserves are not accumulated.

The Reserve shall be audited annually and reported on in the annual financial statements of the WTE or the National Water Resource Infrastructure Agency."

CHAPTER 7: CONCLUSIONS

7.1 CONCLUSION

The FIBC, as a national cross subsidisation charge with a carry-over (year to year) reserve, could be motivated and feasible if it is managed by an institution such as the NWRIA which has a national area of jurisdiction and the powers of an SOE to roll over funds from one year to the next.

Such a charge could not easily be motivated on a scheme by scheme basis where funds are used on a scheme foreign to where the funds were raised. It could be argued that such a charge would be a tax.

The FIBC should be supplemented by National Treasury grant funding in accordance with the intentions of the Medium Term Strategic Framework that supports both the public and private sectors investing in water infrastructure.

An approach to defining the charge in the Pricing Strategy and an approach to determining/calculating the charge has been provided and possible alternatives to the charge have been discussed.

Outstanding policy issues have been noted and some suggestions regarding these policy issues have been made.

REFERENCES

Pricing Strategy for Water Use Charges in terms of Section 56(1) of the National Water Act, 1998, (1999, 2007 and draft of 2015);
Constitution of the Republic of South Africa, 1996;

National Water Act 36 of 1998;

Division of Revenue Act, 2021;

NWRIA Draft Financial Model, 2021, DWS;

DWS Annual Report, 2019-2020

National Water and Sanitation Masterplan, 2017, DWS;

National Water Resource Strategy, 2019, DWS;

Draft Bill for National Water Resource Infrastructure Agency, 2022, DWS

Policy on Land Redistribution for Agricultural Development, 2001, Department of Agriculture; Land Reform and Rural Development.

Medium Term Expenditure Framework, 2019-2024, National Treasury.

APPENDIX A: LEGISLATIVE AND POLICY ANALYSIS

Constitution of South Africa

The Constitution and cross-subsidization of municipalities as water users

The Constitution (s213) provides for all revenue of National Government to be paid into the National Revenue Fund unless excluded by an Act of Parliament.

Money may be withdrawn from the National Revenue Fund only in terms of an appropriation by an Act of Parliament; or as a direct charge against the National Revenue Fund, when it is provided for in the Constitution or an Act of Parliament.

The Constitution (s214) provides for the equitable division of nationally collected revenue (Equitable Share) to the provinces and municipalities in such a way that it enables them to provide basic services and perform the functions allocated to them.

However, the underlying principle of the FIBC is one of cross subsidization, namely the collection of additional revenue from those who are paying and using it to cross subsidize resource poor farmers, poorer municipalities, and new schemes that are not yet viable because there are no guaranteed off-take agreements.

S213 National Revenue Fund

(1) There is a National Revenue Fund into which all money received by the national government must be paid, except money reasonably excluded by an Act of Parliament.

(2) Money may be withdrawn from the National Revenue Fund only-

(a) in terms of an appropriation by an Act of Parliament; or

(b) as a direct charge against the National Revenue Fund, when it is provided for in the Constitution or an Act of Parliament.

(3) A province's equitable share of revenue raised nationally is a direct charge against the National Revenue Fund.

S214 Equitable shares and allocation of revenue

(1) An Act of Parliament must provide for-

(a) the equitable division of revenue raised nationally among the national, provincial and local spheres of government;

(b) the determination of each province's equitable share of the provincial share of that revenue; and

(c) any other allocations to provinces, local government or municipalities from the national government's share of that revenue, and any conditions on which those allocations may be made.

(2) The Act referred to in subsection (1) may be enacted only after the provincial governments, organised local government and the Financial and Fiscal Commission have been consulted, and any recommendations of the Commission have been considered, and must take into account-

(a) the national interest;
(b) any provision that must be made in respect of the national debt and other national obligations;
(c) the needs and interests of the national government, determined by objective criteria;
(d) the need to ensure that the provinces and municipalities are able to provide basic services and perform the functions allocated to them;
(e) the fiscal capacity and efficiency of the provinces and municipalities;
(f) developmental and other needs of provinces, local government and municipalities;

(g) economic disparities within and among the provinces;
(h) obligations of the provinces and municipalities in terms of national legislation;
(i) the desirability of stable and predictable allocations of revenue shares; and
(j) the need for flexibility in responding to emergencies or other temporary needs, and other factors based on similar objective criteria.

National Water Act

There are no major policy and legislative gaps that may impede the inclusion of the FIBC in the National Raw Water Pricing Strategy.

Section 56 of the National Water Act provides for a Pricing Strategy for setting water use charges.
Section 56 (3) of the National Water Act provides that the pricing strategy may provide on an equitable basis for some elements of the charges to be waived in respect of specific users for a specified period of time.
Section 56 (4)(a)(i) of the National Water Act provides that the pricing strategy may differentiate in respect of different geographic areas, on the basis of socio-economic aspects within the area in question.
While it does appear that the National Water Act provides support for lower water use charges in some areas due to socio-economic circumstances, it is not clear from the Act that other users (commercial users) would be expected to make up the shortfall of the capital costs to the poorer areas and that these funds should not come from funds appropriated by an Act of Parliament.

s56 Pricing strategy for water use charges
(2) The pricing strategy may contain a strategy for setting water use charges-
(b) for funding water resource development and use of waterworks, including-
(i) the costs of investigation and planning;
(ii) the costs of design and construction;
(iii) pre-financing of development;
(iv) the costs of operation and maintenance of waterworks;
(v) a return on assets; and
(vi) the costs of water distribution; and
(c) for achieving the equitable and efficient allocation of water.
(3) The pricing strategy may-
(e) provide on an equitable basis for some elements of the charges to be waived in respect of specific users for a specified period of time.
(4) The pricing strategy may differentiate under subsection (3) (a)-
(a) in respect of different geographic areas, on the basis of-
(i) socio-economic aspects within the area in question;

Section 57 of the National Water Act makes specific provision for a National Water Use Charge.
57 Application of pricing strategy
(1) Water use charges-
(a) may be made-
(i) within a specific water management area; or
(ii) on a national or regional basis; and

The National Water Act and public sector funding of National Water Resource Infrastructure:
Section 111 of the National Water Act provides that the Minister may finance the development of government waterworks from funds appropriated by Parliament.
111 Financing of government waterworks

The Minister may finance the acquisition, construction, alteration, repair, operation and control of government waterworks from funds appropriated by Parliament or obtained from any other source.

Public Sector Contribution and The Medium Term Strategic Framework 2019-2024

The NWRS lists government outcomes adopted by the Cabinet Lekgotla in January 2010 and which were key programmes for the period 2010-2014.

Subsequently Government updated these and published a Medium Term Strategic Framework for 2014 to 2019 and again for 2019 to 2024:

The seven priorities for 2019 to 2024 are now as follows:

Priority 1: A capable, ethical and developmental state

Priority 2: Economic transformation and job creation

Priority 3: Education, skills and health

Priority 4: Consolidating the social wage through reliable and quality basic services

Priority 5: Spatial integration, human settlements and local government

Priority 6: Social cohesion and safe communities

Priority 7: A better Africa and world

One of the 2024 Impacts is:

Investment to Reach 23% Of GDP by 2024 with the Public Sector Contributing 8% of GDP and the Private Sector contributing 15% of GDP

Let's draw the conclusion on National Government contribution to infrastructure development. In terms of current policy, NWRS, NWMP, etc. social and xx infrastructure will be funded through national budget allocations. While budget constraints have impeded funding…, the principle remains???

Medium Term Strategic Framework

A specific outcome is tabulated as follows:

Medium Term Strategic Framework 2019-2024 it is evident that

The 2017 National Water and Sanitation Masterplan is the baseline;

Both the public and private sector must invest in water infrastructure.

Outcomes	Indicator	Target	Interventions	Indicators	Baseline	Targets
Water security secured	Increase infrastructure investment by both public and private sectors	18.2% (2018)	8% public sector contribution 15% private sector contribution	Diversify the water mix through implementation of the Water and Sanitation Master Plan	National Water and Sanitation Master Plan developed	2017 National Water and Sanitation Master Plan

Policy on Land Redistribution for Agricultural Development (2001) and Cross-Subsidization of Emerging and Resource Poor Farmers

The role of supporting resource poor farmers is primarily that of the Department of Agriculture, Land Reform and Rural Development.

That Department has a policy on Land Redistribution for Agricultural Development (2001). This policy appears to focus on the capital cost of obtaining the land and does not explicitly state that it will support the utility costs, such as the cost of water and electricity.

The question is whether DWS should be cross-subsidizing resource poor farmers or whether support to resource poor farmers and to farmers to whom land has been redistributed should be dealt with

comprehensively through provisions for utility charges by the Department of Agriculture, Land Reform and Rural Development.

Policy on a National Water Resource Infrastructure Agency

A draft Bill has been prepared under the directive of the Minister to provide for the incorporation and establishment of the South African National Water Resources Infrastructure Agency Limited as a juristic person state owned company and major public entity owned and controlled by the State to administer, fund, finance, provide, operate, maintain and provide advisory services in respect of national water resources infrastructure in accordance with sections 10, 11, 24, 27(1)(b) and 27(2) 27(1)(b) of the Constitution and national policy; to provide for the transfer of assets and certain liabilities to the South African National Water Resources Infrastructure Agency Limited from the Department of Water and Sanitation and from the Trans-Caledon Tunnel Authority; to provide for the disestablishment of the Trans-Caledon Tunnel Authority; and to provide for matters connected therewith.

In simple terms a national water utility will be established in about 2023 to develop and operate the national water resource infrastructure.

APPENDIX B: ANALYSIS OF OVERLAPS AND DUPLICATIONS

COMPARATIVE ANALYSIS

Each charge has a specific objective and there are no significant overlaps, ambiguities. There is general alignment between the FIBC and ROA, which it will replace, in terms of intent (what will be funded), with differences in the geographic application. Commercial users will not pay the FIBC, until the project debt has been repaid, where after they will be required to pay the FIBC.

	Return on Assets	FIBC	Capital Use Charge
Purpose/Objectives	This component of the charge reflects payment towards the **development** and betterment capital value of waterworks on government water schemes	To support the development of social and economic development stimulus infrastructure listed under Section 56(2)(b)(i, ii and iii) of the NWA.	The CUC will provide for the debt service requirements on commercially viable projects.
What was it intended to fund?	The ROA charge is applicable on State funded and owned assets for as long as they exist in an operable condition. ROA may be used to fund both new social water works and betterments.	The FIBC will provide for the costs of investigation, planning, design, construction and pre-financing of new social and economic development stimulus infrastructure and the betterment of already existing infrastructure	The CUC will be determined for each scheme and will provide for the debt service requirements on commercially viable projects.
Who will pay?	ROA is determined on a scheme or system basis. ROA was not determined on a national basis ROA charged on State funded and owned assets. And not charged to users of off budget schemes during the loan repayment period Not charged on existing state irrigation schemes and to resource poor farmers	The FIBC will be calculated at a national level, such that all users liable for the FIBC, pay the same charge per m^3. The FIBC will be paid by municipal, industrial/mining and high assurance categories only. Forestry and irrigation would not pay the FIBC. Although previous versions of the strategy provided for phasing in of payment by the agricultural sector over a 10 year period	The CUC may however also be dealt with on a system or a national basis, should institutional reforms enable such change. The CUC will cease once the project debt has been repaid, the project will then attract all charges that are applicable to State funded schemes. They will, however, be liable for the FIBC once any loan has been paid off, or after an equivalent time period if there is no loan.

	Return on Assets	**FIBC**	**Capital Use Charge**
How is it to be calculated?	It will be determined by fixing a charge to earn a specific rate of return on the current depreciated replacement value of the infrastructure. An investigation of possible new social projects envisaged in terms of the National Water Resources Strategy and the capital required to fund dam safety betterments, revealed that the ROA rate of 4% laid down in terms of the 1999 Pricing Strategy and which was based on the estimated growth rate for industrial and domestic demands at the time, can not be adjusted downward without seriously affecting the duration of the implementation programme. Unit costs will be based on the estimated water use but consumptive charges will be invoiced on actual measured or registered use. On underutilised social projects tariffs are calculated on the long term yield (but charges are invoiced on measured or registered water use). This will result in a shortfall.	The FIBC will be based on the annual costs for social infrastructure development/betterment and management costs (investigation, planning, design pre-financing, overheads, etc.), as defined in the Department's 10 year infrastructure plan. It will be applied to water use volumes of all included user categories. The tariff will be based on the projected water use volumes for the applicable sectors and recovered against actual water use. Where the Minister develops waterworks, to promote future economic development, social users will be charged in terms of the policy for on-budget governmental funding, while a rate equivalent to off-budget funding will be negotiated with economic users.	The CUC will be determined for each scheme and will provide for the debt service requirements on these commercially viable projects, within a reasonable period and taking cognizance of the affordability, the economic life and the timing of potential future augmentation of the infrastructure. The CUC may be dealt with on a system or a national basis, should institutional reforms enable such change.

	Return on Assets	FIBC	Capital Use Charge
Implementation issues	On underutilised social projects tariffs are calculated on yield (but charges are invoiced on measured or registered water use). This will result in a shortfall.	The classification of schemes is at the discretion of the Minister. Propose that there should be a condition that the Minister would need to first consult with the Ministers responsible for Local Government and Agriculture before determining the classification of a project. The development of social and future economic infrastructure is currently funded on budget (?). Guidance will be required on whether this will now be funded entirely through the FIBC or whether a combination of funding will be utilised (and if so what proportion or which infrastructure will continue to be funded on budget). Phasing in of payment by the agricultural sector over a 10 year period (Need to understand the basis for the phasing in and the implications). As economic development materializes in the designated areas, users may move from being classified as social users to being classified as economic users with the concomitant change in charges. This shift happens within the CUC and is not the FIBC charge.	
Policy and legislative support		Need to establish the alignment with other support available to beneficiaries of social and future economic infrastructure.	

	FIBC	O&M	Depreciation
Purpose/Objectives	To support the development of social and economic development stimulus infrastructure listed under Section 56(2)(b)(i, ii and iii) of the NWA.	To fund the general operations and maintenance on government water schemes.	The CUC will be determined for each scheme and will provide for the debt service requirements on commercially viable projects.
What was it intended to fund?	The FIBC will provide for the costs of investigation, planning, design, construction and pre-financing of new infrastructure and the betterment of already existing infrastructure	Operation and Maintenance charges will be recovered on a scheme or system basis or on a national basis for the BWC. These charges (which include direct and indirect costs) can be recovered either on an actual cost recovery basis or through an Operations and Maintenance Charge that is based on the forecast of annual O&M costs and of water use.	It is intended that the depreciation charges will fund the refurbishment to only restore the original capital value of assets in real terms, no increases in charges will take place as a result of refurbishment.