



Impact of drought on water and sanitation tariffs

John Hoal - Technical Executive

4 June 2018



GIBB
ENGINEERING & ARCHITECTURE

Content



- Introduction
- The “Status Quo”
- Factors Affecting the Water and Sanitation Tariffs
- Summary

Introduction



“Impact of drought on water and sanitation tariffs.”

The biggest impact that the drought has is **forcing us to look at all the aspects** surrounding the provision of water and sanitation including costs and security of future delivery to ultimately arrive at a sustainable
REVISED TARIFF STRUCTURE
which is resilient for drought conditions

The “status quo” has been shaken up!

Content



- Introduction
- The “Status Quo”
- Factors Affecting the Water and Sanitation Tariffs
- Summary

Content



- Introduction
- The “Status Quo”
- Factors Affecting the Water and Sanitation Tariffs
- Summary

Factors Affecting the Water and Sanitation Tariffs



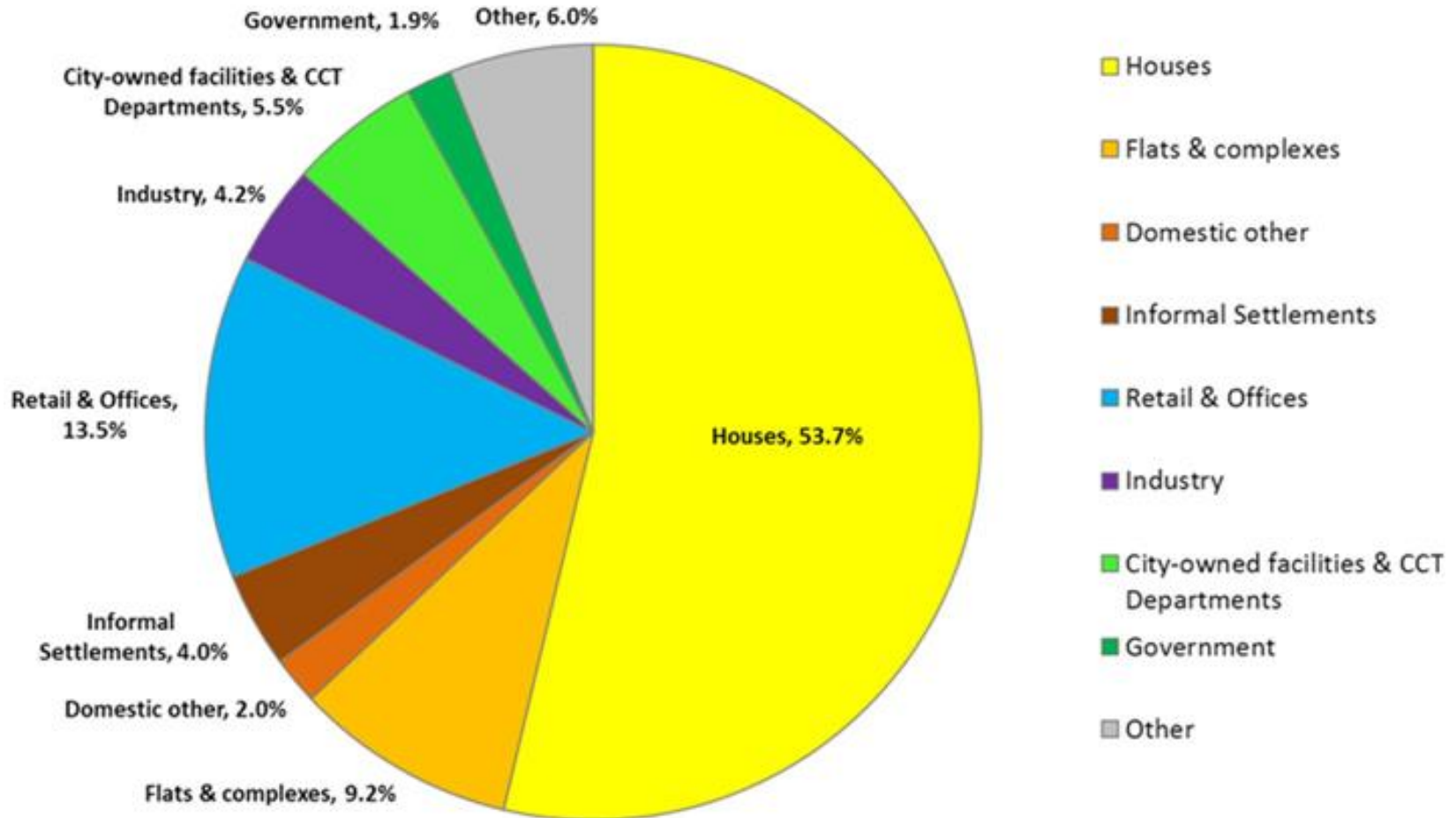
The **drought** has highlighted the necessity to adjust Water and Sanitation tariffs due to the following FACTORS.

1. Reduced Volumes
2. Additional Costs
3. Maintaining Assets for the future
4. Reducing costs through improved efficiencies.
5. Changes in consumption patterns
6. Changes in tariff structure
7. Alternative revenue options
8. A balanced budget

CoCT Water Consumption



Potable water consumption by use category
(01.01.2017 - 31.12.2017)



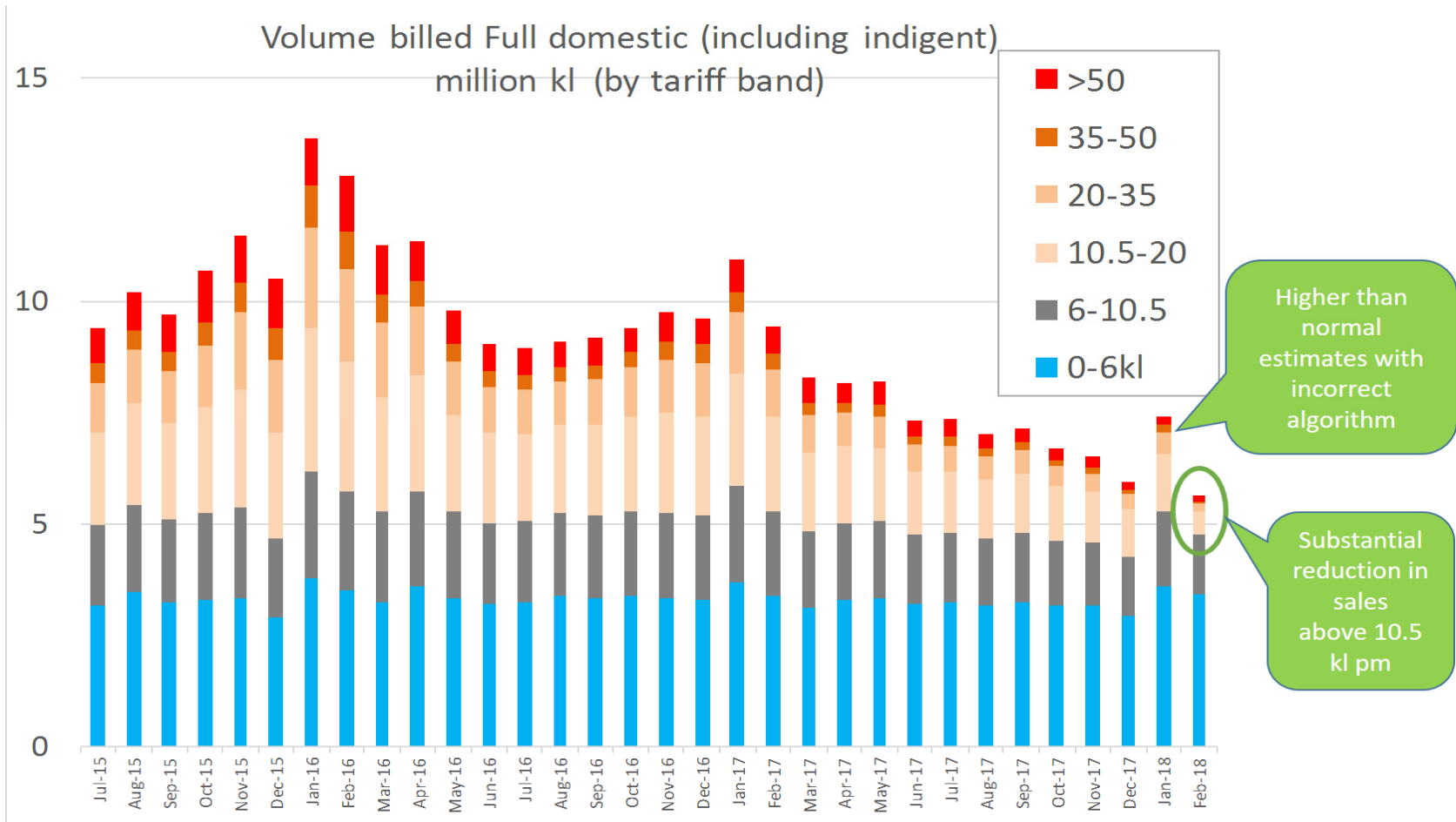
Factors Affecting the Water and Sanitation Tariffs



The **drought** has highlighted the necessity to adjust Water and Sanitation tariffs due to the following FACTORS.

1. Reduced Volumes
2. Additional Costs
3. Maintaining Assets for the future
4. Reducing costs through improved efficiencies.
5. Changes in consumption patterns
6. Changes in tariff structure
7. Alternative revenue options
8. A balanced budget

Reduced Volumes

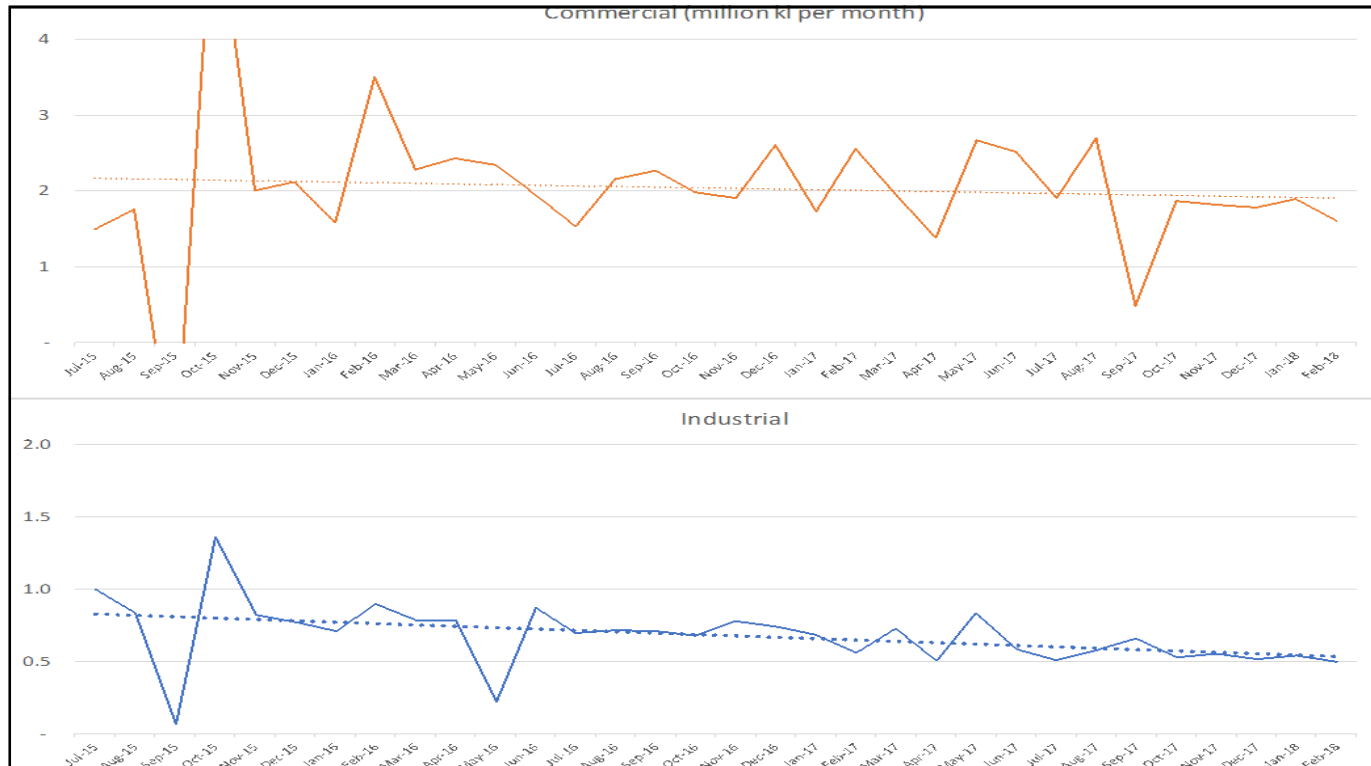


Change in Water Use over the period

Reduced Volumes



Commercial and Industrial Users (Million KI /month)



Change in Water Use over the period

Factors Affecting the Water and Sanitation Tariffs



The **drought** has highlighted the necessity to adjust Water and Sanitation tariffs due to the following FACTORS.

1. Reduced Volumes
2. Additional Costs
3. Maintaining Assets for the future
4. Reducing costs through improved efficiencies.
5. Changes in consumption patterns
6. Changes in tariff structure
7. Alternative revenue options
8. A balanced budget

Additional Costs



ADDITIONAL DROUGHT RELATED COSTS

- Pressure Management
- Installation of Water Management Devices
- Water Loss Reduction
- Building Capacity to resource water from alternative sources

Factors Affecting the Water and Sanitation Tariffs



The **drought** has highlighted the necessity to adjust Water and Sanitation tariffs due to the following FACTORS.

1. Reduced Volumes
2. Additional Costs
3. Maintaining Assets for the future
4. Reducing costs through improved efficiencies.
5. Changes in consumption patterns
6. Changes in tariff structure
7. Alternative revenue options
8. A balanced budget

Factors Affecting the Water and Sanitation Tariffs



The **drought** has highlighted the necessity to adjust Water and Sanitation tariffs due to the following FACTORS.

1. Reduced Volumes
2. Additional Costs
3. Maintaining Assets for the future
4. Reducing costs through improved efficiencies.
5. Changes in consumption patterns
6. Changes in tariff structure
7. Alternative revenue options
8. A balanced budget

Factors Affecting the Water and Sanitation Tariffs



The **drought** has highlighted the necessity to adjust Water and Sanitation tariffs due to the following FACTORS.

1. Reduced Volumes
2. Additional Costs
3. Maintaining Assets for the future
4. Reducing costs through improved efficiencies.
5. Changes in consumption patterns
6. Changes in tariff structure
7. Alternative revenue options
8. A balanced budget

Changes in Consumption patterns

Use more Pay MUCH more

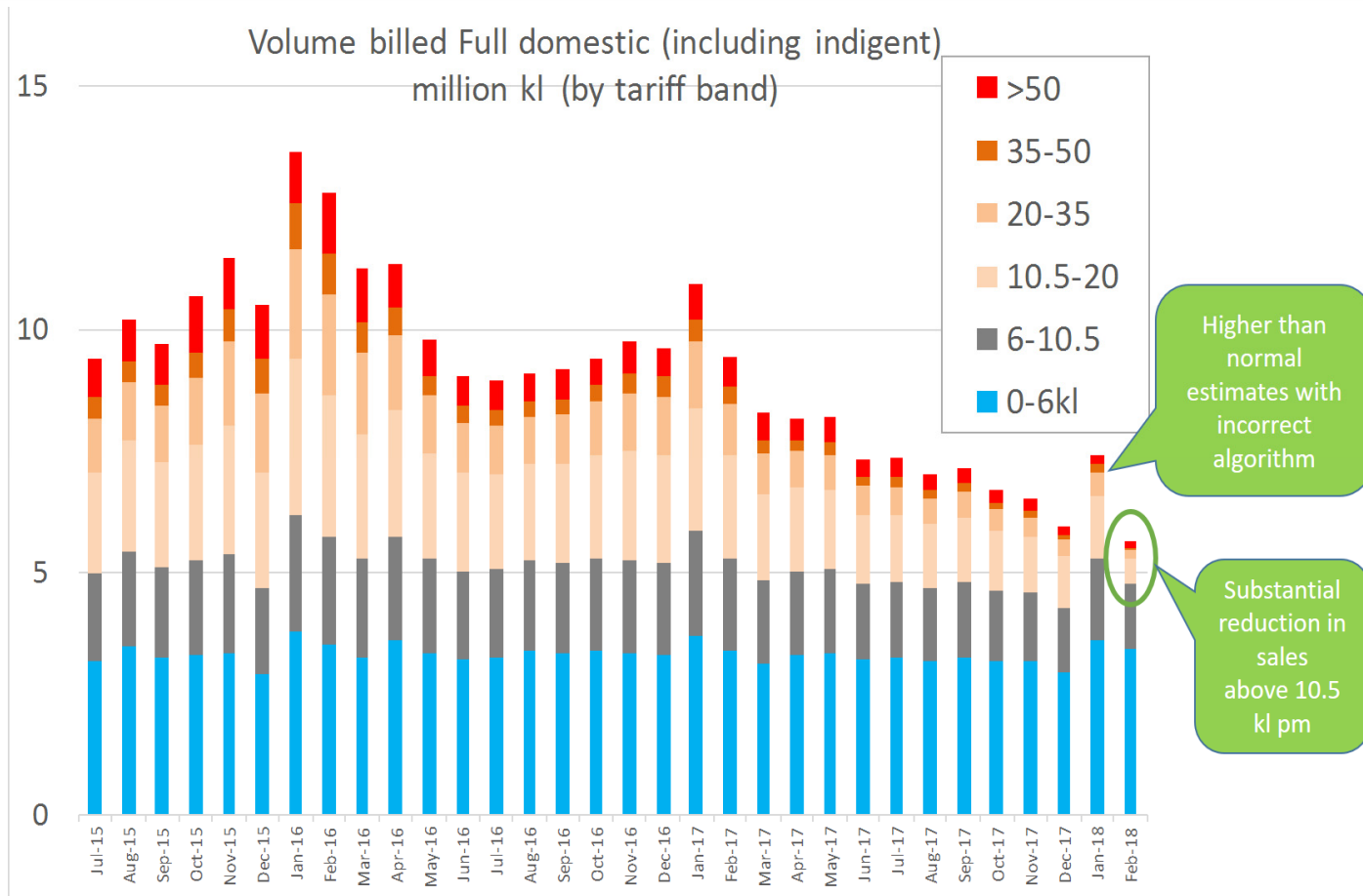
larger users over 20 kl /month subsidise low users of less than 20 kl / month.

2016/17 Financial year:

<20 kl / month uses paid R8 / kl = REVENUE R0.7 Billion

>20 kl / month users paid R66 / kl = REVENUE R1.5 Billion

Changes in Consumption patterns



THE CONSUMPTION PATTERNS HAVE NOW CHANGED IMPACTING THE REVENUE NEGATIVELY.

Factors Affecting the Water and Sanitation Tariffs



The **drought** has highlighted the necessity to adjust Water and Sanitation tariffs due to the following FACTORS.

1. Reduced Volumes
2. Additional Costs
3. Maintaining Assets for the future
4. Reducing costs through improved efficiencies.
5. Changes in consumption patterns
6. Changes in tariff structure
7. Alternative revenue options
8. A balanced budget

Changes in Tariff Structure



Average Tariff Level

- Depends on Volume of water sold.
- Determined by deviding TOTAL COST of providing service by TOTAL VOLUME of water sold.

EXAMPLE: Total Cost = R3.75 Billion

- Level 1 restrictions: Sales 178 million kl
Average Tariff = R21 / kl
- Level 6 restrictions: Sales 93 million kl
Average Tariff = R40 / kl

Changes in Tariff Structure



CoCT approach to New Domestic Water Tariff Steps

New 4 Step Tariff Structure (Water)	Tariff set at:
Basic Usage Water = 0 – 6kℓ Sanitation = 0 - 4.2kℓ	a function of the <i>average cost of water (cost/volume)</i>
Basic Usage Water = 6 – 10.5kℓ Sanitation = 4.2 - 7.35kℓ	a function of the <i>average cost of water (cost/volume)</i>
Above Basic Usage Water = 10.5 – 35kℓ Sanitation = 7.35 - 24.5kℓ	a function of <i>future incremental marginal cost (additional cost to expand output from additional water sources)</i>
Use jeopardising water conservation Water = > 35kℓ Sanitation = 24.5 - 35kℓ	<i>Punitive Charge to deter high water usage</i>

Changes in Tariff Structure



Water Tariff: Basis of calculation of **Fixed Charge**

Size (mm)	Number of meters	% of meters	Monthly Charge (incl VAT)
15	367,516	56.0 %	R 64.40
20	254,025	38.7 %	R 115.00
25	20,388	3.1 %	R 179.40
40	4,516	0.7 %	R 460.00
50	4,986	0.8 %	R 718.72
80	1,843	0.3 %	R 1,840.00
100	2,344	0.4 %	R 2,875.00
> 150	471	0.1 %	varies

A fixed charge has been introduced which is linked to the size of the metered connection which translates to the demand put on the system.

Factors Affecting the Water and Sanitation Tariffs



The **drought** has highlighted the necessity to adjust Water and Sanitation tariffs due to the following FACTORS.

1. Reduced Volumes
2. Additional Costs
3. Maintaining Assets for the future
4. Reducing costs through improved efficiencies.
5. Changes in consumption patterns
6. Changes in tariff structure
7. Alternative revenue options
8. A balanced budget

Factors Affecting the Water and Sanitation Tariffs



The **drought** has highlighted the necessity to adjust Water and Sanitation tariffs due to the following FACTORS.

1. Reduced Volumes
2. Additional Costs
3. Maintaining Assets for the future
4. Reducing costs through improved efficiencies.
5. Changes in consumption patterns
6. Changes in tariff structure
7. Alternative revenue options
8. A balanced budget

Summary



What is the impact of the drought on Water and Sanitation Tariffs?

Answer: Significant Tariff Increases required due to our unprecedented drought in order to cover ...

- Reduced Volumes and
- Increase in Costs

Closing Thoughts



Contact information



JOHN
HOAL

+ 27 (21) 469 9100

+ 27 (83) 269 1976

jhoal@gibb.co.za