



# Setting Tariffs

A guide for  
local government in  
South Africa, Namibia  
and Botswana

# TRANSPARENT TARIFFS

# TARIFFS

**Many municipalities find themselves in a situation where there is a considerable gap between citizens' expectations and the reality in terms of what they in fact can deliver.**

In combination with the low income levels among a large share of the community, the present imbalances between collected revenues on the one hand and real costs for provision of services and maintenance on the other represent a political challenge.

In such a situation, actual facts and transparency are essential ingredients for creating trust. If citizens are expected to pay for a service provided by the municipality, it's reasonable to be able to provide them with proper information on the costs for producing this service.

The purpose of this guide is to assist municipalities to develop transparent and understandable tariffs. It deals with all aspects of tariff setting, apart from the actual calculation for which there is a separate **TARIFF MODEL** tool.

Tariff setting can be a very complex process. However, this guide aims for simplicity. It explains how to set basic tariffs that are easy to understand and that will generate sufficient revenue to cover all necessary expenditure.

The target audience for the guide is municipal officials who want guidance in setting basic tariffs, Councillors who need to oversee the tariff setting process, and citizens who want to better understand where tariffs come from. It is intended for use in small to medium-sized municipalities, where data is often limited and basic tariffs are preferred over more complex options.

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# 1

## Before getting started...

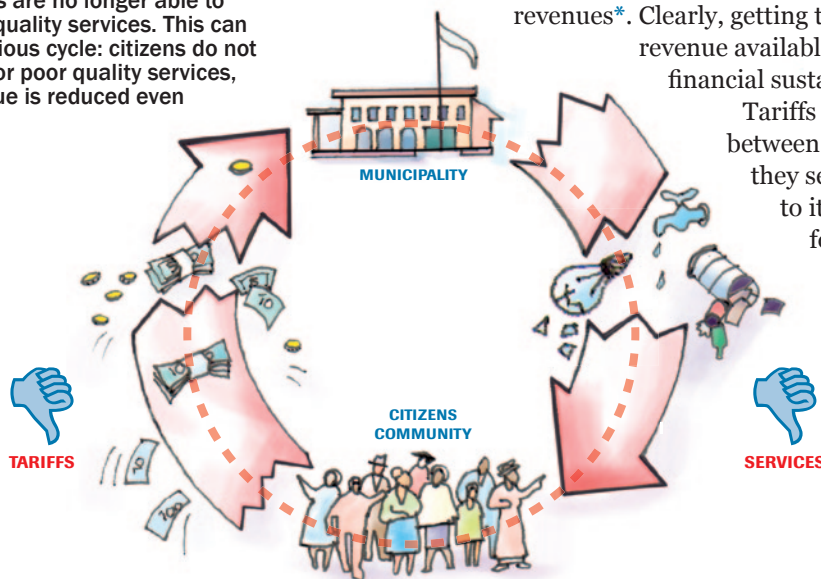
Local government in South Africa, Botswana and Namibia is responsible for delivering many services that contribute significantly to the quality of life of citizens. However, many local authorities in these countries are operating in a way that is not financially sustainable. *They do not generate enough income to cover the costs that should be incurred to provide services properly.* In order to balance budgets, they cut costs, especially on items such as repairs and maintenance and asset rehabilitation. As a result, the condition of assets is declining, hampering the ability of the local authority to continue to provide good services in future. Something needs to change, and soon!

If municipalities do not raise enough revenue, they have to cut expenditure in order to balance budgets. Often, this means cutting expenditure on asset maintenance and rehabilitation. The result is a decline in the performance of assets and ultimately in asset breakdown, which in turn means that municipalities are no longer able to deliver good quality services. This can result in a vicious cycle: citizens do not want to pay for poor quality services, and so revenue is reduced even further.

### Why focus on tariffs?

Tariffs are the most significant revenue source available to local authorities. Even in South Africa, where local authorities receive significant subsidies from National Government, tariffs still account for 42% of municipal revenues\*. Clearly, getting tariffs right and maximising the revenue available from tariffs is vital for ensuring financial sustainability.

Tariffs are also a key point of engagement between municipalities and the people that they serve. A municipality speaks directly to its citizens when it sends them a bill for services rendered. Citizens need to understand where that bill comes from, and what they are getting in return for paying it.



\* National Treasury Local Government Budgets and Expenditure Review, 2003/4 to 2009/10

## The current situation with tariff setting

Currently, few municipalities follow a structured process when setting tariffs. Most municipalities set tariffs simply by applying an inflation adjustment to the tariff from the previous year. This means that *municipal tariffs often do not reflect the full costs of providing services* and thus seldom generate sufficient revenue to cover those costs.

Existing tariff setting processes are rarely well documented, and *existing tariffs are not transparent* and are frequently difficult to understand. This means that citizens do not know where their monthly bills come from, and what their money is paying for. This in turn is likely to result in a reduced willingness to pay, perpetuating the problem of inadequate revenue received by the municipality.

## The tariff policy as the key to transparent tariff setting

A tariff policy is a document that outlines how tariffs are established, monitored and reviewed. It is a key document through which a municipality can assure its citizens that tariffs are set on a rational basis. The Transparent Tariffs Toolkit has a special volume on tariff policies called “...more on developing a tariff POLICY”.

## What is the status of existing tariff policies?

Many municipalities do not have a tariff policy at all. Where tariff policies are in place, they may comply with legislative requirements but seldom accurately describe the processes followed when setting tariffs. They are seldom useful documents for communicating a transparent tariff setting process with citizens.

## The purpose of this guide

There is a clear need for a new way of doing things both with regard to the processes followed in setting tariffs and to the way in which that process is captured in the tariff policy.

The purpose of this guide is *to assist municipalities to develop a transparent and understandable tariff policy that is an accurate reflection of a tariff setting process that will ensure the financial sustainability of the municipality.*

## A tariff setting tool is also available

The guide is a step-by-step overview of the process to be followed when setting tariffs. It does not deal in detail with the calculation of tariffs. However, *a tool for calculating tariffs has been developed together with this guide.* Together, the guide and the tool will take users step-by-step through the process of setting a tariff.

## The guide describes how to set basic tariffs

Tariff setting can be a very complex process. If a lot of data is available and the tariff practitioner has a lot of experience, then complex tariffs can be designed that closely reflect the detail of costs incurred in providing services. However, this guide aims for simplicity. It explains how to set basic tariffs that are easy to understand and will generate sufficient revenue to cover all necessary expenditure. As such



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It may sound as if the issue of insufficient income is just a financial problem to be managed by municipalities. But it has serious implications for citizens too. If municipalities are not able to properly maintain and rehabilitate their assets they will ultimately break down. This can have serious public health implications, as was illustrated by the cholera outbreak in Zimbabwe. The following extract from an article on the Independent Online illustrates how the collapse of water infrastructure, and thus the inability to provide safe water for basic needs, led to a health crisis:

“Unit 0, (Mr Mudzingwa’s) suburb, has been without running water for 13 months. The only borehole in the area, built with the help of aid agencies, attracted so many people day and night that it was rarely possible to access its water. Residents were forced to dig their own wells, which became contaminated with sewage. The water residents haul up is a breeding ground for all sorts of bacteria, including *Vibrio cholerae*, which causes severe vomiting and diarrhoea and can kill within hours if not treated.”\*

Estimates from the Red Cross indicate that the death toll from the cholera outbreak in Zimbabwe was 10 000 by the end of May 2009.\*\*

\*<http://www.independent.co.uk/news/world/africa/3000-dead-from-cholera-in-zimbabwe-1035149.html>, 26 November 2008, accessed on 1 June 2009.

\*\*<http://news.bbc.co.uk/2/hi/africa/8068232.stm>, 26 May 2009, accessed on 1 June 2009

Tariffs are charges levied for the use of municipal services.

Officials, Councillors and citizens should all understand the tariff setting process.

it omits some of the more complex elements of tariff setting. There is a wealth of literature available on how to set tariffs for those readers who want a more detailed approach (see the list of further reading at the end of this guide).

### Practical examples are provided

The guide is intended to be a usable document. The calculation of tariffs in an invented municipality, Mymuni, is shown as a practical example of how to translate the processes described into actual calculations and numbers.



## EXAMPLE

### TNE MYMUNI MUNICIPALITY

Mymuni is a municipality in Mylandia, an imaginary country in Southern Africa. Mymuni serves a number of small towns, the largest of which, Urbanville, has an informal settlement on its outskirts. The remainder of the municipal area is commercial farmland.

Mymuni has a population of 61 000 people, distributed between the different settlement types as shown below.

Settlement type	Population	Household size	Number of households
Towns	40 000	4	10 000
Informal settlement	6 000	6	1 000
Farming areas	15 000	5	3 000
<b>TOTAL</b>	<b>61 000</b>	<b>average 4,4</b>	<b>14 000</b>

#### Service provision arrangements in Mymuni

Mymuni Municipality provides its citizens with water services and a municipal swimming pool. These services are currently only really provided in the urban areas (Urbanville and the informal settlement). In the farming areas farmers take responsibility for providing water services. Electricity and refuse removal is provided throughout Mymuni by private entities, called Electrocorp and Trashco respectively.

Note that for space reasons, only the calculation of the water and swimming pool tariffs are shown in the guide. The currency in Mylandia is called the Afri (Af).

#### KEY WORDS

tariff

financially sustainable

transparent

trading service

non-trading service

## Who is the target audience?

The target audience for the guide is *municipal officials* who want guidance in setting basic tariffs, *Councillors* who need to oversee the tariff setting process, and *citizens* who want to better understand where tariffs come from.

The guide is intended for officials, Councillors and citizens of *small to medium-sized municipalities*, where data is often limited and basic tariffs are preferred over more complex options.

## Tariffs covered by the guide

Municipalities provide a wide range of services.

**Trading services** are services which can, in principle, run as separate businesses, because tariffs can in theory be set in such a way as to yield a trading surplus. A key feature of trading services is that they can be provided by private enterprises. Consumers receive a direct *quid pro quo*\* for tariffs paid. Water, sanitation, electricity and refuse removal are the most important trading services.

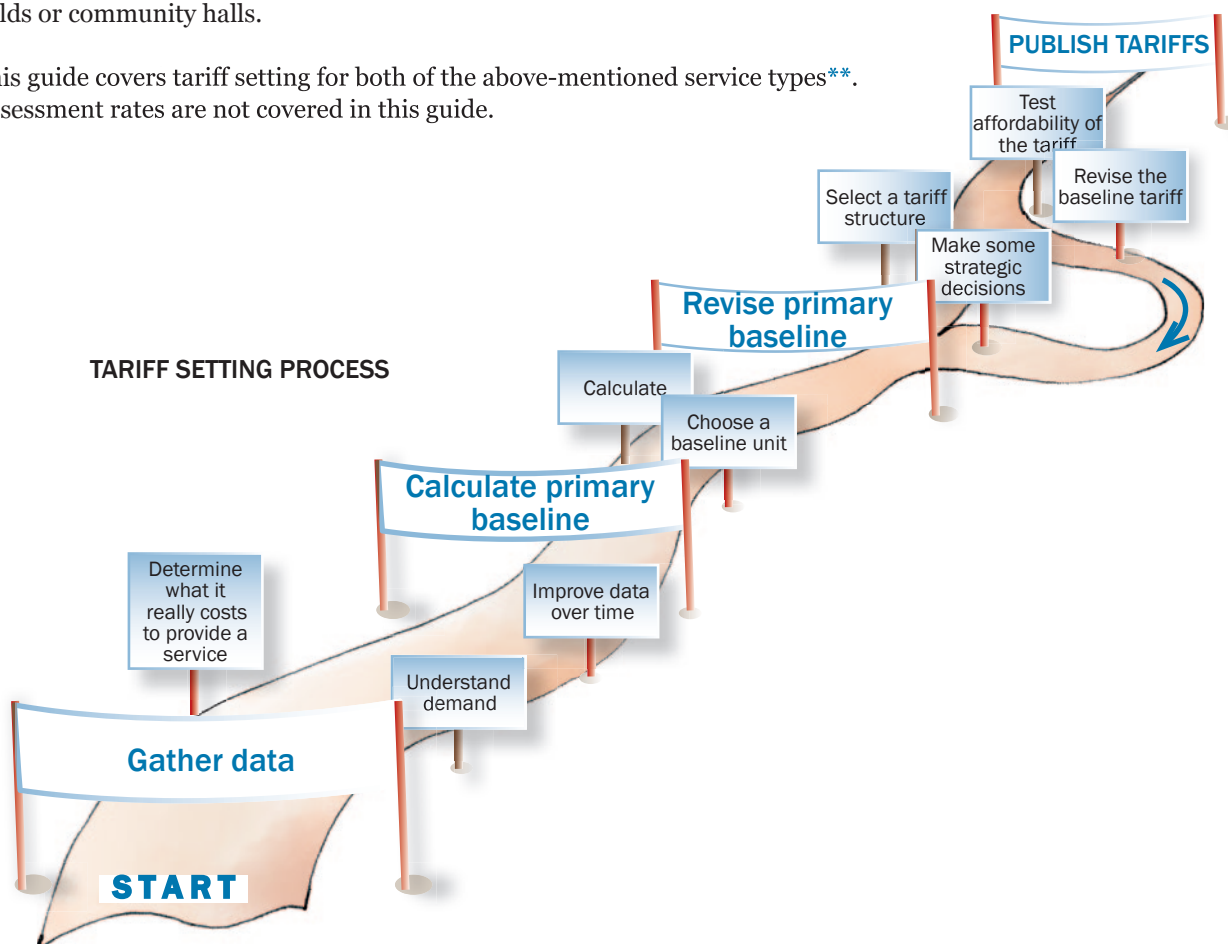
**Non-trading services** are services for which tariffs are not necessarily expected to cover the full cost of service provision. Any deficits incurred are financed out of assessment rates income (or subsidies, where relevant). Examples are cemeteries, licensing services, libraries or recreational facilities such as sports fields or community halls.

This guide covers tariff setting for both of the above-mentioned service types\*\*. Assessment rates are not covered in this guide.

Many municipalities do not generate enough tariff income to cover the costs that should be incurred to provide a service properly.

\* »what for what« or »a favour for a favour«

\*\* Note that there is a sub-group of non-trading services (usually called community services) for which no tariffs are levied. This includes things like street lighting or street cleaning. These services are usually funded completely by assessment rates.



# 2

## What makes a good tariff?

Economic theory usually defines four characteristics of a good tariff.

**Revenue sufficiency.** The main purpose of a tariff is to generate sufficient revenue to ensure that a service can be provided sustainably. The revenue required from the tariff is determined as the cost of providing the service less any subsidies or other income available. Tariffs should then be set at a level that ensures that this revenue is generated.

**Economic efficiency.** Efficiency is an economic term which means that the terms, what this means is that tariffs must accurately reflect the costs incurred in providing a service. If one type of service is cheaper to provide than another, then the tariff for the former should be lower than the tariff for the latter.

**Equity.** This requires that people who are the same be treated the same and those who are different be treated differently. In tariff design, this means that users should pay for a service in proportion to the costs that are incurred in providing them with that service.

**Fairness.** An important characteristic of a good tariff that is often ignored by pure economic theory is fairness. In countries with large number of poor people, such as South Africa, Botswana and Namibia, it is widely accepted that tariffs must be affordable in order to be fair. This often means that tariffs must be set at a level that is lower than that required to fully recover costs. This results in the need for subsidisation, either from National government or from within the municipality (referred to cross-subsidisation, see example on page 31 of this guide).

The reader will note that all of the above four characteristics refer to the cost of providing a service. Properly understanding costs is one of the keys to good tariff design. There are some other more practical characteristics of a good tariff.

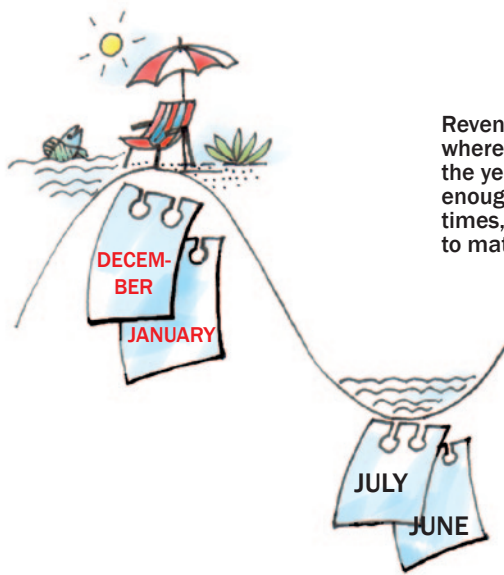
An ideal tariff should **be simple and easy to understand**. Consumers should be able to look at the tariff and easily calculate the size of the bill that they will receive based on this tariff.

Properly understanding costs is one of the keys to good tariff design.

### KEY WORDS

revenue sufficiency  
economic efficiency  
equity  
fairness  
simplicity  
revenue stability  
ease of implementation





Revenue stability is particularly relevant in holiday towns, where use of a service can fluctuate significantly through the year. During off-peak times, the service provider needs enough revenue to keep the service running. During peak times, such as over Christmas time, revenue should increase to match the increase in usage and thus in costs.



PHOTO Bengt Carlsson

The tariff should **provide revenue stability**. This basically means that when use of the service changes, revenues and costs change by approximately equal amounts. If this does not happen, service providers can encounter cash flow problems.

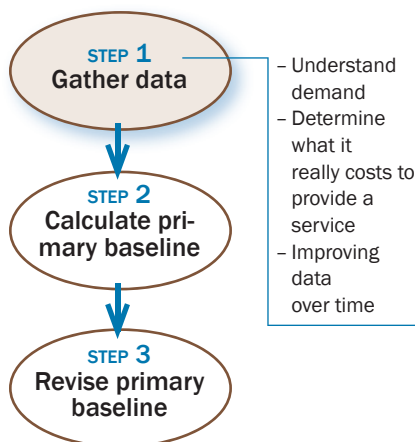
The tariff should **be easy to implement**. A good tariff should preferably not require complex billing procedures or administration.

Note that these characteristics do not always complement each other. For example, economic efficiency can be improved by introducing tariffs that differ for different levels of service, that differ for different geographic areas or that differ for different seasons. All of these things affect the cost of providing the service and economic efficiency would require that these differences are reflected in the tariff. This will result, however, in tariffs that are less simple and less easy to implement. Tariff design requires trade-offs and the practitioner must decide which of the characteristics of a good tariff are most important for each situation.

Municipalities should follow a structured process when setting tariffs, to ensure that the tariffs are transparent.

# 3

## Good data as the basis of sound tariffs



Sound tariffs are based on a good understanding of the demand for services and the costs that should be incurred to provide those services. The better the data that is available on these parameters, the more able will the tariff practitioner be to set accurate tariffs.

### Understand demand

The first step in setting a tariff is to understand the demand for services. This involves knowing the number and type of consumers, the levels of service to which they have access and their current levels of consumption of services.

### How many consumers are served?

There are four basic categories of consumer:

- Domestic
- Commercial
- Industrial
- Institutional

These consumer types are typically charged different tariffs (in keeping with the tariff requirement of equity). While it is possible to break these categories down into smaller groups, for simplicity it is better to keep the number of tariff categories as small as possible.

### Domestic consumers

Domestic consumers are households who use services to meet their own consumption requirements.

At the very least it is important to know how many domestic consumers the municipality serves, and something about how many of these consumers fall into different income categories. This data is important for assessing the affordability of tariffs and understanding the extent to which high income consumers will be able to cross-subsidise indigent or low income consumers. Consumers with different income levels also tend to consume different quantities of services, so a rough understanding of income distribution is important for predicting the consumption of services.

It is recommended that four income categories be considered: indigent, low income, middle income and high income. The definition of indigent, low income,

### KEY WORDS

consumer types  
level of service  
level of consumption

middle income and high income may differ for different municipalities, depending on the income profile that prevails.

### **Commercial consumers**

Commercial customers are businesses that provide services, such as offices, restaurants and shopping malls. They use municipal services to meet the consumption requirements of their staff and customers.

At the minimum it is important to know how many commercial consumers the municipality serves.

### **Industrial consumers**

Industrial consumers are businesses that are involved in the manufacture of products. They use municipal services in their manufacturing processes.

At the very least it is important to know how many industrial consumers the municipality serves.

It is important to know how many consumers of different types are served by the municipality.



## **EXAMPLE**

### **FROM MYMUNI MUNICIPALITY**

#### **Consumer types in Mymuni**

The number of consumers of different types served by Mymuni Municipality is shown in the table below. Recall that Mymuni only provides services in the urban areas.

Consumer type	Definition	Number of consumers	Comments
Indigent domestic	Monthly household income of up to Af 700	2 000	Af 700 is considered to be the amount of income required to just allow for meeting basic needs for a household of 8 people in Mylandia. It is widely applied as a definition of 'indigent'.
Low income domestic	Monthly household income of between Af701 and Af1500	6 250	Af 1 500 is the income threshold below which households in Mylandia qualify for a housing subsidy.
Middle income domestic	Monthly household income of between Af 1 501 and Af 6 500	2 000	Af 6 500 is the average salary of a nurse or teacher in Mylandia.
High income domestic	Monthly household income of more than Af 6 501	750	
Commercial		400	
Industrial		1	There is brewery situated outside Urbanville, who produce the best selling beer in Mylandia.
Institutional		80	
<b>TOTAL</b>		<b>11 481</b>	

### ***Institutional consumers***

Institutional consumers are organisations dedicated to providing services that are of benefit to the community, and include schools, hospitals, places of worship, orphanages and so on.

At the very least it is important to know how many institutions the municipality serves.

### **What levels of service do they receive?**

‘Level of service’ is most relevant for the four major trading services, for which it refers to the type of infrastructure that is installed. Examples of different levels of service for the four major trading services are provided below.

	<b>Low Level of Service</b>	<b>Medium Level of Service</b>	<b>High Level of Service</b>
<b>Water</b>	Communal standpipe	Single tap in yard	Multiple taps in house
<b>Sanitation</b>	Improved pit latrine	Condominial sewers	Full waterborne sanitation
<b>Electricity</b>	5 Amp supply or less	20 Amp supply	60 Amp supply
<b>Refuse Removal</b>	Communal dump site	Kerbside removal of black bags	Kerbside removal of wheelie bins

The level of service available to consumers *affects their consumption of that service*. For example, the average water requirement of a person collecting water from a communal tap is 20 litres per day, while that for a person with one tap on their plot is 50 litres per day\* .

The level of service also *affects the cost of providing the service*, and for this reason different tariffs are sometimes levied for different levels of service. Offering a range of levels of service and charging different amounts for them is one of the ways that a municipality can provide affordable services to all of its citizens.

It is important to know what levels of service the municipality offers, and how many consumers of each type receive each level of service.

### **What is the level of consumption of services?**

Tariffs are most often levied based on the level of consumption of a service. Understanding levels of consumption is thus vital in setting sound tariffs. Two types of data are important here.

#### ***Firstly, what is the total volume of the service consumed by each consumer type?***

This is *the basis for setting the tariff*, as will be seen later in the guide. If some service is given away free, then it is important to know both the quantity of free services and the quantity of billed services per consumer type\*\*. This data should be readily available from even a basic municipal billing database.

#### ***Secondly, what is the average level of consumption per consumer for the different consumer types and levels of service?***

This is important when *assessing the affordability of services*. This data may not be readily available. It can be estimated, by looking at average consumption in geographic areas within the municipality that are low, middle or high income. Alternatively it could be determined through a small household survey.

\* Howard, G and J Bartram (2003) Domestic Water Quantity, Service Level and Health, World Health Organisation

\*\* This is relevant in South Africa, where legislation requires that a certain volume of some services, most notably water and electricity, are provided free of charge.

While the term ‘consumption’ of services may seem self-explanatory, some clarifications are in fact necessary:

For *sanitation*, ‘consumption’ of service is almost impossible to measure. It can be most accurately estimated based on levels of water consumption, to which it is closely related. It can also be estimated based on property value (see ‘More about’ box). There are also other, simpler, measures (such as number of toilets) that are less accurate but can be used if water consumption or property values are considered too complex.

For *refuse removal*, ‘consumption’ most accurately refers to mass of waste collected. However, most municipalities do not have the systems in place to measure the mass of waste, or even the number of bags or bins, collected from each consumer. As for sanitation, consumption of refuse removal can be estimated based on property value (see ‘More about’ box). Alternatively, a simple measure such as number of waste collections or collection points can be used if property value is considered too complex.

For most *non-trading services*, ‘consumption’ refers to numbers of times that a service is used, for example, number of licences issued, number of graves dug or number of library books borrowed. The tariff setting tool that accompanies this guide provides recommended units of consumption for each service.



The level of service available affects the consumption as well as the costs of the service.

Understanding consumption patterns is vital in setting sound tariffs.

#### MORE ABOUT ●●●

##### PROPERTY VALUE AS A PROXY FOR CONSUMPTION OF SANITATION AND REFUSE REMOVAL

Property value can be used as a basis for setting tariffs for sanitation and refuse removal. This is because property value is a strong proxy for income level and higher income consumers tend to consume larger quantities of sanitation (they consume more water and so return more water to the sewerage system) and refuse removal services (they generate more solid waste). Using property value as a basis for setting sanitation and refuse removal tariffs will thus result in those consumers who tend to consume more of the service paying more for the service, which complies with the equity principle of tariff setting.

Using property value as a basis has the advantage that most municipalities already have data on property values for each consumer, because they have this information in order to calculate assessment rates.

Problems can be encountered in informal urban settlements, where property values are difficult to establish. In these areas flat charge a standard, low property value can be applied for each dwelling in order to calculate sanitation and refuse removal charges (if these services are provided here!).



## EXAMPLE

### FROM MYMUNI MUNICIPALITY Consumption of services in Mymuni

#### Water

Two levels of service are provided to domestic consumers: communal standpipes are provided in the informal settlement, and on plot water connections are provided in all other areas.

	Average consumption per consumer per month (kl)	Number of consumers	Total consumption per month (kl)
<b>Domestic consumers</b>			158 250
Communal standpipes	4,5	1 000	4 500
Water on plot		<b>10 000</b>	<b>153 750</b>
– Water on plot: Indigent	6	1 000	6 000
– Water on plot: Low income	15	6 250	93 750
– Water on plot: Middle income	18	2 000	36 000
– Water on plot: High income	24	750	18 000
<b>Commercial consumers</b>		<b>400</b>	<b>20 000</b>
<b>Industrial consumers</b>		<b>1</b>	<b>10 000</b>
<b>Institutional consumers</b>		<b>80</b>	<b>11 750</b>
			200 000

The highlighted data can be readily obtained from most billing databases. The other data must often be estimated. Over time, this data can be improved, possibly through household surveys.

#### Municipal swimming pool

There were 73 500 visits to the municipal swimming pool last year.

## Determine what it really costs to provide a service

Determining what it costs to provide a service may seem like a simple task. However, the cost of providing a service includes not only day-to-day running costs (which are relatively easy to determine) but also a share of the overheads required to keep the municipality as a whole running and the costs associated with expanding and managing infrastructure. These latter two cost types are slightly more difficult to determine than the direct, day-to-day costs.

### Direct costs: day-to-day costs incurred in running the service

These are costs incurred exclusively in providing a particular service. Direct costs include:

- *Employee related costs*: all expenditure related to the personnel required to provide the service. This includes normal salaries and wages, any bonuses paid, overtime costs, allowances, fringe benefits and social contributions.
- *Bulk purchases*: the cost of purchasing bulk water and electricity from an external provider, where relevant.
- *Repairs and maintenance*: the cost of any materials or equipment used to repair and maintain fixed assets.
- *Contracted services*: the cost of any services that have been contracted out to external providers.
- *Other costs*: all expenditure not grouped under one of the other categories.

### Overheads: costs of running the municipality as a whole

These are costs that are not directly attributable to a service but are incurred in running the municipality as a whole. Examples are treasury and political functions. Overheads must be apportioned between services in a clear, structured way.

There are two options for doing this:

- *Activity Based Costing*: this is the most accurate way of apportioning costs. It examines the activities undertaken by a unit, determines what causes that activity to be undertaken, and then allocates costs based on the distribution of those causative actions between services.
- *Pro-rata allocation of cost*: allocates indirect costs on a proportionate basis by using measures that are easily available, such as number of employees or size of budget.

### Capital financing costs: costs to expand and manage infrastructure

The cost of a service also includes any costs associated with financing infrastructure expansion and with rehabilitating and/or replacing existing infrastructure as it ages. Adequate provision for capital financing costs is vital to ensure that service provision is sustainable in the long term.

Capital financing costs include:

- *External interest*: the cost associated with financing capital expenditure using external loans.
- *Depreciation*: the cost of 'using up' assets. Proper depreciation accounting results in a cash surplus on the operating account which can be transferred to a reserve used to finance asset replacement.
- *Provisions to capital reserves*: a cost item used to create a cash surplus on the operating account which can be transferred to a reserve used to finance asset expansions.

The cost of providing a service includes day-to-day running costs, overheads and capital financing costs.

#### KEY WORDS

direct costs  
overheads  
capital financing costs  
adequate budget  
cost accounting



## EXAMPLE

### FROM MYMUNI MUNICIPALITY

#### Apportioning overheads costs between services in Mymuni

The budget for the HUMAN RESOURCES DEPARTMENT in Mymuni is Af 150 000. This must be apportioned between the three services provided. This can be done either using Activity Based Costing or Pro-rata allocation of cost.

##### Activity Based Costing

Functions of HR unit	Recruitment	Selection	Payroll	Total
Estimated % time spent on each of these functions	30%	20%	50%	100%
Cost of function	45 000 (30 x 150 000)	30 000 (20 x 150 000)	75 000 (50 x 150 000)	150 000
Most important cost driver	Number of positions advertised	Number of interviewees	Number of employees	
<i>Water</i>	12	30	65	
<i>Sanitation</i>	7	18	30	
<i>Swimming pool</i>	1	2	5	
Number of cost drivers	20	50	100	
HR cost to be allocated	45 000	30 000	75 000	150 000
Water	27 000 (12/20 x 45 000)	18 000 (30/50 x 30 000)	48 750 (65/100 x 75 000)	93 750
Sanitation	15 750 (7/20 x 45 000)	10 800 (18/50 x 30 000)	22 500 (30/100 x 75 000)	49 050
Swimming pool	2 250 (1/20 x 45 000)	1 200 (2/50 x 30 000)	3 750 (5/100 x 75 000)	7 200

##### Pro-rata allocation of costs

For the HR function, number of employees in each service would be a useful basis for allocating costs.

	Number of employees	Allocation of costs
Water	65	97 500 (65/100 x 150 000)
Sanitation	30	45 000 (30/100 x 150 000)
Swimming pool	5	7 500 (5/100 x 150 000)
<b>Total</b>	<b>100</b>	<b>150 000</b>

Activity Based Costing is the most accurate method of allocating costs. However, it can be difficult to do and some smaller municipalities may have trouble implementing it. The pro-rata approach is a useful alternative method.

Note: examples used here have been based on those found in the Victorian Auditor General's Report on Fees and Charges – Cost Recovery by Local Government, State of Victoria, Australia, April 2010.





## EXAMPLE

### FROM MYMUNI MUNICIPALITY

#### The costs of providing services in Mymuni

The Mymuni annual budget for 2010/11 is Af 12 730 000 in total. The breakdown of the budget is shown below.

Af '000	Municipal Manager	Council	Finance	HR	IT	Planning	Water	Sanitation	Swimming pool	TOTAL
Salaries and wages	273	11	273	44	14	56	1 228	1 225	563	3 687
Social contributions	51	0	51	10	3	13	219	208	102	657
Councillors remuneration		279								279
Bulk purchases							2 046			2 046
Repairs and maintenance	5		3			1	610	770	268	1 657
Depreciation	16		7				550	280	100	953
Other	167	51	918	96	61	95	1 397	597	67	3 449
<b>Total</b>	<b>512</b>	<b>341</b>	<b>1 252</b>	<b>150</b>	<b>78</b>	<b>165</b>	<b>6 050</b>	<b>3 080</b>	<b>1 100</b>	<b>12 728</b>

This budget must be reclassified into the three services provided to citizens (water, sanitation and swimming pool).

Af '000	Water	Sanitation	Swimming pool	TOTAL
Direct costs	5 500 $5\,500/9\,300 \times \text{overhead cost}$	2 800	1 000	9 300
Allocation of overheads costs	1 477 $2\,800/9\,300 \times \text{overhead cost}$	752	269	2 498
Capital finance	550 $1\,000/9\,300 \times \text{overhead cost}$	280	100	930
<b>TOTAL</b>	<b>7 527</b>	<b>3 832</b>	<b>1 369</b>	<b>12 728</b>

Direct costs include all employee related costs, bulk purchases, repairs and maintenance and 'other' expenditure.

Municipal Manager, Council, Finance, HR, IT and Planning are all overheads services. The cost of these services has been allocated between the water, sanitation and swimming pool services.

Capital finance costs in the table above are depreciation costs.

Mymuni does not classify costs into fixed or variable costs. It considers all costs to be variable.

### **The budget as the starting point for setting tariffs**

The tariff setting process outlined in this guide takes budgeted expenditure as the basis on which to determine costs. Tariffs are set based on the direct costs, overheads and capital financing costs as recorded in the budget.

This assumes that the municipality has adequately budgeted for all expenditures required to provide a service efficiently and effectively. This is often not the case: most municipalities base budgets on previous performance rather than on actual expenditure needs. Budgets for capital financing costs in particular are often inadequate as they are not based on sound long term capital investment plans.

Municipal budgeting falls outside the scope of this guide, but it must be borne in mind that if budgets are inadequate, then costs will be under-provided for and tariff revenues will not be sufficient to ensure sustainable provision of services.

### **A comment on cost accounting**

It should be clear by now that a good understanding of the cost of providing a service is a key step in setting good tariffs. The better the understanding of costs, the better a municipality will be able to set tariffs that reflect those costs. There are many different ways to classify costs. Some examples include bulk versus distribution costs, costs per service level or costs per geographic area. These cost classifications may be more or less relevant in different municipalities: in some municipalities, for example, the cost of providing services in urban versus rural areas may differ significantly. If this is the case, it may be useful to levy different tariffs in these areas in order to recover these costs.

Since this guide is focussed on setting basic tariffs, the only cost classification considered is fixed versus variable costs.

*Variable costs* are those related to the level of consumption of a service, while *fixed costs* do not vary with consumption. In reality, it is often difficult to distinguish between fixed and variable costs. For example, capital financing costs are typically regarded as fixed costs, but do vary in the long term. Each individual municipality will have to decide which costs to classify as fixed and which as variable.

The budget is the starting point for setting tariffs. It is important that budgets make adequate allowance for required expenditure.

The better the data available, the more accurate the tariffs. Data can be improved over time.

### **Improving data over time**

The demand and cost data requirements outlined above represent the very minimum data that is required to set a tariff. There is a large amount of other data that will improve the ability of a municipality to determine the demand for services and cost of providing services to different consumer groups, and thus to set accurate tariffs. However, this data is not available in most municipalities. This should not be seen as a barrier to sound tariff setting, as this guide will show. Over time, as municipalities gather better data, tariffs can be further refined.

# 4

## Achieving full cost recovery – the ‘primary baseline’ tariff

Once the demand for a service is understood and the costs of providing that service are known it is possible to calculate the tariff required to fully recover costs. This is referred to in this guide as the ‘primary baseline’ tariff.

### Why a ‘primary baseline’ tariff

The primary baseline tariff is the departure point for tariff setting. There are many strategic reasons why the actual tariff levied may be above or below the primary baseline for some or all consumers. These are discussed in the next section of the guide. However, it is important for a municipality to know what the primary baseline tariff is, in order to properly understand the implications of setting a tariff below or above that level. Calculating the primary baseline tariff should thus be the first step in tariff setting.

### First choose a baseline unit

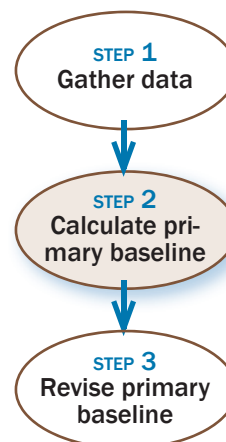
The baseline unit is the unit of measurement against which the tariff will be calculated. For most services this will simply be the unit of consumption already determined. For water and electricity, two baseline units are typically chosen: number of consumers served and unit of consumption (kl of water or kWh of electricity).

### Then calculate the tariff per baseline unit

The primary baseline tariff is simply calculated as *the total cost divided by the number of baseline units*.

For water and electricity, the baseline tariff has a fixed and variable component. The fixed component is the fixed costs divided by number of consumers, and the variable component is the variable costs divided by the total consumption of services (including any consumption that is given away free of charge).

The result will be a primary baseline tariff that is *the same for all consumers, and fully recovers all costs*.



The ‘primary baseline’ tariff is the tariff required to fully recover costs.



## EXAMPLE

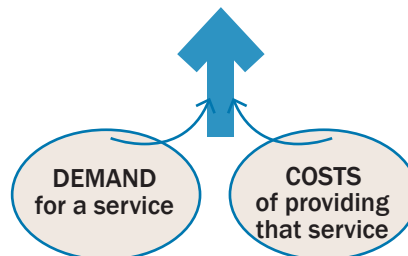
### FROM MYMUNI MUNICIPALITY

#### Calculating the primary baseline tariff in Mymuni

The primary baseline tariff is calculated by dividing the total cost of providing a service by the number of baseline units.

	Cost (Af '000) per month	Baseline unit	Number of baseline units per month	Primary baseline tariff (Af per baseline unit)
Water	7 528	Kl of water consumed	200 000	3,14
Sanitation	3 833	Number of toilets	12 060	26,49
Swimming pool	1 369 per year	Number of visits per year	73 500	18,63

**PRIMARY BASELINE TARIFF**  
= tariff required to fully  
recover the costs



#### KEY WORDS

primary baseline tariff  
baseline unit

# 5

## Achieving strategic goals – revising the primary baseline tariff

The process up until now has focussed on identifying a tariff that will achieve full cost recovery. This has been a, mechanical calculation process. However, tariffs are not policy neutral. They are used to achieve a number of goals aside from full cost recovery. These goals might include *ensuring that services are affordable* to domestic consumers or institutions, *promoting local economic development* by limiting the cost of services for commercial or industrial consumers, or discouraging *wasteful use of services* by escalating the price of services consumed in large volumes.

At this point in the process, it is thus necessary to make some strategic decisions. The baseline tariff is then revised in line with those decisions.

### Make some strategic decisions

There are a number of strategic decisions to be made, each of which will result in an adjustment to the primary baseline tariff.

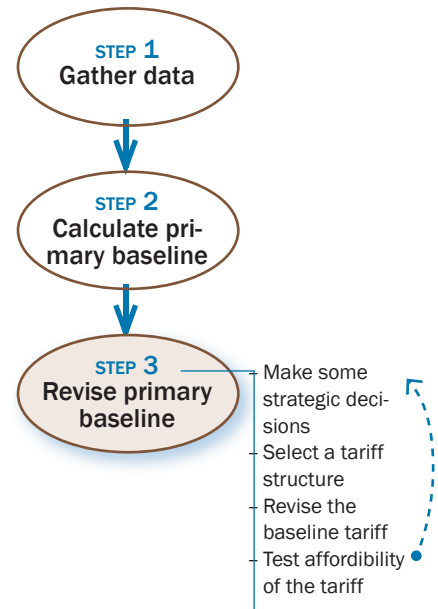
#### Do you wish to achieve full cost recovery on this service?

The goal of tariff setting is revenue sufficiency for the municipality as a whole. However, some trading services may be run at a loss and others at a profit, as long as these losses and profits balance each other out. This is the principle of cross-subsidisation between services. In addition, as noted in the introductory comments, tariff revenue from most non-trading services is not expected to fully cover costs. These services are funded in part out of assessment rates or possibly subsidies.

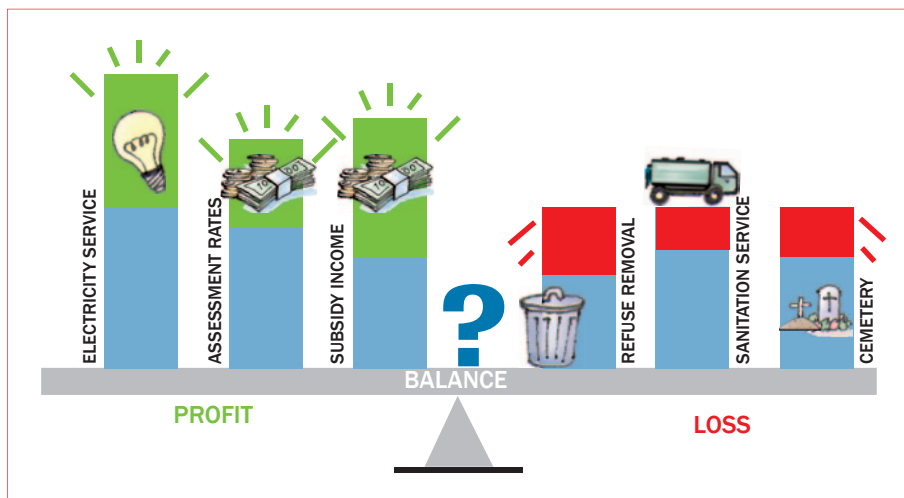
The following decisions must be made:

**Strategic decision 1: Are you willing to accept a tariff revenue deficit on this particular service?** How much of a deficit will you accept? How will you fill this deficit (out of subsidies, assessment rates or cross-subsidisation by other services)?

**Strategic decision 2: Do you plan to make a tariff revenue surplus on this service?** How much surplus do you plan to generate? Surpluses are typical only for electricity, which is often run at a surplus and used to cross-subsidise losses on other trading services.



Decisions about accepting profits or losses on services can only be made by looking at all services together, and ensuring that in balance the municipality will fully recover costs. For example, losses on services to be filled by assessment rates cannot exceed the total assessment rates revenue available.



Tariffs are not policy neutral – there are a number of strategic decisions to be made!

Decisions about accepting profits or losses on services can only be made by looking at all services together, and ensuring that in balance the municipality will fully recover costs. Tariff revenue losses will be made on some services. These must be balanced against tariff revenue profits on other services, as well as other income sources such as assessment rates and subsidies. Getting the balance right is one of the most difficult parts of tariff setting.

### Do you plan to give some of this service away free of charge?

In order to achieve universal access to services in South Africa, legislation requires that a certain, so-called Free Basic, amount of services are provided free of charge. For water and electricity this is typically a certain volume of services. Municipalities receive a subsidy from National Government, called the Equitable Share, which is intended to compensate for revenue lost in providing free services.

In addition, some levels of service are often provided free of charge for practical reasons. For example, domestic consumers who access water from communal standpipes might not be charged for water because it is administratively difficult to manage charging for this level of service.

Note that subsidies are often not sufficient to fully compensate for the loss of revenue incurred in providing free services. In this case, losses must be cross-subsidised by a tariff higher than the primary baseline on the billed consumption. This is called levying a 'surcharge' on some consumption.

The following decisions must be made:

**Strategic decision 3: Do you plan to subsidise the delivery of this service (excluding free basic service)?** Is there a subsidy available to compensate for revenue lost? If a deficit remains after the subsidy is accounted for, from which consumers will you cross-subsidise this deficit?

#### KEY WORDS

subsidies  
cross-subsidisation  
surcharges  
trade-offs

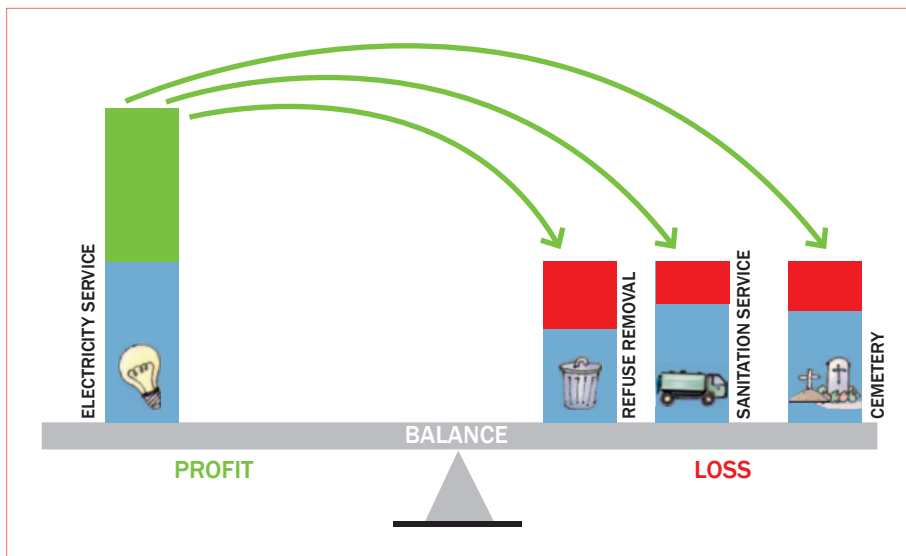
## Do you wish to limit the size of the tariff levied on certain types of consumers?

There are various reasons for limiting the tariff levied on certain consumers. Even if you are not providing free services, you may wish to *assist poor households* by limiting tariffs to low income customers to some affordable amount. You may wish to provide *support to institutions* by limiting the size of their tariffs. You may wish to *promote local economic development* by limiting the size of tariffs for commercial or industrial customers.

The following decisions must be made:

**Strategic decision 4: Do you wish to limit the tariff that a particular consumer type pays?** Which consumer type do you wish to support? How will you define that consumer type (see note later on in this section)? What limit do you wish to place on their tariff? You may wish to specify that some consumers pay a % below cost, or do not pay more than cost, or to limit the size of the surcharge that some consumers pay. If limiting the tariff results in a deficit, from which consumers will you cross-subsidise this deficit?

Note that it is only really possible to limit the size of the tariff levied on certain consumer types for trading services. See the 'Note on defining consumer types' on next page.



Cross-subsidisation refers to subsidisation within a municipality as opposed to by an external body. This is achieved when a loss incurred in one area of service provision is compensated for by a profit generated in another. Cross-subsidisation can occur between services, when a loss on one service is compensated for by a profit on another, or between groups of consumers, when a loss on one consumer type is compensated for by a profit on another.

The different strategic goals that can be achieved by tariffs are not always complementary. Trade-offs must be made.

### **Do you wish to escalate the tariff levied on certain types of consumers?**

The primary reason for increasing the tariff levied on certain types of consumers is to discourage wasteful use of a service. For example, you may wish to discourage wasteful use of water by escalating the tariff levied on consumers who consume in excess of a certain amount of water. Alternatively, you may wish to discourage consumers from using electricity during the peak winter months of the year by levying a higher tariff during these months.

Escalated tariffs are also levied on some consumer types in order to cross-subsidise reduced tariffs levied on other consumer types.

The following decisions must be made:



**Strategic decision 5: Do you wish to escalate the tariff levied on a type of consumer?** For which consumer do you wish to escalate the tariff? How will you define that consumer type? What escalation do you wish to apply? Note that it is only really possible to escalate the size of the tariff levied on certain consumer types for trading services. See the 'Note on defining consumer types' below.

### **A note on defining consumer types**

You can only choose to limit or escalate the tariff levied on certain consumer types if you have a practical and reasonably accurate way of distinguishing between consumer types.

For trading services, this can be done based on either the level of service to which they have access or their level of consumption of the relevant service\*. For example, when setting a water tariff you will need to define 'low income consumers' as consumers consuming up to a particular amount of water, perhaps 15kl of water per month. An alternative example would be to define 'low income consumers' of refuse removal services as consumers who make use of communal dumping sites, rather than receive kerbside waste removal.

For non-trading services, there is no easy way of distinguishing between consumer types. For example, there is no way of reliably distinguishing between a low income domestic user of a municipal swimming pool and a high income domestic user. For this reason, it is often not possible to limit or escalate the tariff levied on different consumers of non-trading services.

The tariff setting tool that accompanies this guide provides some suggestions as to how to define consumer types for the major trading services, but consumer types can only really be accurately defined based on a good understanding of the levels of service provided and consumption patterns in the municipality for which the tariff is set.

### **A note on trade-offs**

The different goals that can be achieved by tariffs are not always complementary. For example, ensuring that tariffs are affordable for domestic consumers might require you to increase the tariffs for commercial and industrial consumers, and thus not achieve the goal of promoting local economic development. Making the strategic decisions outlined above is something of a balancing act, and may require several rounds of calculating tariffs and revising decisions.

***It is important that the tariff policy is explicit about strategic decisions that have been made, and that trade-offs are noted.***

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\* It is also possible to define consumer types based on other parameters, such as geographic location. This then requires levying tariffs that differ by geographic location. These tariffs are not included in this basic guide, and so this definition of consumer types is not discussed.

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#### **KEY WORDS**

**fixed charges**  
**uniform rates**  
**rising block tariffs**  
**seasonal charges**



## Select a tariff structure

Tariffs can be structured in many different ways. They can be fixed monthly charges, or can vary according to the amount of the service that is consumed. They can differ for different geographic areas, or for different levels of service, or according to the time of year or day. For the purposes of this basic guide to setting tariffs, only those tariff structures that are commonly applied in Namibia, Botswana and South Africa are discussed.

### Fixed charges

A fixed charge is a fixed monthly fee charged per consumer, regardless of how much of a service that consumer uses. Fixed charges are simple to implement and very easy for customers to understand. However, they are not pro-poor: a low income domestic consumer and a high income domestic consumer pay the same charge, but for the low income consumer this charge represents a larger share of income and is relatively more expensive. Fixed charges also do not promote conservation or efficient management of a service

Fixed charges can be used for some services in combination with a consumption based charge. The fixed charge recovers the fixed costs associated with providing the service, while the consumption based charge recovers the variable costs.



#### FINANCIAL DECISIONS

*Strategic decision 1: Are you willing to accept a tariff revenue deficit on this particular service?*

*Strategic decision 2: Do you plan to make a tariff revenue surplus on this service?*

#### AFFORDABILITY DECISIONS

*Strategic decision 3: Do you plan to subsidise the delivery of this service (excluding free basic service)?*

*Strategic decision 4: Do you wish to limit the tariff that a particular consumer type pays?*

*Strategic decision 5: Do you wish to escalate the tariff levied on a type of consumer?*

#### MORE ABOUT ●●●

##### INDIGENT REGISTERS

The method by which you define low income consumers for whom tariffs will be limited if referred to as 'targeting' in the literature. The methods described in the text here are referred to as 'automatic targeting': low income consumers are identified for tariff support automatically based on some parameter (such as the quantity of a service that they consume, the value of the property on which they live or the level of service to which they have access).

An alternative method of identifying low income consumers is the use of an indigent register. This is called 'application-based targeting'. Instead of automatically identifying low income consumers based on some characteristic, these consumers must identify themselves by applying to be on an indigent register. Indigent registers are very controversial because they are often under-subscribed. This is due to two key barriers that prevent people from registering themselves as indigent: firstly, the time and cost that must be incurred to do this (travelling to a municipal office, standing in queues, making sure you have the required paperwork and so on); and secondly the stigma associated with declaring yourself to be 'indigent'.

## Consumption based charges

Consumption based charges are charges per unit of consumption (e.g. per kilolitre of water consumed, per grave dug or per library book borrowed). Consumption based charges are regarded as equitable because a consumer who uses more of a service will pay more under this type of charge. Consumers can restrict the amount that a service costs them by restricting their consumption of the service. There are a number of different types of consumption based charge. These are described in the table on next page.

Different types of consumption based charge

	Uniform rate	Rising block	Seasonal
Description	Constant charge per unit consumed.	Charge per unit consumed rises as larger amounts are consumed.	Charge applied varies by time of year.
Advantages	Simple to understand for customers. Equitable Provides some promotion of conservation, as bill will increase with higher use of the service. Relatively simple to design and easy to implement. Requires less information and analysis than more complicated tariff structures.	Can be equitable if properly designed. However, a poorly designed rising block tariff can be very inequitable. Most conservation-oriented option, especially if consumers understand the tariff structure well.	Relatively simple to understand, provided that the seasonal differences are clearly communicated to consumer. Allows for promotion of conservation during times of year when demand is highest. Can be used in combination with a rising block tariff.
Dis-advantages	Conservation goal can be enhanced through a more complex structure (such as a rising block rate) if the data required to set such a tariff is available.	Complicated to understand. Complicated to implement. Requires good information and analysis of consumer usage patterns in order to design effectively. Judgement must be applied when selecting number of blocks, size of blocks and relative price level of blocks.	Moderately complicated to implement. Requires good information on consumption patterns during the year. Likely to require some customer education and notification. Only possible if billing systems are able to handle the change in rates.

The tariff structure chosen will be influenced by the strategic decisions taken.

### Choosing the most appropriate tariff option

Fixed charges are not recommended, but they might be necessary in some cases (for example, in municipalities with a lot of holiday homes). Where fixed charges are applied, great care must be taken in ensuring that they are affordable. This may mean making some arrangement to reduce the fixed charge for low income consumers.

In general, consumption based charges are preferred.

With regard to choosing which type of consumption based charge to apply:

- For simplicity, a uniform rate is preferred if possible. If you do not wish to give some of the service away for free, do not wish to restrict the tariff for other consumer sub-types and do not wish to escalate the tariff for other consumer sub-types, then a uniform rate for each consumer type is best.
- For water and electricity, if you wish to limit consumption during certain times of year, then a seasonal rate is best.
- For all other cases, some form of rising block tariff will be required.

#### KEY WORDS

uniform rate  
rising block  
seasonal

## Revise the baseline tariff in line with strategic decisions

The primary baseline tariff is the tariff that will cover the full costs of providing the service. The strategic decisions outlined in the previous section may mean that a municipality may choose to set a tariff for some consumer types above or below the primary baseline level.

A 'revised baseline' tariff should be determined per consumer group with consideration of the strategic decisions made.

Strategic Decision	Effect	Practical impact on revised baseline tariff
I am willing to accept a tariff deficit on this service	The revenue required from the tariff is less than the cost of providing the service	Revised baseline tariff for all consumer types is less than primary baseline
I wish to generate a tariff surplus on this service	The revenue required from the tariff is more than the cost of providing the service	Revised baseline tariff for all consumer types is more than primary baseline
I wish to give some of this service away free of charge	<p>The number of baseline units on which the tariff is calculated is reduced. The revised baseline tariff will be calculated only on the billable volume of the service.</p> <p>If a subsidy is available, then the revenue required from the tariff is reduced.</p>	<p>This depends on whether the subsidy is sufficient to fully compensate for the loss of revenue incurred by giving some services away free. If this is the case, then the revised baseline tariff will remain the same as the primary baseline.</p> <p>If the subsidy does not fully compensate for the loss of revenue then the revised baseline will increase for at least some consumer types in order to achieve revenue sufficiency.</p>
I wish to limit the size of the tariff levied on certain consumers	<p>There may be a need to introduce sub-categories of consumer types (for example, low income domestic consumers, middle income domestic consumers and high income domestic consumers).</p> <p>A cap is placed on the revised baseline tariff for certain consumer types or sub-types.</p>	<p>The revised baseline tariff for some consumer types may be below the primary baseline, equal to the primary baseline or a limited amount above the primary baseline.</p> <p>For other consumer types, the revised baseline tariff will increase in order to allow for cross-subsidisation and ensure that the tariff still achieves revenue sufficiency.</p>
I wish to escalate the tariffs levied on certain consumers	<p>As above, there may be a need to introduce sub-categories of consumer types.</p> <p>The revised baseline for some consumer types or sub-types is escalated.</p>	The revised baseline tariff for some consumer types will be above the primary baseline.



## EXAMPLE

### FROM MYMUNI MUNICIPALITY

#### Revising the primary baseline for WATER

For water, the following strategic decisions have been made:

**Strategic decision 1:** Are you willing to accept a tariff revenue deficit on this particular service? **No.**

**Strategic decision 2:** Do you plan to make a tariff revenue surplus on this service? **Yes.** Mymuni wishes to make a 10% surplus on the provision of water.

#### Implications of Strategic Decision 2:

Cost of service (Af'000 pm)	Surplus to be generated	Revenue required (Af'000 pm)	Volume of water provided (kl pm)	Primary baseline tariff (Af per kl)	Revised baseline tariff (Af per kl)
627,33 (7528 ÷ 12)	10%	690,07	200 000	3,14 (627 330 ÷ 200 000)	3,45 (690 070 ÷ 200 000)

**Strategic decision 3:** Are you planning to give some of this service away free of charge?

**Yes.** In Mylandia it is policy that 6kl of water must be provided free every month to poor households. Since it is difficult to determine exactly who is poor, Mymuni gives all water consumed at communal standpipes away free of charge, and gives all domestic households 6kl of water free every month. Mymuni receives a subsidy of Af100 000 per month to help them to pay for this free water. If this subsidy is not enough to cover the cost, then Mymuni plans to cross-subsidise any deficit by levying a surcharge on middle and high income domestic consumers.

#### Implications of Strategic Decision 3:

Subsidy available (Af'000 pm)	Revenue required (Af'000 pm)	Volume of water provided free (kl pm)	Volume of water sold (kl pm)	Primary baseline tariff (Af per kl)	Adjusted primary baseline (Af per kl)
100	590,07 (690,07 – 100)	64 500 (4 500 kl consumed at communal standpipes plus 6kl x 10 000 domestic consumers with on-site water)	135 500 (200 000 – 64 500)	3,14 (627 330 ÷ 200 000)	4,35 (590 070 ÷ 135 500)

**Strategic decision 4:** Do you wish to limit the tariff that a particular consumer type pays?

**Yes.** Mymuni wishes to ensure that low income domestic consumers do not pay more than 3% of their household income for water. If this results in a deficit, then this will be cross-subsidised by levying a surcharge on middle and high income domestic consumers.

#### Implications of Strategic Decision 4:

Low income domestic consumers have been defined in Mymuni as households with an income of above Af 700 but no more than Af 1 500 per month, who consume 15kl of water per month on average.

An affordable bill for low income domestic consumers will be Af33,00 per month

(Average income = (1500 – 700)/2 + 700 = Af 1 100, 3% of Af 1 100 = Af 33,00)

The revised tariff for low income domestic consumers is Af3.67

(Af 33 for 15 kl but with 6kl free = 33/(15 – 6) = 3,67)

This will generate Af206 250 each month (3,67 x 6 250 consumers x (15 kl – 6kl free)).

Under the Adjusted Primary Baseline tariff, low income domestic consumers generated Af 244 954 per month (4,35 x 6 250 consumers x (15 kl – 6kl free)).

CONTINUES on next page

A cross-subsidy of Af38 704 must be generated each month from middle and high income domestic consumers.

	Revenue based on Adjusted Primary Baseline (Af pm)	Revenue required after subsidising low income (Af pm)	Volume of water sold (kl pm)	Primary base-line tariff (Af per kl)	Revised base-line tariff (Af per kl)
Indigent	0	0	0	3,14	0
Low income	244 954	206 250	56 250	3,14	3,67
Middle and high income	163 303	202 006	37 500	3,14	5,39
<b>Total</b>	<b>408 256</b>	<b>408 256</b>	<b>93 750</b>		

**Strategic decision 5:** Do you wish to escalate the tariff levied on a type of consumer? **Tariffs for middle and high income consumers will be escalated in order to cross-subsidise low income and indigent domestic consumers. No other tariff escalations will be considered.**

**Implications of Strategic Decision 5:** None

### Revising the primary baseline for the municipal swimming pool

For the swimming pool, the following strategic decisions have been made:

**Strategic decision 1:** Are you willing to accept a tariff revenue deficit on this particular service? **Yes. The primary baseline tariff for the swimming pool is considered to be unaffordable by Council. Mymuni is willing to accept a tariff revenue deficit on running the swimming pool. The deficit will be filled by assessment rates.**

**Strategic decision 2:** Do you plan to make a tariff revenue surplus on this service? **No.**

**Strategic decision 3:** Are you planning to give some of this service away free of charge? **No.**

**Strategic decision 4:** Do you wish to limit the tariff that a particular consumer type pays? **Yes. It has been decided that the tariff should be set at 50% of the primary baseline level.**

**Implications of Strategic Decision 4:**

Primary baseline tariff (Af per kl)	Revised baseline tariff (Af per kl)	Demand for service (visits pa)	Tariff revenue generated (Af pa)	Cost of service (Af pa)	Deficit incurred (Af pa)
18,63	9,31	73 500	684 500	1 369 000	684 500

Assessment rates income of Af684 500 pa must be used to subsidise the running of the municipal swimming pool.

**Strategic decision 5:** Do you wish to escalate the tariff levied on a type of consumer? **No.**



## EXAMPLE

### FROM MYMUNI MUNICIPALITY

#### Tariff structure for water in Mymuni

The strategic decisions made by Mymuni and the way in which they have defined domestic consumer types based on water consumption suggest that a rising block tariff will be most appropriate for domestic tariffs.

The blocks will be set at 0 to 6kl, 6 to 15kl and more. This is a logical structure, considering the consumption patterns in Mymuni.

	Water provided in block (kl)	Revenue required from block (Af pm)	Tariff charged for block (Af per kl)	Primary baseline tariff (Af per kl)
0 to 6kl	64 500	0	0	3,14
6 to 15kl	81 000 (9 000 low, middle and high income consumers x (15-6 kl))	297 000 (81 000 x Revised Baseline Tariff of Af 3,67)	3,67	3,14
More	12 750 (remainder)	111 256 (remainder)	8,73	3,14
	158 250	408 256		

For non-domestic tariffs a uniform rate will be charged.

The tariffs levied are thus:

	Tariff (Af per kl)
<b>Domestic consumption</b>	
For all consumption less than 6kl	0
For consumption between 6 and 15kl	3,67
For consumption above 15kl	8,73
<b>Non-domestic consumption</b>	<b>4,35</b>

The *tariff policy* should indicate explicitly what revisions have been made to the primary baseline tariff as a result of the strategic decisions taken.

Note that the associated tariff setting tool takes the user through the process of revising the baseline tariff step-by-step.

## Test affordability of the tariff

The final step in setting a basic tariff is to test the affordability of the tariff.

### Will the tariff generate sufficient revenue?

Once a revised baseline tariff has been determined that achieves all of the desired strategic goals, it should be tested by calculating the revenue that it will generate. This must be done based on the available data on numbers of consumers and levels of consumption.

### Will the tariff be affordable?

The focus of this guide has been on setting tariffs that ensure the financial viability of the municipality by generating sufficient revenue to cover costs. However, there is no point in setting tariffs that theoretically generate sufficient revenue if those tariffs are so high that consumers will be unable to pay them. Assessing the affordability of the tariffs is thus an important step.

Accurate determination of affordability can only really be achieved by conducting comprehensive contingent valuation surveys. In the absence of such surveys, there is a commonly applied rule of thumb that households should receive a bill for all municipal services (including assessment rates) that is no more than 15% of their income. It is recommended in this guide that 1% of income on the four major trading services (water, sanitation, electricity and refuse removal) be considered affordable as a starting point until willingness to pay can be established more accurately\*.

In order to assess affordability using this rule of thumb, you will need to define a few representative consumers. One example is given in the worked example below, but representative consumers should be defined for your particular municipality based on prevailing income and consumption patterns.

The bill for water, sanitation, electricity and refuse removal should be calculated for each of these representative consumers and assessed against the rule of thumb of 11% of monthly income. Note that if some of these services are provided by entities other than the municipality then the tariffs charged by those entities must be taken into account.

### Revisiting your strategic decisions

If the revised baseline tariff results in insufficient revenue generated or in municipal bills that are unaffordable then you will need to go back and change some of your strategic decisions and calculate a new revised baseline tariff. The strategic decisions and revised baseline tariff should be adjusted until tariffs are set that both generate sufficient revenue and are affordable to consumers.

The strategic decisions and revised baseline tariff must be adjusted until sufficient and affordable tariffs are reached.

## MORE ABOUT ●●●

**AN AFFORDABLE BILL** is one which a consumer is **willing and able to pay**. There are a number of ways of assessing willingness to pay.

**Comparison with current payment levels:** willingness to pay can be judged from payments already being made by communities with similar social and economic profiles.

**Surveys:** special survey methods exist which can be used to assess the willingness to pay for improved service levels by a community. These are known as contingent valuation surveys.

**Indirect valuation:** estimates of willingness to pay can be made from other consumer behaviour. For example, if a person walks for an hour a day to collect water they may be willing to pay the amount that an hour of time is worth to them.

**Rules of thumb:** studies of expenditure patterns in various countries show that somewhere between 10 and 15% of income seems to be a reasonable share of household income spent on municipal services. In the case of water and sanitation in particular, the rule of thumb of 5% of income as a maximum bill is quite widely applied\*. Note that these rules of thumb are most relevant in urban areas.

*Komives et al (2005)  
Water, Electricity and the Poor:  
Who Benefits from Utility Subsidies?  
World Bank and personal  
communication with  
Vivien Foster, World Bank*

\* This is based on 5% of income for water and sanitation, 5% for electricity and 1% for refuse removal.

## KEY WORDS

revenue sufficiency  
affordability



## EXAMPLE

### FROM MYMUNI MUNICIPALITY

#### Testing the water tariff in Mymuni municipality

Revenue generated

	Volume of water provided (kl pm)	Tariff (Af per kl)	Revenue generated (Af per month)
Domestic: 0 to 6 kl	64 500	0	0
Domestic: 6 to 15 kl	81 000	3,67	297 000
Domestic: More	12 750	8,73	111 256
Non-domestic	41 750	4,35	181 810
<b>Total</b>	<b>200 000</b>		<b>590 067</b>
Subsidy			100 000
<b>TOTAL</b>			<b>690 067</b>

The tariff generates the required revenue of cost plus 10%.

#### Affordability

	Income (Af pm)	Average income (Af pm)	Average water consumption (kl pm)	Average bill (Af pm)	Bill as % of income
Indigent	Up to Af 700	350	6	0	0,0%
Low income	More than Af 700 but no more than Af 1 500	1 100	15	33,00	3,0%
Middle income	More than Af 1 500 but no more than Af 6 500	4 000	18	59,18 (0 x 6 kl + 3,67 x (15 - 6 kl) + 8,73 x (18 - 15 kl))	1,5%
High income	More than Af 6 500	9 750	24	111,53 (0 x 6 kl + 3,67 x (15 - 6 kl) + 8,73 x (24 - 15 kl))	1,1%

The bills for domestic consumers appear affordable, using bill as % of income as a guide. There is possibly even scope to raise the tariff for the highest tariff block.



# 6

## Communicating tariffs

There are two key documents through which municipalities communicate tariffs to consumers. The first is the *tariff policy* and the second is the *tariff schedules*.

### The tariff policy

As noted in the introduction to this guide, a tariff policy is a document that outlines how tariffs are established, monitored and reviewed. This is the key document to which consumers can refer in order to understand where their tariffs come from. The tariff policy is a theoretical document. It refers to *processes*, not actual *tariff levels*. At the very least, a tariff policy should include:

- A description of *the services* provided by the municipality.
- A description of *the types of consumers* served by the municipality, as referred to in the tariff schedules.
- A description of *the levels of service provided*.
- An explanation of *how the 'consumption' of services is defined* for each service.
- An explanation of *what costs are included* when calculating tariffs, and *how those costs have been allocated* between services (this is particularly relevant for overhead costs).
- A statement of *strategic decisions* made when setting the tariffs and the likely *implication of these strategic decisions for the tariffs* (including tariff structure selected).

### Tariff schedules

A tariff schedule is a 'price list' of the tariffs to be levied each year. In South Africa at least, there are legislated processes in place for publishing tariff schedules for public comment each year. This happens in conjunction with the municipal budget approval process. In practice, tariff schedules are often very difficult to interpret and understand. It is often not clear how the tariffs will result in an actual bill. The following example of a tariff schedule provides some ideas on information to include in published tariff schedules in order to make them more transparent.

Tariffs are a key point of engagement between municipalities and the people that they serve.

Please consult »...more on COMMUNICATING tariffs« for further guidance on good methods for tariff communication.

#### KEY WORDS

transparency  
tariff policy  
tariff schedule



**EXAMPLE**  
**FROM**  
**MYMUNI**  
**MUNICIPALITY**  
**Tariffs in Mymuni**

**Mymuni Municipality**  
**Tariffs 2010/11**

**WATER TARIFFS - Description of service:**  
 This tariff is for the supply of potable (drinking) water. This includes purchasing water from Bigbuck Water, storing water in reservoirs, piping water to consumers and operating a metering system.

**Cost of service provision:**

2009/10	2010/11	% increase	Comments
2,85	3,14	9%	Inflation rate of 6%. 10% increase in bulk water costs. See the Mymuni Budget 2010/11 for further detail on movements in costs.

**Tariffs charged:**

**Domestic consumption: communal standpipes**

**Who should be on this tariff?** Households who use water for their own consumption purposes and who access water from communal standpipes.

**Description of tariff:** This is a uniform rate tariff. This means that you pay the same amount per kl of water, regardless of how much you consume.

Tariff charged	2009/10	2010/11	% increase	Comments
	0	0	0%	No charge

**Domestic consumption: on-site water**

**Who should be on this tariff?** Households who use water for their own consumption purposes and who receive water piped onto the property.

**Description of tariff:** This is a rising block tariff. This means that the more water you consume, the more you will pay per kl. In other words, the price of each kl of water goes up as you consume more. Note that the first 6kl of water is provided free of charge.

Tariff charged	2009/10	2010/11	% increase	Comments
For all consumption less than 6kl	0	0	0%	
For consumption between 6 and 15kl	3,34	3,67	9%	Tariffs have been increased to keep pace with increases in the costs of service provision.
For consumption above 15kl	7,94	8,73	9%	

**Non-domestic consumption**

**Who should be on this tariff?** Commercial enterprises, industries and institutions.

**Description of tariff:** This is a uniform rate tariff. This means that you pay the same amount per kl of water, regardless of how much you consume.

Tariff charged	2009/10	2010/11	% increase	Comments
	3,96	4,35	9%	Tariffs have been increased to keep pace with increases in the costs of service provision.

**Sample bills: Examples of the calculation of bills are shown below:**

Consumption (kl per month)	Calculation of bill	Bill (R per month)	Average price paid (R per kl)
0			
18	$0 \times 6kl + 3,67 \times (9 - 6)kl$	11,01	1,22
30	$0 \times 6kl + 3,67 \times (15 - 6)kl + 8,73 \times (18 - 15)kl$	59,22	3,29
	$0 \times 6kl + 3,67 \times (15 - 6)kl + 8,73 \times (18 - 15)kl$	163,98	5,46
20	$4,35 \times 20kl$	87	4,35
50	$4,35 \times 50kl$	217,5	4,35

Refer to the Mymuni Tariff Policy for further information on how tariffs are set. Comments on tariffs can be given via the Mymuni Call Centre 0800 505 5005.

1

Describe the service so that the consumer understands what he or she is receiving in exchange for tariff payments.

2

The cost of service provision is provided as a reference against which tariffs can be evaluated. Changes in costs from the previous year are noted.

3

Explanations of who the different tariffs apply to are provided.

4

A brief description of the tariff structure and its implications are provided. This is particularly important for rising block or seasonal tariffs.

5

The tariffs charged this year and last year are stated.

6

Reasons for changes in tariffs are noted. If tariffs are adjusted by more or less than the adjustment in costs then the reasons for this should be commented on.

7

Some examples of the calculations of actual bills are provided. This helps consumers to understand how the tariffs translate into actual bills.

8

The tariff policy is referenced, and a channel for feedback provided.

## Mymuni Municipality Tariffs 2010/11

### WATER TARIFFS • Description of service: **1**

This tariff is for the supply of potable (drinking) water. This includes purchasing water from Bigbulk Water, storing water in reservoirs, piping water to consumers and operating a metering system.

### Cost of service provision: **2**

2009/10	2010/11	% increase	Comments
2,85	3,14	10%	Inflation rate of 6%. 10% increase in bulk water costs. See the Mymuni Budget 2010/11 for further detail on movements in costs.

### Tariffs charged:

Domestic consumption: communal standpipes				
<b>3</b> Who should be on this tariff?	Households who use water for their own consumption purposes and who access water from communal standpipes.			
<b>4</b> Description of tariff	This is a uniform rate tariff. This means that you pay the same amount per kl of water, regardless of how much you consume.			
	2009/10	2010/11	% increase	Comments
Tariff charged	0	0	0%	No charge
Domestic consumption: on-site water				
Who should be on this tariff?	Households who use water for their own consumption purposes and who receive water piped onto the property.			
Description of tariff	This is a rising block tariff. This means that the more water you consume, the more you will pay per kl. In other words, the price of each kl of water goes up as you consume more. Note that the first 6kl of water is provided free of charge.			
<b>5</b> Tariff charged	2009/10	2010/11	% increase	Comments <b>6</b>
For all consumption less than 6kl	0	0	0%	Tariffs have been increased to keep pace with increases in the costs of service provision.
For consumption between 6 and 15kl	3,34	3,67	10%	
For consumption above 15kl	7,94	8,73	10%	
Non-domestic consumption				
Who should be on this tariff?	Commercial enterprises, industries and institutions.			
Description of tariff	This is a uniform rate tariff. This means that you pay the same amount per kl of water, regardless of how much you consume.			
	2009/10	2010/11	% increase	Comments
Tariff charged	3,96	4,35	10%	Tariffs have been increased to keep pace with increases in the costs of service provision.

### Sample bills: Examples of the calculation of bills are shown below: **7**

Consumption (kl per month)	Calculation of bill	Bill (Af per month)	Average price paid (Af per kl)
Domestic consumer with on-site water			
9	$0 \times 6\text{kl} + 3,67 \times (9 - 6)\text{kl}$	11,01	1,22
18	$0 \times 6\text{kl} + 3,67 \times (15 - 6)\text{kl} + 8,73 \times (18 - 15)\text{kl}$	59,22	3,29
30	$0 \times 6\text{kl} + 3,67 \times (15 - 6)\text{kl} + 8,73 \times (18 - 15)\text{kl}$	163,98	5,46
Non-domestic consumer			
20	$4,35 \times 20\text{kl}$	87	4,35
50	$4,35 \times 50\text{kl}$	217,5	4,35

Refer to the Mymuni Tariff Policy for further information on how tariffs are set. Comments on tariffs can be given via the Mymuni Call Centre 0860 555 5555.

**8**

# 7

## The monitoring and review of tariffs

Tariffs should be monitored and reviewed annually.

Tariffs should definitely NOT simply be inflation adjusted.

### Monitoring revenue sufficiency

The key goal of the tariff setting process outlined in this guide is to ensure that tariffs generate sufficient revenue to cover costs, once other sources of revenue have been taken into account. The revenue generated by the tariffs should thus be monitored, and compared to revenue required.

In order to understand the reasons for any difference between revenue generated and revenue required, the following should also be monitored:

- *The actual costs incurred* in providing the services. Were these higher or lower than anticipated in the budget? What were the reasons for any differences?
- *Actual levels of consumption* of services. Were these higher or lower than anticipated? How did consumption patterns compare to expectations?

### Monitoring impact of strategic decisions

The results of any strategic decisions made should be monitored. For example, if it was decided to give some portion of a service away free of charge, then the volume of free services provided should be monitored. If it was decided to introduce a rising block tariff in order to discourage high levels of consumption of a service, then the number of consumers consuming in excess of the desired amount should be monitored.

### Reviewing tariffs

Tariffs should be reviewed annually. The process outlined in this guide shows that tariffs are based on the demand for services, the costs incurred in providing those services and strategic decisions made in order to achieve policy goals. Tariffs should be reviewed based on changes in any of these parameters. Tariffs should definitely NOT simply be inflation adjusted. The municipality must be able to provide clear reasons for tariff adjustments.

#### KEY WORDS

monitoring  
review

# 8

## In closing...

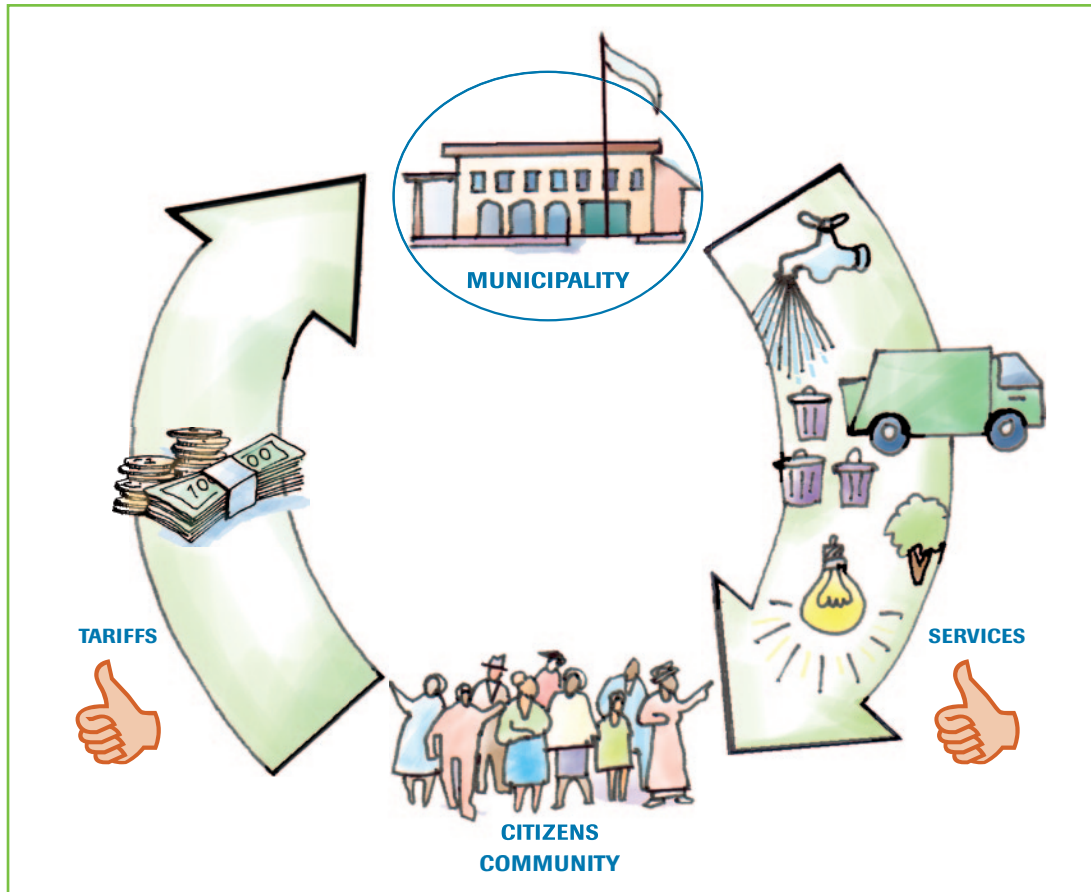
This guide has sought to outline a tariff setting process that will result in basic tariffs that ensure the financial viability of small to medium sized municipalities in South Africa, Namibia and Botswana. It has also sought to show how this process can be transparently communicated in a tariff policy.

The guide has highlighted:

- *The need for reliable and accurate data* on demand for services and costs of service provision as the basis for setting tariffs.
- *The need to calculate a primary baseline tariff* that fully recovers costs, to be used as a starting point in setting sound tariffs and as a reference point when assessing actual tariff levels.
- *The fact that tariffs may aim to achieve a number of strategic goals* other than revenue sufficiency and the importance of making these strategic goals explicit.
- *The need for transparent communication* of tariff setting processes and tariff levels.
- *The need for rational monitoring and review of tariffs* that is based on changes in the demand for services and costs of service provision, rather than inflation adjustments.

After following the process outlined in this guide, municipalities may find themselves with a set of tariffs that differ significantly from those currently levied. It may not be possible to move to the new tariffs immediately. These new tariffs will, however, provide a basis for evaluating the soundness of existing tariffs. At the very least, comparing the primary baseline tariff with current tariff levels will indicate whether existing tariffs are too high or too low. The tariffs that result from following the process outlined in this guide represent a goal towards which municipalities can aim to move.

In the long term, it is hoped that this guide results in improved tariff setting in municipalities, and thus improved municipal financial sustainability and the continued ability of municipalities to provide vital services that contribute to the quality of life of citizens of South Africa, Namibia and Botswana.



In the long term, it is hoped that this guide results in improved tariff setting in municipalities, and thus improved municipal financial sustainability and the continued ability of municipalities to provide vital services that contribute to the quality of life of citizens of South Africa, Namibia and Botswana.

# Definitions of terms used in the guide

## **Affordability Tariffs**

are considered to be affordable if consumers are willing and able to pay them. It is very important that tariffs are set at affordable levels: if tariffs theoretically generate sufficient revenue but are so high that consumers cannot pay them, then revenue will not in fact be received.

## **Assessment rates**

are sometimes referred to as property rates or property taxes and are non-voluntary taxes levied on the value of property. Assessment rates are the most important general revenue source available to municipalities and are used to subsidise the provision of those services which are not fully financed by tariff revenues.

## **Budget vote**

The municipal budget is divided into services or activities which will be delivered by the municipality. Each budget service or activity must be voted on and approved by Council hence the use of the terminology, vote.

## **Bulk purchases**

These are purchases of either potable (drinking) water or electricity from organisations such as a Water Board or ESKOM the product being generated by them. The product once bought is then distributed by the municipality using its own distribution network.

## **Capital financing costs**

are defined in this guide as costs associated with financing infrastructure expansion and with replacing and/or rehabilitating existing infrastructure. This includes depreciation costs, external interest payments and any provisions to capital reserves.

## **Consumer**

is used in this guide to refer to the unit served by the municipality. In urban areas a domestic consumer is typically a plot, while in rural areas it is a group of closely associated dwellings.

## **Contingent valuation surveys**

are used to determine the value that people place on a service, and thus the amount that they would be willing to pay for that service. It involves asking people, in a survey, how much they would be willing to pay for a service in a hypothetical scenario. Alternatively, you can ask what compensation they would require in order to give up the service.

## **Cost accounting**

is defined in this guide as a system for measuring the costs incurred in providing a service, and the classification of these costs in various ways in order to improve understanding of how to manage costs.

## **Cross-subsidisation**

refers to subsidisation within a municipality (as opposed to by an external body), and is achieved when a loss incurred in one area of service provision is compensated for by a profit incurred in another. Cross-subsidisation typically occurs between services or between groups of consumers.

## **Council expenses**

The mandate of a municipality determines that it must have a structure and administration process to give effect to the mandate. Councillors must be paid and Council meetings must be held. These expenses should be apportioned to the services the council provide so that each service carries the full cost of providing the service even if some of the expenses such as Council expense are not directly related to the service.

## **Depreciation**

is a non-cash expenditure item and accounts for the fact that assets are 'used up' over time and will eventually have to be replaced. Proper accounting for depreciation results in the generation of a cash surplus on the operating account, which can be transferred to a reserve for the future replacement of assets.

**Direct costs**

are defined in this guide as all of those costs incurred in providing a particular service on a day-to-day basis. This will include all costs appearing against the relevant budget vote for a service, except for capital financing costs.

**Indigent registers**

are lists of people in a municipality who have registered themselves as 'indigent'. Typically, registering on an indigent register requires some proof that income falls below a certain level, established by the municipality.

**Kilolitre**

The unit of measurement when water is delivered to consumers is kilolitres or kls of water. A kl is 1000 litres.

**Kilo Volt Ampere Kilo Volt Amps**

are used mostly in industrial or commercial electricity applications. A KVA is 1000 Volt Amps.

**Kilowatt Hour**

The unit of measurement when electricity is delivered is Kilowatt Hours or KwH. A KwH is 1000 Watts of electricity consumed expressed in hours.

**Metered**

Many properties have meters installed on their properties or on the boundary which measures the quantity of either water or electricity consumed on the property. The meters are read at intervals usually monthly and the consumer is billed by the municipality for the units consumed according to the municipal tariff for the use of the service.

**Overheads**

are defined in this guide as costs incurred in running a municipality as a whole that are not directly attributable to a particular service. Examples are treasury and political functions.

**Prepaid**

Many properties have systems which enable consumers to buy units of electricity or water prior to the use of the service from third parties such as supermarkets. Once bought they enter value they have bought into the system on the property via a pre-determined code, which sets the quantity of the service they can use until they are required to purchase more. This is referred to as a Pre-paid system. It assists the municipality with its credit control.

**Primary baseline tariff**

is a term used in this guide to refer to the tariff that must be levied in order to fully recover the costs of providing a service. This is a single tariff levied on all consumer types.

**Reserves**

are portions of the accumulated surpluses generated by municipalities that are set aside for a particular purpose. The reserves referred to in this document are capital financing reserves, which are cash amounts set aside to finance future capital expenditure.

**Revised baseline tariff**

is a term used in this guide to refer to the actual tariff levied once the primary baseline tariff has been modified to reflect strategic decisions made by the municipality.

**Ring fenced**

In each budget vote ALL the costs applicable to the service must be reflected so that the full cost of delivering the service is clearly shown. This is referred to as "ring fencing". It requires that the share of overheads costs allocated to that service is also reflected in the budget vote.

**Serviced stands**

Serviced stands are lots or erven of property demarcated within the municipality which have services such as water and electricity piped or cabled to the boundary of the property by the municipality whose responsibility it is to maintain and deliver the services to this point.

**Surcharge**

is an additional amount charged for a service, over and above the amount required to cover the cost of providing that service. In the nomenclature used in this guide, a surcharge is any amount above the primary baseline tariff.

**Tariffs**

are charges levied for the consumption of municipal services.

**Willingness to pay**

is an economic term which means the amount that a consumer is prepared to pay for a product or service which they desire. It assumes ability to pay for the service.



# Generic Tariff Policy

The following is a possible Table of Contents for a tariff policy, with an explanation of the type of information that should be included in each section.

## Table of Contents

### 1. Definitions

A list of terms used in the policy.

### 2. Purpose of the policy

A brief description of the objectives of the policy. These might include:

- Complying with the provisions of legislation.
- Describing procedures for calculating tariffs in order to improve transparency.
- Providing guidance to Councillors responsible for evaluating proposals for tariff revisions.

### 3. Tariff principles applied

A description of the principles applied when calculating tariffs, and an explanation of what these mean in practice. This should include an explanation of any over-arching policy decisions. Some possible examples:

- Tariffs are set in such a way as to fully recover the costs of service provision, unless otherwise stated in this document.
- Subject to the recommendations of the Chief Financial Officer, Council may choose to approve surpluses to be generated on some services.
- Subject to the recommendations of the Chief Financial Officer, Council may choose to approve deficits to be incurred on some services. Deficits will be approved only in as far as they are necessary to ensure that tariffs are affordable.
- For trading services, tariff revenue deficits will be subsidised out of external subsidies as far as possible. Where external subsidies are insufficient, allowance is made for surcharges to be levied in order to allow for cross-subsidisation within or between services.
- For non-trading services, tariff revenue deficits will be subsidised out of assessment rates or other general revenue sources.

- Efficient and effective use of resources will be encouraged by levying surcharges on high levels of consumption.
- Tariffs will be based on the level of consumption of a service wherever possible. Fixed charges will be avoided. Where fixed charges are used, they will be set in such a way as to ensure affordability.
- Uniform rate tariffs will be applied wherever possible. Rising block or seasonal tariffs will be used only to discourage excessive use of resources or to promote affordability.

### 4. Description of services provided

A brief description of the services provided by the municipality and the activities undertaken. This should include the levels of service provided.

For example:

*Refuse:*

Activities undertaken: Collection of refuse and transport to landfill site.

Levels of service provided: Domestic levels of service are clearing of legal communal dumping sites, weekly kerb-side collection of black bags and weekly kerb-side collection of wheelie bins. Non-domestic levels of service are weekly kerb-side collection of wheelie bins and daily collection of 4T containers.

*Cemetery:*

Activities undertaken: Grave digging, Internment of ashes, Maintenance of graves, Exhumation of body.

Levels of service provided: Not defined for this service.

### 5. Types of consumer served

List of types of consumers considered and how these are defined. See Section 3 of this guide for some examples of consumer types.

### 6. The costs of service provision

List of the cost categories considered and how costs are classified for the purposes of tariff setting. Also an explanation of how overheads costs are allocated between services. For example:

The following budget votes are considered:

- Executive and Council
- Administration
- Refuse
- Cemetery

The following votes are classified as ‘overheads’:

- Executive and Council
- Administration

All other votes are classified as ‘services’ votes.

The following expenditure categories are considered per services vote for the purposes of tariff setting:

- Variable costs, which include:
  - Salaries, wages and allowances
  - Bulk purchases
  - General expenditure
  - Repairs and maintenance
  - A share of ‘overheads’ expenditure
- Fixed costs, which include:
  - Capital charges (interest/depreciation)
  - Contribution to fixed assets
  - Contribution to reserves

The share of overheads expenditure allocated to each services vote is determined using Activity Based Costing.

## **7. Types of tariffs**

List of the tariff structures applied in the municipality with a description of the tariff.

For example:

*Uniform rate:* A constant rate per unit consumed.

*Rising block tariff:* An increasing rate per unit consumed is levied for increased consumption, with consumption classified into blocks.

## **8. Tariff calculations applied per service**

This section should briefly describe how the tariffs for each individual service are calculated.

For example:

*Water:*

Tariff categories: Domestic un-metered, Domestic metered, Non-domestic

Tariff structures:

- Fixed monthly charge for domestic un-metered.
- Uniform rate for domestic metered, with kl of water consumed as the tariff base.
- Uniform rate for non-domestic use, with kl of water consumed as the tariff base.

Tariff calculations: Domestic un-metered

- **Tariff baseline unit:** Number of households receiving un-metered water supply. This will be estimated based on the assumption that these households consume a fixed amount of water per month, to be determined annually by the Chief Financial Officer in discussion with the Head of Technical Services. Number of households will then be calculated as volume of un-metered water provided per month divided by estimated water consumption per household.
- **Cost of service provision:** A portion of the cost of providing the service shall be allocated to domestic un-metered provision based on the volume of water consumed by these consumers. This is determined based on bulk metering data.
- **Primary baseline tariff:** The primary baseline tariff required in order to recover costs shall be calculated as cost of un-metered domestic provision divided by number of households receiving un-metered water.
- **Revisions to the primary baseline tariff:** The primary baseline tariff will be revised downwards if necessary to ensure that the fixed monthly charge does not exceed an affordable level, to be determined annually by the Chief Financial Officer.
- Any deficits incurred on provision of water to domestic un-metered consumers will be cross-subsidised by levying surcharges on domestic metered consumers.

Similar sections for Domestic Metered and Non-domestic tariffs.

## **9. Communication of tariffs**

A description of how tariffs will be communicated.

For example:

A schedule of proposed tariffs will be displayed by the municipality at municipal offices and on the municipal web-site for comment for at least 30 days prior to the annual budget meeting.

A schedule of tariffs approved at the annual budget meeting will be displayed by the municipality at municipal offices and on the municipal web-site for at least 30 days prior to the date at which the tariffs become effective.

## **10. Reviewing of tariffs**

A description of processes to be followed when reviewing tariffs.

For example:

Tariffs will be reviewed annually as part of the annual budgeting process. Revised tariffs will be introduced at the start of the municipal financial year, 1 July.

# The context in which tariffs are set

## Institutional arrangements

### *South Africa*

South Africa has a system of wall-to-wall, two tier local government, with some services provided by district municipalities and some by local municipalities. The services provided by local government are listed in Schedules 4 and 5 of the Constitution, and include the ‘big four’ services (water, sanitation, electricity and solid waste). In some cases, service provision is undertaken by external bodies, most notably the distribution of electricity by Eskom (a parastatal body) in some areas and the provision of water services by corporatised private providers in some municipalities. Where services are undertaken externally, the municipality remains the Service Authority and is responsible for establishing a tariff policy.

Tariffs for water services, electricity and solid waste services are regulated nationally by the Department of Water Affairs, the National Electricity Regulator of South Africa, and the Department of Environmental Affairs respectively. Regulation is limited at present, and at most involves setting guidelines for annual tariff increases.

### *Namibia*

Namibia is a Unitary State with three spheres of Government i.e. Central, Regional and Local Government. There are at least 51 Local Authorities in Namibia (3 Categories: Municipalities (Parts I & II), Towns Councils and Village Councils)

Bulk water is supplied by NamWater and distributed by the local authorities on a cost recovery basis.

Bulk Power is supplied by NamPower and distributed by Local Authorities themselves and by Regional Electric-

ity Distributors (REDs) in others. Between the ErongoRED (west), CENORED (north-central and north-west) and NORED (northern and north-eastern), the REDs cover more than half of all Local Authorities in Namibia. The ALAN and NALAO position on the REDs is that “the restructuring of the electricity supply and distribution industry has negatively affected the revenue base of local governments. The initial intention for the establishment of REDs was to introduce efficiency through the implementation of the so-called “cost-reflective” tariffs. The reality however, is that a major source of income was taken away from local authorities”.

Local Authorities provide all other services such as waste removal, sanitation, disaster management, emergency services, storm water management etc. as per the Local Authorities Act 23 of 1992, Section 30.

Tariffs are approved locally after an internal consultation process and submitted to the Minister of Regional & Local Government, Housing and Rural Development (MRLGHRD) for approval.

Part 1 & Part II Local Authorities Budgets are approved by Council. Town Councils and Village Councils Budgets are approved by the Minister of Regional and Local Government, Housing and Rural Development. Part II Local Authorities also send their budgets to the Ministry for consultation purposes.

### *Botswana*

The Republic of Botswana operates through as two tier government system, Central and local government. The country has 10 district councils in rural areas and 6 councils in urban areas (city and town councils) under the auspices of the Ministry of Local Government.

Statutory functions of the councils include provision of primary education, environmental health, tertiary and access roads, and village water supplies. These responsibilities cover related services, such as sanitation, social welfare and community development and remote area development, as well as administering Self-help Housing Agencies (SHHA), land-use or physical planning, municipal abattoirs and markets.

Water services in urban areas and big villages are handled by a Water Utilities, a parastatal utility company whilst electricity distribution is handled by Botswana Power Corporation (also a parastatal).

The Local Authorities set some tariffs or user fees and budgets which are approved by Full Councils and sent to Ministry of Local Government for endorsement. Other tariffs are set by National Government. There is no formal, legal or policy framework for tariff approval or tariff regulation processes in Botswana.

## **Policy and legislative framework**

### ***South Africa***

South Africa has a very well developed policy and legislative environment. There are a number of important pieces of legislation that impact on the tariff setting process for all services. In addition, there are policies and legislation that introduce requirements for particular services.

Overarching legislation includes:

- Local Government Municipal Systems Act No. 32 of 2000: sections 74 and 75 of the Act deal with tariff setting and tariff policies. The Act specifies that:
  - Tariffs must reflect the costs reasonably associated with providing a service.
  - Tariffs must be set at levels that facilitate the financial sustainability of the service.
  - An approved Tariff Policy must be produced that can be translated into calculated tariffs and implemented and enforced through by-laws.
- Municipal Structures Act No. 117 of 1998 specifies that the Executive Committee and the Executive Mayor must review the performance of the municipality in order to improve the economic efficiency and effectiveness of the municipality
- Municipal Finance Management Act No. 56 of 2003 sets out the financial framework and rules within which municipalities must operate. As such, it clearly has implications for the setting of tariffs.

Legislation and policy relevant to particular services include:

- Water services: The Strategic Framework for Water

Services, The Free Basic Water Policy and Free Basic Sanitation Policy

- Electricity: Electricity Pricing Policy
- Solid Waste: National Waste Management Strategy (still in draft form)

### ***Namibia***

The Local Authorities Act No.23 of 192 establishes local authorities and gives them the power to set charges and fees for the services that they render. The Act allows the Minister of Regional and Local Government and Housing to divest local authorities of their functions if, among other things, they do not determine and levy fees and charges adequately.

### ***Botswana***

The Local Government (District Councils) Act of 1965 establishes District Councils and allows them to set reasonable fees or user charges for the services that they render. The Act provides the framework for the setting and approval of fees and user charges.

# Further reading

American Water Works Association, 2000, *Principles of water rates, fees and charges*, AWWA Manual M1, 5th ed., AWWA, New York

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Boland, J and D Whittington, 2000, *Water Tariff Design in Developing Countries: Disadvantages of Increasing Block Tariffs (IBTs) and Advantages of Uniform Price with Rebate (UPR) Designs*, IDRC Research Paper

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PDG, 1999, *Supply Pricing of Urban Water in South Africa*, Water Research Commission Report No 678/99, Water Research Commission, Pretoria

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South African Department of Environmental Affairs, 2002, *Solid Waste Tariff Setting Guidelines for Local Authorities*, Department of Environmental Affairs, Pretoria

South African Department of Water Affairs, 2002, *Free Basic Water Implementation Guideline for Local Authorities Version 2.3*, Department of Water Affairs, Pretoria

**Notes:**

Series of horizontal lines for note-taking.





# Why focus on tariffs? What makes a good tariff? Why a primary baseline? How to achieve full cost recovery?

SETTING TARIFFS takes you through a tariff setting process in a small to medium sized municipality, dealing with all aspects – from interpreting the policy, via gathering data and strategic choices to communication. The purpose is to assist municipalities to develop transparent and understandable tariffs.

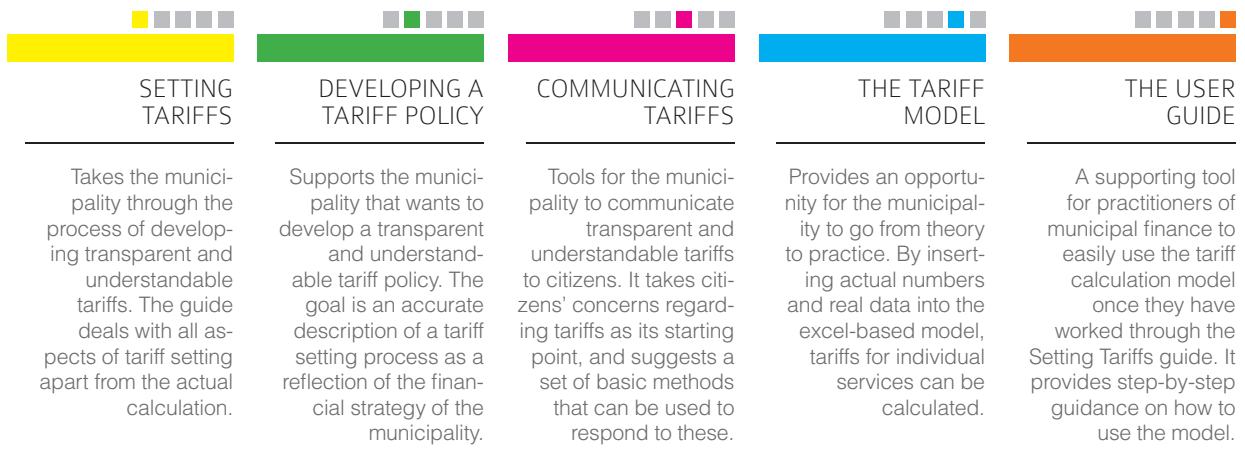
## A USABLE DOCUMENT AIMED AT:

- ▶ **Municipal officials** who want guidance in setting basic tariffs.
- ▶ **Councillors** who need to oversee the tariff setting process.
- ▶ **Citizens** who want to better understand where tariffs come from.

The calculation of tariffs in an invented municipality, Mymuni, is shown as a practical examples of how to translate the processes described into actual calculations and numbers.

The guide can be used on its own, or in combination with the TARIFF MODEL, which enables the municipality to apply the methodology on its own situation.

## THE TRANSPARENT TARIFFS TOOLBOX HAS FIVE COMPARTMENTS



**TRANSPARENT TARIFFS** is developed by the national associations for local authorities in Sweden, South Africa, Namibia and Botswana and has been tested in a selected number of municipalities during 2010-2011.



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