

# Management Accounting (Costing)



**national treasury**

Department:  
National Treasury  
REPUBLIC OF SOUTH AFRICA

# Management Accounting

- Management Accounting - Industrial revolution  
Production cost per unit  
Management activities
- Costs - Direct and indirect  
Trading services  
Tariff calculation
- Costing methodology - ABC  
Internal billing  
Departmental charges
- Prerequisites - Policy  
Base cost and Formulas

# Financial and Management Accounting

## Accounting:

Recording  
Estimating  
Organising  
Summarising

## Fin. Accounting:

Reporting - external  
Financial consequences  
Objective, verifiable  
Precise  
Summarised for reports  
GRAP compliant  
Mandatory

## Man. Accounting:

Reporting - internal  
Financial decisions  
Relevance for purpose  
Timeline is required  
Segment reporting  
Not GRAP requirement  
Non-mandatory

# Primary Transaction – Bulk merge from payroll March 2016

	Description	Project	Function	Item	Fund	Costing	Region	Amount
Dr	Employee related cost: March 2016	Municipal Running Cost	Asset Management	<b>Basic Salary and Wages</b>	Property Rates	Default	Administrative or Head Office	3 000,00
	Employee related cost: March 2016	Municipal Running Cost	Asset Management	<b>Group Life Insurance</b>	Property Rates	Default	Administrative or Head Office	75,00
	Employee related cost: March 2016	Municipal Running Cost	Asset Management	<b>Medical</b>	Property Rates	Default	Administrative or Head Office	210,00
	Employee related cost: March 2016	Municipal Running Cost	Asset Management	<b>Pension</b>	Property Rates	Default	Administrative or Head Office	270,00
	Employee related cost: March 2016	Municipal Running Cost	Asset Management	<b>Unemployment Insurance</b>	Property Rates	Default	Administrative or Head Office	30,00
Cr	Payment of Employee related cost: March 2016	Municipal Running Cost	Asset Management	<b>Bank Account: Withdrawals</b>	Property Rates	Default	Administrative or Head Office	-3 585,00
Bulk merge file from payroll system for the month of March 2016. (We pretend that all monies is immediately paid and do not use the <b>clearing accounts</b> for this example								-

# Secondary Costing Transaction – Departmental charges at a %

	Description	Project	Function	Item	Fund	Costing	Region	Amount	Own Allocation formula
Dr	Relocation of costs	Default	<b>Community Halls and Facilities</b>	Default	Default	<b>Charges: Departmental Charges: Asset management</b>	No regional Identifier	28,68	1%
	Relocation of costs	Default	<b>Fire Fighting and Protection</b>	Default	Default	<b>Charges: Departmental Charges: Asset management</b>	No regional Identifier	28,68	1%
	Relocation of costs	Default	<b>Waste Management</b>	Default	Default	<b>Charges: Departmental Charges: Asset management</b>	No regional Identifier	573,60	20%
	Relocation of costs	Default	<b>Waste Water Management</b>	Default	Default	<b>Charges: Departmental Charges: Asset management</b>	No regional Identifier	516,24	18%
	Relocation of costs	Default	<b>Water</b>	Default	Default	<b>Charges: Departmental Charges: Asset management</b>	No regional Identifier	860,40	30%
	Relocation of costs	Default	<b>Electricity</b>	Default	Default	<b>Charges: Departmental Charges: Asset management</b>	No regional Identifier	860,40	30%
Cr	Relocation of Costs	Default	<b>Asset Management</b>	Default	Default	<b>Recoveries : Departmental Charges: Asset management</b>	No regional Identifier	-2 868,00	
Departmental Charges at a % allocation								-	

# Costing Segment: Activity Based Costing



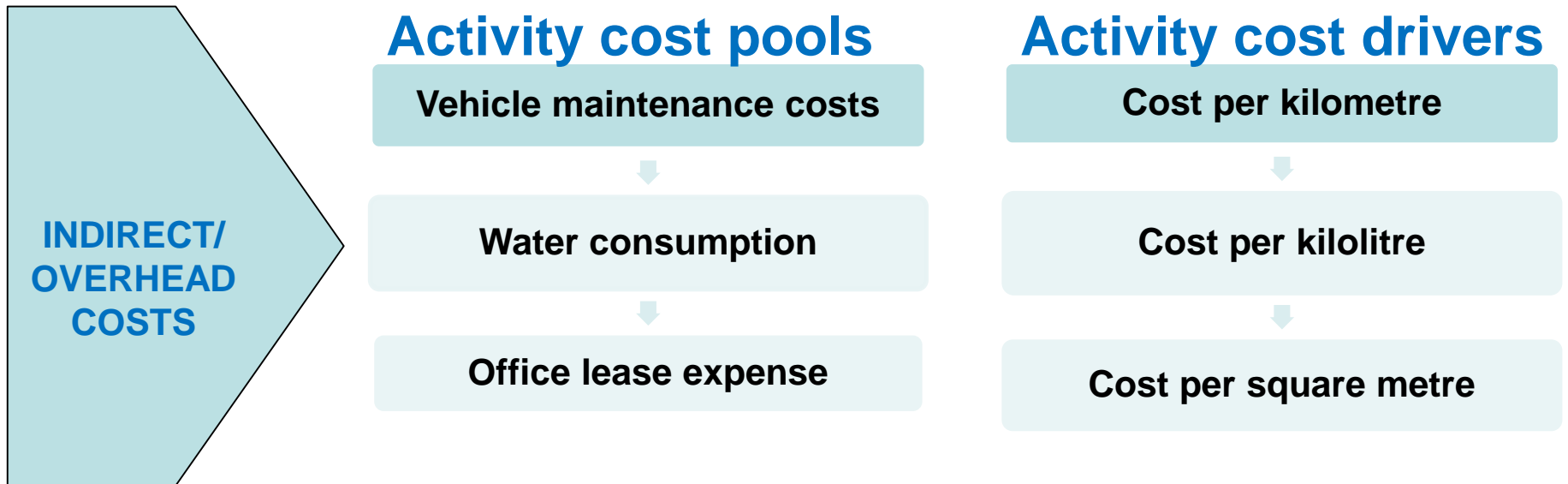
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# Types of Costs

- Direct Costs- can be traced directly to one output e.g. number of water kilolitres per household.
- Indirect Costs- in benefit a wide number of outputs e.g. maintenance costs incurred for a pool vehicle.
- Since indirect costs can not be traced and allocated directly to a single output, different methods can be used. One of the methods would be Activity Based Costing (ABC).
- The method requires an identification of activity pool and a cost driver for each activity.

# Allocation of indirect costs





# Activity Based Costing

- Tracing resource consumption and allocating costs to an activity based on the number of final outputs.
- Example: space used for office rental, kilometres used on a pool vehicle, number of attendees for training and number of events held.

Cost of Vehicle Maintenance per annum			
Usage Kilometre per Department (km)		Activity cost pools (R)	
Finance	5,000	Service	5,360
Corporate Services	15,000	Depreciation	40,000
Technical Services	5,000	Insurance	16,800
Community Services	5,000	Licencing	300
Planning and Development	5,000	Fuel	33,600
Municipal Manager	5,000	Breakdown	8,000
		Tyres	4,000
	<b>40,000</b>		<b>108,060</b>
<b>Cost Driver:</b>			
Cost per kilometer (R108060/40000km)- Charge Out Rate			<b>R2.70</b>

# Costing Segment: Internal Billing



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# Internal Billing

Metered cost

The recovery of services and products that are consumed internally by other departments.

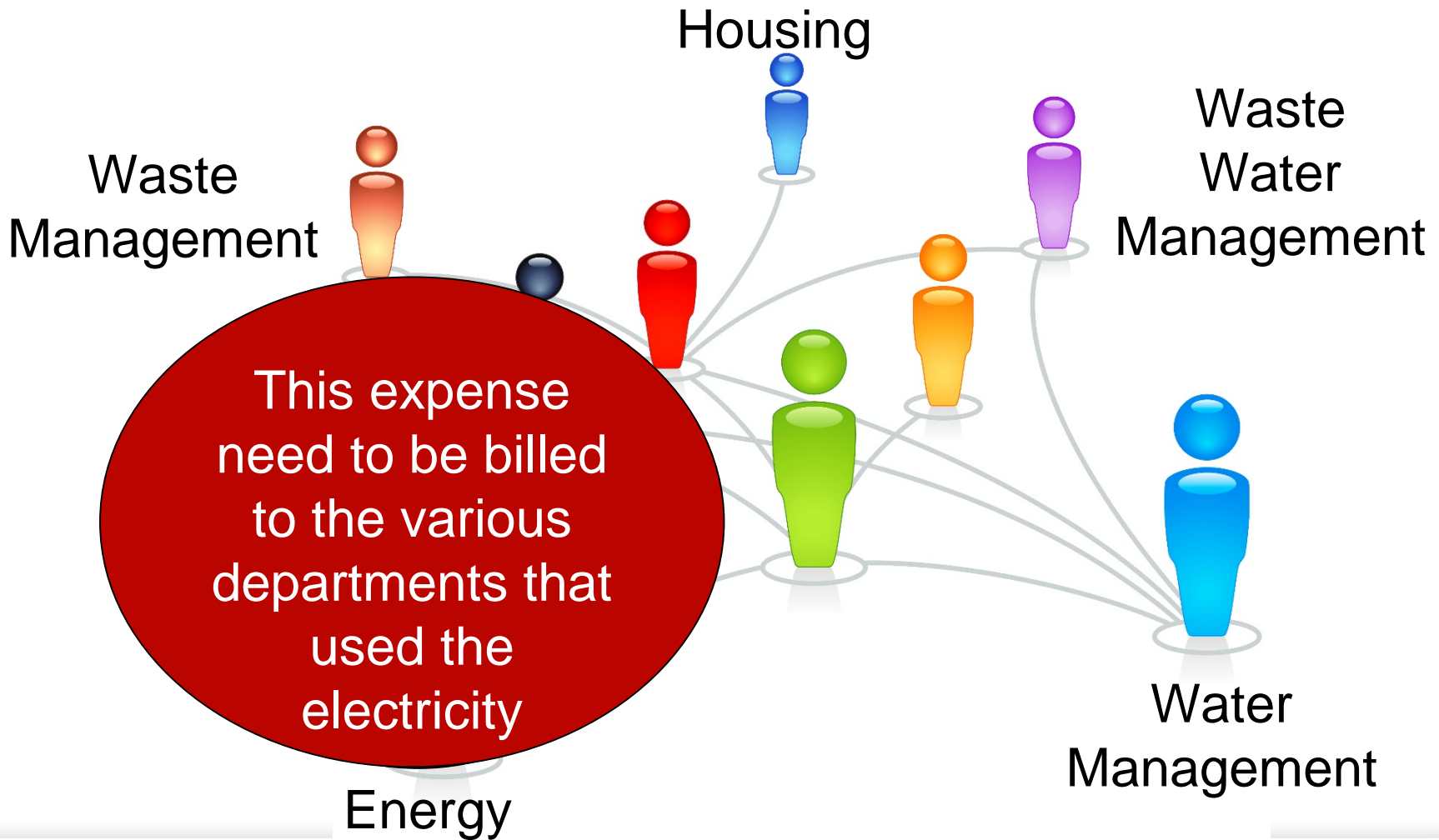
Example: Electricity consumed by the Water department.

If invoiced, then the billing is considered to be a primary transaction – costing segment is not used

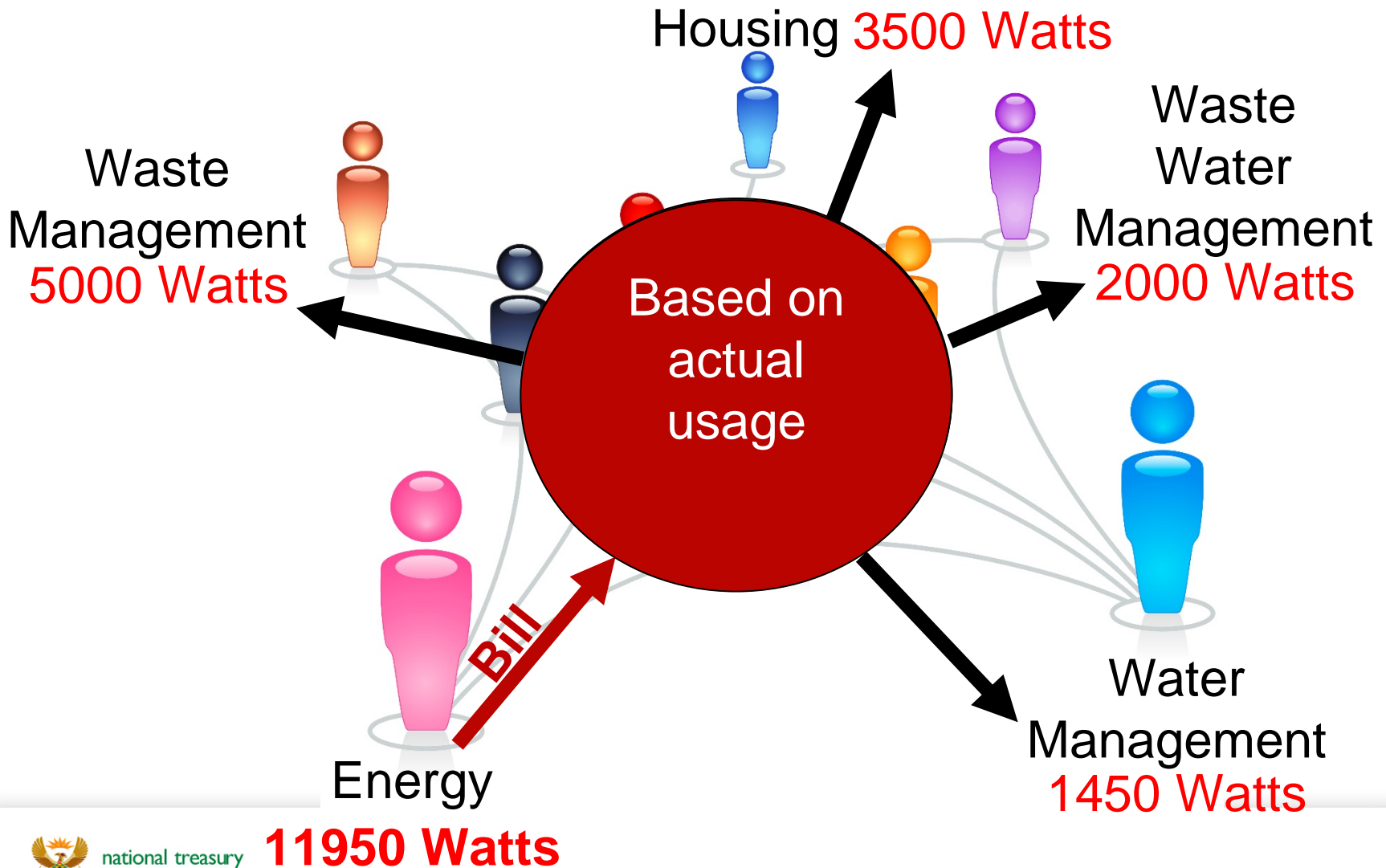
The costing segment is used to recover these costs in the absence of an invoice and will result in a secondary cost which is a below the line cost.

Below the line costs are not included in the AFS but are elements of management accounts

# Internal Billing



# Internal Billing



# Costing Segment: Departmental Charges



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# Departmental Charges

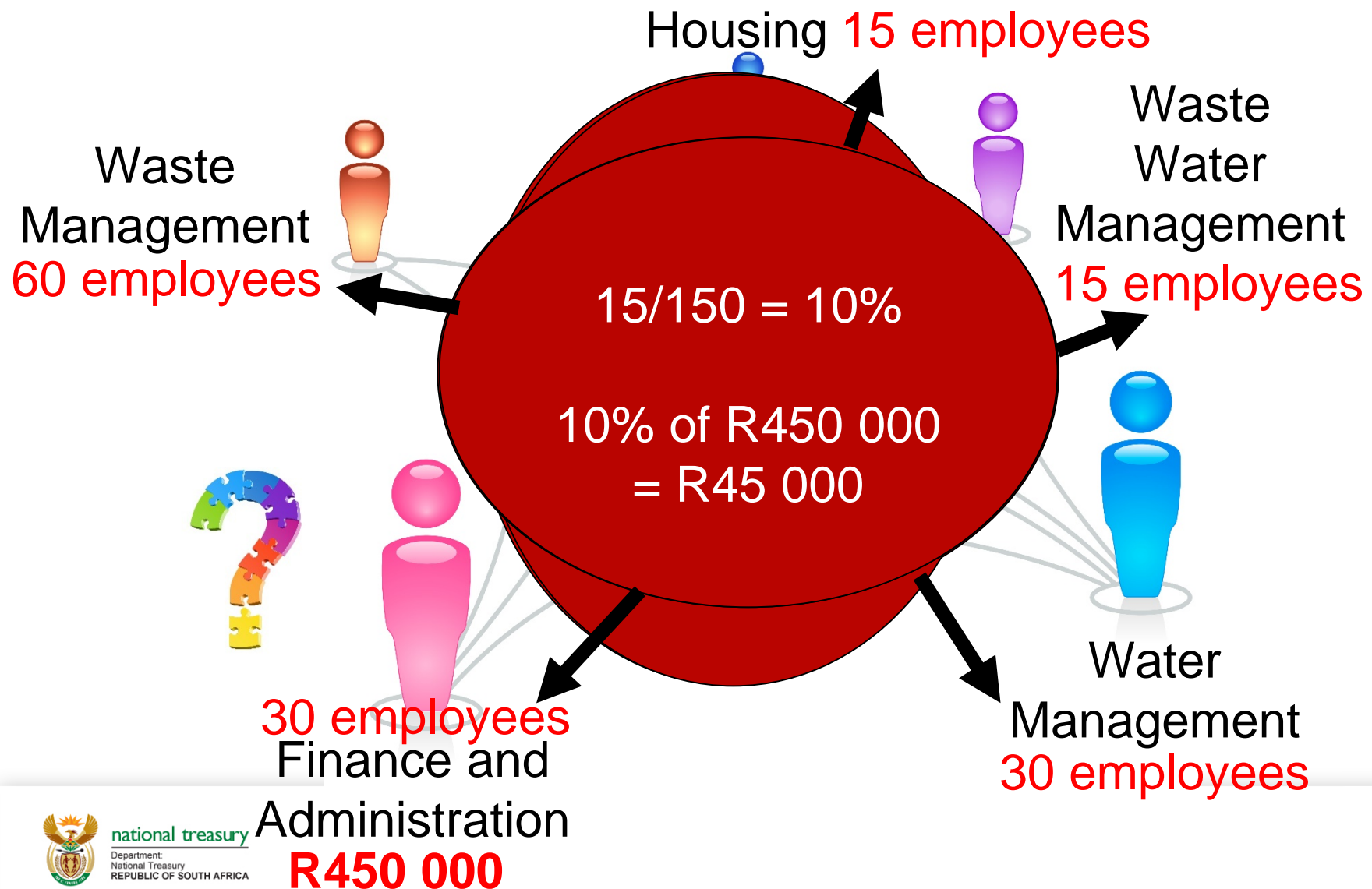
The distribution of primary costs via a pro-rata approach. All distributed costs results in secondary ,below the line costs

Examples include the distribution of overheads like office rental, ICT costs and security costs. The cost pool can be apportioned by applying a percentage formula.

## Cost Drivers

- Number of individuals per department
- Floor space per department
- Any other appropriate activity driver

# Departmental Allocation





# mSCOA Practical Examples



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# Practical examples

Gariep municipality's electricity department shares the building with the water distribution department. The rent is paid and allocated to the financial department. The water distribution department also shared the pool vehicle that was allocated to the electricity department but kept a log book .

1. The municipality paid rent of R16000.00 excl vat. It was established that the Water Management department only occupies 25% of the building and the pro-rata approach will be used to apportion the rent using the costing segment.
2. As per the log book, a total of 30 000 km was travelled by the pool car. It was further established that the Water Management department used 10 000 km. Use the costing system to allocate the vehicle cost to the water section taking into consideration the following costs:
  - Depreciation – R 40 000
  - Maintenance- R 15 000
  - Fuel- R 9000
3. The electricity department also issues a bill to the finance department for electricity services to the value of R16 000. Use the costing system to charge this service to the finance department.

# Practical examples

## Solution 1

The rent ( R16000) is split by percentage:

Water Distribution: 25% - R 4 000

Electricity: 75% - R 12 000

## Solution 2:

Cost Pool = 40 000 + 9 000 + 5 000 = 54 000

Cost driver = cost/total mileage = 54 000 / 30 000 KM = R1.80 per KM

Cost to Water distribution: = 10 000 x R1.80 = R18 000.00

## Solution 3

Electricity Cost billed to Water distribution= R 16 000

# Practical examples

## Solution 1

SEGMENT	FINANCE	ELECTRICITY	WATER DIST
PROJECT	DEFAULT	DEFAULT	DEFAULT
FUNCTION	FINANCE & ADMIN: CORE FUNCTION: FINANCE	ENERGY SOURCES: CORE: ELECTRICITY	WATER MANAG. : CORE: WATER DISTRIBUTION
FUND	NON FUNDING	NON FUNDING	NON FUNDING
ITEM	DEFAULT	DEFAULT	DEFAULT
COSTING	RECOVERIES: DEPARTMENTAL: OFFICE RENTALS	CHARGES: DEPARTMENTAL: OFFICE RENTALS	CHARGES: DEPARTMENTAL: OFFICE RENTALS
REGIONAL	DEFAULT	DEFAULT	DEFAULT
MSC	FINANCE DEPT.	TECH. SERVICES	TECH. SERVICES
AMOUNT	- R 16 000.00	R 12 000.00	R 4 000.00

# Practical examples

## Solution 2

SEGMENT	ELECTRICITY	WATER DIST
PROJECT	DEFAULT	DEFAULT
FUNCTION	ENERGY SOURCES: CORE: ELECTRICITY	WATER MANAG. : CORE: WATER DISTRIBUTION
FUND	NON FUNDING	NON FUNDING
ITEM	DEFAULT	DEFAULT
COSTING	RECOVERIES: ABC: VEHICLES: OPERATING	CHARGES: ABC: VEHICLES: OPERATING
REGIONAL	DEFAULT	DEFAULT
MSC	DEFAULT	DEFAULT
AMOUNT	- R 18 000.00	R 18 000.00

# Practical examples

## Solution 3

SEGMENT	ELECTRICITY	WATER DIST
PROJECT	DEFAULT	DEFAULT
FUNCTION	ENERGY SOURCES: CORE: ELECTRICITY	WATER MANAG. : CORE: WATER DISTRIBUTION
FUND	NON FUNDING	NON FUNDING
ITEM	DEFAULT	DEFAULT
COSTING	RECOVERIES: INTERNAL BILLIN ELECT. CONSUMPTION	CHARGES: INTERNAL BILLIN ELECT. CONSUMPTION
REGIONAL	DEFAULT	DEFAULT
MSC	DEFAULT	DEFAULT
AMOUNT	- R 16 000.00	R 16 000.00

# Costing Segment: Tariff Setting



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# Need for Cost Accounting (Cost Reflective Tariffs)

- ❑ By only inflation adjusting tariffs there is no real growth in income
- ❑ Increased real growth in income is essential to:
  - Improve and sustain service delivery levels
  - Fund repairs and maintenance and renewal of infrastructure.
- ❑ Assists to realise the full revenue potential of the municipality
- ❑ Ensures that tariff services are adequately funded over the long term, resulting in an efficient, sustainable and reliable service
- ❑ Full cost recovery is the process of gathering and reporting information about the true cost (direct plus indirect costs) of providing a service by tracking and accumulating the total cost of the process to provide the service
- ❑ Planning to recover the full cost of services (cost-reflective tariffs) is a structured, transparent methodology of setting tariffs that is designed to take both financial sustainability and affordability into consideration
- ❑ Imperative that the full cost of rendering a particular service is known so that tariff decisions are taken with full knowledge of the cross-subsidy that will be required and provided from other revenue sources
- ❑ Improved budgeting - Understanding demand and how costs are reflective of demand for a services allows municipalities to budget better
- ❑ Transparency - Citizens need to understand the cost drivers and how tariffs are calculated
- ❑ Municipalities that apply full cost recovery are in general very efficient and provide a high level of service, contributing to customer satisfaction and thereby encouraging payment for services, resulting in investment for replacement and expansion of services.



# Benefits of Implementing Cost Accounting – (Cost Reflective Tariffs)

- ❑ Provides a better understanding and consistent approach across municipalities with regard to the principles and techniques of cost allocation, and ability to benchmark costs against municipalities of a similar size
- ❑ Provides accurate and complete information on the real cost of managing a tariff service:
  - Increase the accuracy of cost information by identifying secondary costs and assigning it to specific municipal services
  - Assist with resource allocation for a particular service
  - Provide a basis for tariff setting to implement full cost recovery on tariff services
- ❑ Ensures that those who are using the services are paying the full cost of the service
- ❑ Provides transparency with regard to cross-subsidisation between consumer groups
- ❑ Managers will have a better understanding of their costs and will be able to predict future costs more precisely
- ❑ Promotes allocation of internal resources, ensuring that available resources are utilised optimally, and duplication of services can be identified
- ❑ Identification of and making informed decisions about potential inefficiencies and cost savings, as well as the types and levels of services provided
- ❑ Ensures correct pricing of services (and will result in consumers not abusing scarce resources)

# Risks of Not Implementing Full Cost Recovery

- Inability to finance network expansions, or properly maintain existing infrastructure resulting in low service levels, which in turn will have a negative effect on the willingness of customers to pay
- Low levels of cost recovery from the user will result in insufficient income for the effective and efficient operation and management of the service
- Inability to further invest in the service, which can result in a possible loss of scarce resources such as water if the infrastructure is not maintained properly
- Potential for cross-subsidisation from property rates or other services
- A widening gap between full cost and current expenditure will result in huge tariff increases when rectified
- No transparency around tariff determination
- An increase in emergency repairs against scheduled or preventative maintenance
- An increased risk of more service outages, as preventative maintenance is not being done, with the accompanying inconvenience for customers and loss of revenue for the municipality
- A steady degradation of system infrastructure, resulting in a reduction of service level standards.
- Reduced ability to attract new business
- Can result in higher insurance costs, a lower credit rating and higher lending costs

# Illustration of tariff calculation

<b>EXAMPLE - DETERMINATION OF WATER TARIFF</b>			
Municipality purchase 15 000 kl of water @ R2.50			
Non Revenue Water (Technical & Non-technical losses & Indigents) = 20%			
Tariffs should be set to budget for 10% surplus on cost			
	<b>Units</b>	<b>Unit Cost</b>	<b>Cost</b>
<b>COST DRIVERS (Primary Cost)</b>			
Purchase of water	15000	2.5	37 500
Salaries			5 000
Repairs & Maintenance			9 000
Operational expenditure			3 000
<b>Total Operational Expenditure (Primary Cost)</b>			<b>54 500</b>
<b>COST DRIVERS (Secondary Cost)</b>			
Finance (Billing)			3 500
IT Services			2 000
<b>Total Operational Expenditure (Secondary Cost)</b>			<b>5 500</b>
<b>TOTAL COST</b>			<b>60 000</b>
<b>TARIFF CALCULATION</b>			
Distribution losses & Indigent usage	15000	20%	3 000
Units Sold			12 000
Base line tariff to recover primary costs			4.54
Base line tariff to recover primary costs plus 10% surplus			5.00
Base line tariff to recover primary & secondary cost plus 10% surplus			5.50
<b>Total operating revenue</b>			<b>66 000</b>
<b>TESTING OF TARIFF ADEQUACY</b>			
Units sold	<b>12000</b>	<b>5.50</b>	<b>66 000</b>
Total operating expenditure			<b>60 000</b>
Surplus (cost plus 10%)			<b>6 000</b>
Surplus meets the guideline of cost plus 10%			<b>10%</b>

# THANK YOU

