

High level overview

At the beginning of the current Mayoral Term (2006/11), the Infrastructure and Services Sector committed to a set of five-year objectives and programmes. These have since been used as service delivery drivers and are based on the sector mandate. This is primarily to ensure that the City's services infrastructure (water, electricity and waste management) is well maintained and its capacity continually improved in order to provide safe, reliable and affordable services to all citizens and stakeholders. To deliver on this mandate the Infrastructure and Services Department (ISD) works mainly with three Municipal-owned Entities (MoEs) namely Joburg Water, City Power and Pikitup as implementing agencies, and certain city departments, to ensure coordinated and integrated planning. ISD's key responsibility is to provide leadership and guidance in the delivery and implementation of sector programmes and to ensure the realisation of set goals.

As the 2010/11 financial year will mark the end of the term, the sector continues to periodically review and assess programme performance in an attempt to align activities and appropriately allocate resources. Although in the recent past the City has experienced unprecedented levels in population growth, which in turn affected the roll-out and the outcomes of certain programmes, the overall performance so far indicates a fair progression towards the achievements of the five-year targets.

As at end June 2009 household access to water and sanitation was at 96% and 90% respectively whilst approximately 80% of households, inclusive of Eskom supplied areas, had access to electricity services. All areas within the City are provided with standard waste management services and efforts to improve the level of cleanliness were accelerated in those informal settlements with increased levels of waste generation. In this regard approximately 119 out of 182 settlements are provided with a daily cleaning service. In line with the approved city social package, households appearing on the indigent list receive free basic services.

Outages related to network malfunctioning decreased to 71 from 78 in the last financial year due to continuous investment on infrastructure upgrade and maintenance. The same can be reported for physical water losses which are within the minimum international standards of ten to 15%.

Electricity and water consumption levels were reduced substantially, by 5% and 16 712 MI respectively, in the previous financial year. This was through various Demand-side Management (DSM) consumer oriented initiatives undertaken i.e. installation of prepaid meters, geyser ripple control, refurbishment of gas/diesel turbines, CFL and solar water heaters.

To contribute towards the reduction of unemployment the sector created more than 12 048 job opportunities which mainly benefited the youth. Whilst there has been some progress made towards the achievement of set objectives, the following areas remain a concern for the sector – hence the proposal to prioritise them for the 2010/11 financial year:

- Inadequate resources to maintain and upgrade the City's ageing services infrastructure in order to meet various residential and commercial requirements;
- Delays in the delivery of basic services in line with Formalisation of Informal Settlement Programme;
- Financial sustainability of the three entities to ensure provision of services; and
- Policy, strategy, monitoring and regulatory role of ISD.

Five-year promise

The five-year objectives and programmes highlighted in the 2009/10 Sector Plan have not been revised except for the inclusion of a new programme/priority for 2010/11 to ensure ME financial sustainability. This priority has been included as a result of the need to ensure the continuation of service delivery. On the five-year promise infrastructure and services had committed to the following:

- Extension of basic services to all households;
- Upgrade and maintain services infrastructure;
- Implement demand-side management interventions and minimise waste to landfill in order to preserve landfill airspace;
- Improve waste management services;
- Develop policies and by-laws that will enhance and sustain service delivery and facilitate the restructuring of the electricity industry; and
- ME financial sustainability (guide development and sustainable tariffs).

The Infrastructure Sector has achieved some of its objectives according to the targets set although there have been challenges in the delivery of services as detailed below. The delays, for instance as far as the Basic Services Programme is concerned, are mainly attributable to the fact that delivery is linked to the formalisation of informal settlements. Other challenges include funding, especially where demand-side management as well as infrastructure upgrade and maintenance are concerned.

Service delivery and infrastructure development sector indicators

The Infrastructure and Services sector indicators is informed by the strategic objective of providing universal access to essential services in line with the national and provincial targets, as well as the Millennium Development Goals.

Indicator	Five-year target (2006/11)	Progress against the five-year target (accumulated)	2010/11 delivery agenda
Percentage coverage of basic level of service to all households	Water 100%Sanitation 100%	 96% water coverage 90% sanitation coverage (The remainder of areas were provided with nominal service) 	Water and sanitation Areas targeted through formalisation programme 98% LOS 1 water coverage 92% for LOS 1 sanitation
Percentage of service connection of electricity to all formalised households	95% by 2011	80%	Electrification 3000 planned; final target TBD and is dependent on housing and funding

Indicator	Five-year target (2006/11)	Progress against the five-year target (accumulated)	2010/11 delivery agenda
Percentage provision of street lighting to all formal and proclaimed informal settlements	95%	65%	Public lighting 5 600 public lighting planned for region D, G and A 68%
Percentage reduction in electricity usage	10% (3% requested due to budget reprioritisation)	5%	DSM 10%
Percentage reduction of electricity outages (bulk, medium and low voltage)	30% by 2010	29%	Outages 30%
Percentage reduction of electricity losses	from 3% to 1% (non-technical losses)	5,33%	2% to 3%
Percentage improvement of cleanliness levels in the inner city	Improved cleanliness levels in the inner city.	Cleanliness levels have improved to level 4	Inner city cleanliness Sustain cleanliness levels at level 4.
Percentage reduction of unaccounted for water	25% (physical and commercial losses)	Unaccounted for water losses averaged at 33,6%	Water lossesPhysical losses -9%Commercial losses 16%Reduce UFW to 34%
Percentage reduction of waste to landfill site	15%	6,13% waste reduction was achieved	Waste to landfills 10% reduction
Percentage collection of waste in all areas (formal and non- formal areas) once a week	100%	All formal areas receive a weekly kerbside collection. All informal areas receive a basic level of waste service and 119 out of 182 of these areas received a daily service to improve cleanliness levels. The remaining 63 still receives the basic weekly service	 Waste collection All formal areas will continue to receive weekly collection service A basic level of waste service to all informal areas and daily service extended to prioritised 30 more settlements

Challenges and opportunities

Infrastructure Upgrade and Maintenance Programme

Despite a notable increase in infrastructure backlog and capacity constraints, funding for this programme has continued to decline in recent years. This unfortunately resulted in project prioritisation based on the criticality of the situation and the impact on service delivery, rather than to meet sustainable long-term maintenance and upgrade requirements. Projects related to 2010, inner city and BRT were amongst those that were prioritised which led to unfunded projects being rolled over for implementation in subsequent years.

It is important to note that the sector's ability to deliver basic services to various stakeholders depends on the strength and capacity of the support infrastructure. Therefore because of inadequate funding in this regard there is a great risk of non-delivery as the infrastructure will be unable to meet growth requirements. Currently the electricity, water and sewer infrastructure is mostly operating at 100% capacity in various areas of supply.

For the 2010/11 financial year, the Sector will explore other alternative funding sources and also continue with the project prioritisation approach.

²² Water standpipe within 200 metre radius and VIP toilets per household.

²³ Waterborne sewer system.

Basic Services Programme (BSP)

The programme seeks to increase access to basic services for all households within the City. The target is to provide at least basic water and sanitation to all households by 2010/11 and also electrify 95% of formalised areas. In addition the provision of waste services to all areas is to be achieved by the end of the five-year term.

BSP has four sub-programmes, namely electrification, waste, water and sanitation services, which are designed around the core business areas. It is implemented in the context of the City's overarching plan which intends to formalise informal areas driven by the Housing and Planning Department. The plan prioritises areas and informs the level of service required, hence enabling other City programmes including the BSP to initiate the delivery process. The City community ward priorities and the outcomes of the customer satisfaction surveys also form an integral part of the programme.

The bulk of service delivery backlog is in informal areas of the City, hence the programme's focus is mainly in these areas

Water and sanitation services

As at the end June 2009 the City's water and sanitation coverage stood at approximately 96 and 90% respectively. The percentage represents the number of households which have access to LOS 1²² and or 3²³. To address the backlog the sector is providing rudimentary services to the remaining 15% through mobile and stationary water tanks and chemical toilets. The focus for 2010/11, however, will be to upgrade these households to a higher level of service in line with informal settlement formalisation as well as the Housing Development Programme.

The rolling out of water and sanitation services to informal settlements effectively remains one of our most pressing challenges. This is due to a number of factors ranging from constraints posed by densification to settlements established on privately owned land. It is understood that the integrated formalisation plan of these areas will accelerate the delivery and realisation of the City's GDS and IDP targets.

In order to prioritise water and sanitation delivery in these areas the sector is working closely with various city programmes, i.e. formalisation of settlement and housing upgrades.

Energy services (electrification)

The electricity coverage within the City's area of jurisdiction (inclusive of Eskom serviced areas) is estimated to be 80%. Since 2002/03 until 2009/10 YDT 67 724 households had access to electricity through the implementation of the electrification programme. Although considerable progress has been made towards the reduction of the electricity backlog, the slow roll-out of the housing programme and the formalisation process have been a major constraint. The sector continues to provide services in areas which have been formalised.

Waste management services

Although formal and informal areas within the City currently receive a minimum (once a week) level of waste service, there is a general consensus among the stakeholders of the need to improve the quality in certain informal settlements. This is due to the high rate of waste generation in these areas which results in daily cleaning services being required.

These services will be implemented through a community-based cleaning programme which has been already been rolled out in 119 out of 182 informal settlements. The plan is to roll-out the programme to all informal settlements that have more than 1000 households.

The growth of formal businesses, pedestrian traffic volumes and informal trading has resulted in a substantial increase in waste volumes in the Inner City. In general this has led to unacceptably low levels of cleanliness. Together with the inner city office, Pikitup is implementing various cleaning initiatives to achieve acceptable levels of cleanliness in identified block precincts.

Landfill space

The amount of waste deposited at all four landfills in the last half-year fluctuated in an unusual manner. There was an upward trend in the waste being disposed at all four landfills from August, then peaking in October and then a downward trend emerged in November and December. It will be necessary to make an analysis of the reasons for these fluctuations in disposal patterns. Pikitup continued to utilise the two private landfill sites in the northern side of the City. It is, however becoming clear that this is not a sustainable way of managing the waste. Pikitup is currently

exploring various cost-effective mechanisms to move away from utilising the private landfills and is currently exploring the following two options:

- Establishment of a Transfer Station at the Linbro Park landfill site. This plan has existed for a while but was abandoned when Pikitup faced serious capital funding challenges; and
- Introduction of bulk loading trucks with trailers where waste can be debunked and collected to be disposed off in bulk rather than one truck going back and forth from the landfill.

It should, however, be noted that stopping the utilisation of private landfills means that the City's landfill airspace will be under even more pressure. This therefore means that it will be critical to upscale the demand-side management programmes so as to ensure that as much waste as possible is diverted away from the landfill site.

Formalisation of informal settlements

Although the department is confident that many of the targets it has set for next year will be achieved, there remains a genuine concern about the pace at which the identified informal settlements are currently being formalised.

The successful implementation of the basic services programme to these previously under-serviced areas (informal settlements) is dependent on formalisation of the informal settlement programme which is the responsibility of both housing and development planning departments.

As part of this programme 180 settlements have already been identified and registered. However, registration does not confer full legal recognition to these settlements. What is still required is for these settlements to be rezoned in terms of the City's Town Planning Scheme and the Development Facilitation Act (DFA) of 1995. Rezoning will give residents recognition through issuing occupation permits. Within the same process using the DFA will consolidate existing rights in land and allow for full ownership of property at a later stage. Basically the two regulatory frameworks offer certain tenurial options for residents.

According to studies by the Housing Department, about 23 settlements can be developed "in-situ" or where they stand. The studies found that a sizeable number of informal settlements were well situated in geotechnically stable environments. They were also in close proximity to established neighbourhoods and would be easily integrated within these existing communities.

Despite all of this the process of formalising these settlements if we are to achieve the national targets is moving at a very slow pace with the result that we have been unable to roll-out the Basic Services Programme with the speed that is required.

Demand-side Management Programme

Energy

The shortage of electricity, as evidenced by the consistent outages and load shedding in the beginning of this year, has had an impact on how the Sector delivers electricity services to users within the City. In this regard the department together with City Power has developed a Demand-side Management Programme which will assist in minimising the consumption of electricity and ultimately the availability of electricity supply in the country. The DSM projects on energy efficiency include retrofitting of council-owned buildings, roll-out of compact fluorescent lamps, installation of solar water heaters (SWH), and conducting education and awareness campaigns.

Water

South Africa falls amongst the world's top 30 countries which are defined as water-scarce. It is further predicted that if the current consumer habits persist the country will become water stressed by 2025. Gauteng Province will, however, experience water shortages by 2015. To prevent this situation the Sector will continue to implement demand-side management programmes. This includes education and awareness campaigns reducing water losses through the installation of pre-paid meters, systematic leak detection, refurbishing/rehabilitating infrastructure and removal of wasteful devices.

Waste

On an annual basis the City manages approximately 1,4 million tons of waste which is deposited at four landfill sites. The substantial increase (6% per annum) in waste volumes has resulted in an accelerated reduction of landfill airspace. Various DSM initiatives such as waste re-use, recycling and minimisation programmes are already at different stages of implementation. The Department together with Pikitup will be investigating the feasibility of an alternative

waste treatment technology project which will assist the City to meet the Polokwane declaration of diverting waste from landfill by at least 70% by 2022.

Municipal entity financial sustainability

The financial sustainability of the MEs remains one of the key aspects to effective and efficient delivery of services. To this effect the sector has developed a set of indicators to measure and ensure that the three MEs operate financially viable businesses. Indicators include improvement in revenue collection and reduction in the operating cost. This will be one of the priorities for the 2010/11 financial year.

Strategic priorities

Priority 1

The continued need to accelerate access to basic services to currently under-serviced communities:

- Upgrading the levels of service for water and sanitation infrastructure;
- Removal of waste particularly in informal settlements;
- Providing electricity to un-serviced areas; and
- Provision of free, basic services (FBW, FBE, and FWC).

Priority 2

Upgrading of service infrastructure to ensure the delivery of reliable services in the most efficient manner:

- Reduce service failures, e.g. pipe bursts, sewer blockages, electricity outages; and
- Increase infrastructure capacity to cope with growth in demand as a result of growth in the number of customers (connections).

Priority 3

To ensure the financial sustainability of MEs (City Power, JW and Pikitup):

- Implement sustainable tariffs under the increasing input costs, e.g. ESKOM and Rand Water tariffs;
- Explore alternative/innovative infrastructure funding mechanisms (e.g. PPP, BoT) to minimise the burden on internal funding mechanisms;
- Maximise revenue management (collection) through innovative technologies, e.g. Automatic Meter Reading AMR); and
- Optimise CAPEX and OPEX through improved/innovative contracting, e.g. limited outsourcing.

The three top strategic priorities have been informed by a number of factors, which include:

- The focus and emphasis that the national government has placed on service delivery and provision of basic needs of the communities;
- The decision taken and included within the five-year promises from the beginning of the current Mayoral Term; and
- Findings based on customer surveys.

Infrastructure and services sector plan

The sector objectives provide a framework upon which the 2010/11 business plan will be based. The identified IDP programmes are aligned with the sector's objectives and are listed below:

- Increase access to basic services;
- Infrastructure upgrade and maintenance to reduce backlogs and increase capacity;
- Reduce water and electricity losses;
- Implementation of DSM programmes and minimise waste to landfill in line with the Polokwane declaration;
- Establishment of Red 4 and policy development and by-law reviews; and
- Service delivery monitoring and evaluation to improve on service quality.

The alignment of programmes is shown in the proposed 2010/11 Sector Plan below:

²⁴ The electricity coverage here excludes Eskom serviced areas.

²⁵ In line with the CoJ's Formalisation programme.

²⁶ Level 4 represents a predominantly free of litter except for small accumulations in one out of four street corners.

Infrastructure and services sector plan

Five-year strategic objectives	IDP programmes and key achievements (accumulated to date)	2010/11 delivery agenda
Empowered customers enjoying highest standards of customer care and responsiveness	Implementation of Electrification Programme to 95% of formalised households ²⁴ by 2011 A total of approximately 59 000 households now have access to electricity	Implementation of Electrification Programme to 95% of formalised households by 2011 Electrify 3 000 to 5 000 houses ²⁵ . This is due to the unavailability of houses to be electrified
	Provide street lighting to 95% of formal areas which include proclaimed informal settlements 62% coverage in formal areas and 12% in informal areas has been achieved	Provide street lighting to 95% of formal areas which include proclaimed informal settlements Increasing the number of targeted areas for public lighting from 20 to 25
	Implementation of waste collection optimisation plan to ensure waste collection in all areas Collection of waste once a week in all areas has been achieved. Quality and service standards have improved in most areas	Implementation of waste collection optimisation plan to ensure waste collection in all areas 95% to 98% improvement/adherence to refuse collection schedules to all areas serviced
	Improve waste service delivery standards in prioritised informal areas 119 out of 182 informal areas were provided with a daily cleaning service	Improve waste service delivery standards in prioritised informal areas The 30 additional informal areas will be targeted for daily cleaning
	Improve cleanliness levels in the inner city and street cleaning in all areas Cleanliness levels in the Inner City have improved significantly over the past financial year. A level 4 ²⁶ has been sustained	Improve cleanliness levels in the inner city and street cleaning in all areas Maintain cleanliness level 4
	Installation of water standpipes and the construction of VIPs to cover all households by 2011 Water and sanitation coverage are at 96% and 90% respectively	Installation of water standpipes and the construction of VIPs to cover all households by 2011 To extend the service to all prioritised households ²⁷
	Allocation of free basic water and electricity All households registered in the City's indigent list are provided with free basic water, electricity and waste (FBE and FBW)	Allocation of free basic water and electricity Continue with the provision of FBS in line with the City's social package
Upgrade infrastructure and reduce maintenance backlog to meet capacity requirements	Design and implement long-term asset management strategy and plan for waste, water and energy Asset Management Plans (AMP) for energy, water and waste have been developed and a 50% implementation has been recorded	Design and implement long-term asset management strategy and plan for waste, water and energy Achieve a 70% to 80% implementation of the AMPs Achieve 2010/11 milestones per MOE as agreed on implementation of the AMPS

²⁸ Including deemed consumption areas.

Five-year	IDP programmes and key achievements	2010/11 delivery agenda
strategic objectives	(accumulated to date)	2010/11 delivery agenda
	Reduce electricity outages by 50% in year 2010 (bulk, medium and low voltage): A significant reduction in outages has been recorded as follows: Bulk voltages outages 71 vs 90 target; Medium voltage outages 844 vs 950 target Low voltage outages: SAIDI: 0,14; SAIFI: 0,02; CAIDI: 6,16; CAIFI	Reduce electricity outages by 50% in year 2010 (bulk, medium and low voltage): Bulk outages: 80 Medium voltage outages: 930
Reduce unaccounted for and non-revenue electricity and water losses	Implement Infrastructure Refurbishment Programme and install pre-paid meters to reduce unaccounted for losses to 25% in 2011 for water and from 3% to 1% by 2011 for non-technical electricity	Implement Infrastructure Refurbishment Programme and install pre-paid meters to reduce unaccounted for losses to 25% in 2011 for water and from 3% to 1% by 2011 for non-technical electricity
	 Water: A metering policy for water and electricity has been developed Physical water losses amounted to 9,6% Although the target was exceeded by 0,6%, the achievement is within the acceptable international standards of between 10% and 15%; and Commercial water losses incurred were 12,9% in metered areas 	Water: Reduce water losses to 25% ²⁸ Reduce unaccounted for water to 34%
	Energy: Electricity losses increased to 14,33% against a 12% target	Energy: Reduce non-technical losses to a range of 2% to 3%
Implement DSM programmes and innovative technologies	Develop and implement comprehensive demand-side management programmes for waste, water and energy services Water: Through the implementation of various DSM water projects, water consumption was reduced to 15 422 megalitres against a	Develop and implement comprehensive demand-side management programmes for waste, water and energy services Water consumption: At least 10 000 MI reduction
	Waste: Waste reduction to the City's landfills was achieved by diverting a total of 249 132 onnages. This translates to 17,7% (which includes diversion to private landfills. The actual is 5%) reduction against a target of 6,13% (2009/10)	Waste tonnage to landfills: 10% waste reduction

Five-year	IDP programmes and key achievements	2010/11 delivery agenda
strategic	(accumulated to date)	Loto, it delivery agenda
objectives		
	Energy: A 5% reduction in electricity consumption was achieved against a target of 10%. The non-achievement was caused by a significant number of projects currently at initiation phase whose impact cannot be quantified yet. Projects include solar heating, roll-out automated meter readers, roll-out CFL and installation of ripple control	Electricity consumption: 10% reduction
Minimise waste to landfill to be in line with the Polokwane declaration	 Reduce, re-use and recycle at least 15% waste by 2010 50% green waste diverted to compost facilities by 2010 Implement alternative technologies for waste reduction and treatment A feasibility study is in the finalisation stages after which the process to procure innovative waste treatment technology will be enacted 	Diverting 10 to 15% of waste away from landfill through customer intervention programmes (depending on approved budget to initiate DSM projects) Construction and commission of waste treatment plant Continue with the implementation of landfill plan
	Develop and implement strategy to increase landfill capacity 95% developed, as a draft strategy is in circulation for comments	
Improve waste management services	Implement turnaround strategy for business improvement through cost management, revenue generation by 2007 and improved service delivery: Implementation of the turnaround strategy continued with focus on the activity based costing system, the new tariff and funding model, business process mapping and SAP A performance management system to monitor waste service delivery performance	Continued implementation of the turnaround of the waste management service which includes: • Activity-based costing to reflect the true costs of providing a service • Business process reengineering • A performance management system to monitor waste service delivery performance
Service delivery monitoring and evaluation to improve quality of service	Service delivery inspections Frequent service delivery inspections are conducted as means to improve and address the customer perception survey outcomes	Service delivery inspections Water: Improve turnaround times to respond to service failure/ inadequacies for water and sewer from 90 to 95% Energy: Achieve NRS 047 Waste: 98% adherence to refuse collection schedules and completion between 16h30 and 17:30
Policy development and by-law review	Formulate policies and by-laws that will facilitate effective service delivery The draft policy on energy DSM is currently being developed	Formulate policies and by-laws that will facilitate effective service delivery Develop DSM policies and by-laws in conjunction with Environment Department

Five-year strategic objectives	IDP programmes and key achievements (accumulated to date)	2010/11 delivery agenda
Establish RED 4	Participate in activities that lead up to the establishment of RED 4 The process of establishing RED 4 has commenced and should be substantially complete by June 2009	Participate in activities that lead up to the establishment of RED 4 Programme is on hold pending the outcome of the 17th amendment of the Constitution
New priority		 ME financial sustainability: Improve revenue collection; and Reduction in operating cost by up to 5% below budget

Inter-governmental relations

Infrastructure and Services Sector has working relationships with different spheres of government and below are the different bodies that the sector works closely with in achieving its goals and targets.

Table 8i

Sector (within ISD)	Government department	Reason(s) for interaction with the Sector
Energy	Department of Housing	Houses envisaged for development and areas targeted
	NERSA	Tariff and regulatory matters
	ESKOM and DBSA	Demand-side Management projects
	Department of Social Development	Expanded social package tariffs and implementation of the programme
	Department of Urban Planning and Management	Formalisation of townships and informal settlements
Waste	Department of Environmental Affairs	Waste management regulation
	Gauteng Department of Agriculture and Rural Development	Waste management regulation including waste management forum
	SALGA	Inter-local government relations
Water	Department of Water Affairs and Forestry	 Oversee the implementation of water services act, strategies (water conservation and demand management strategy) Compliance in terms of water quality and waste water
	Housing	 Formalisation of informal settlements To identify informal settlements in terms of the categories whereby basic services are needed
	Environmental Management	 Developing water conservation and demand management strategy for the city. Since South Africa is a very scarce water country, the strategy will assist in water savings, demand reduction and reduce unaccounted for water
	Development Planning and Urban Management	 Regularisation of informal settlements. Draw up layout plans in order sort out basic services

Conclusion

The focus for 2010/11 will be on accelerating the delivery of infrastructure to improve access to, and quality of, services. The formalisation of the Informal Settlement Programme will be critical in ensuring the upgrading of services to higher levels and managing the formalised settlements to curb a cycle of informalisation will also be critical. Furthermore, the development and implementation of a plan for the prioritisation and funding of infrastructure upgrade and maintenance programmes will be all-important.