State of Electricity Distribution
May 2011
Infrastructure Dialogue Summary

The 14th Infrastructure Dialogue, held on 12 May 2011, reviewed the State of Electricity Distribution, considered by many to be in crisis, debating the plethora of challenges facing electricity distribution in South Africa, and the steps needed to ensure a sound electricity infrastructure to support economic growth, attract investment, and meet customer expectations.

Central to the discussion were the plans to address the current requirement of electricity distribution, estimated to be R27.4 billion, which must take account of maintenance, refurbishment, network strengthening and skills development. Part of the commitment of the Department of Energy (DoE), following the discontinuation of the process of restructuring the Electricity Distribution Industry (EDI), is to review the entire electricity value chain to develop a holistic approach towards energy security, surely a critical area of focus in ensuring sustainability in the economic recovery phase. One such approach, the key initiative of EDI Holdings, (dismantled as a result of the December 2010 Cabinet decision), is the Approach to Distribution Asset Management (ADAM), which forms part of the response to addressing the crisis in electricity distribution, as the EDI restructuring moves into the next phase.

Participants in the dialogue raised a number of priorities, among them, the urgency of stabilising EDI to avoid collapse, the emphasis on asset management and maintenance, the challenges in attracting and retaining the critical skills required, the merits of ring fencing to ensure electricity and energy security, the need for upfront agreement on appropriate resource allocation and infrastructure, and the necessity for engaging leadership and decision-makers to implement solutions to deal with infrastructure maintenance, refurbishment and strengthening backlogs. A number of other topics formed the basis of discussions around blockages to effective electricity distribution, as documented in this summary.

Three input documents were circulated prior to the Infrastructure Dialogue, as follows:

- **South Africa’s Electricity Industry**, 2010: Paul Serebro and the Research Unit of Creamer Media (Pty) Ltd, March 2010
- **Strategic Plan 2011/12 – 2015/16**: Department of Energy, 2010
- **Approach to Asset Distribution Management (ADAM), Executive Summary of the Business Plan**, EDI Holdings, undated

**Dialogue programme:**

**State of Electricity Distribution**: Willie de Beer, ex EDI Holdings, COO
**Private Sector**: Energy Intensive Users Group
**Municipal Sector**: Buffalo City Municipality

Sy Gourrah, GM: Electrical and Mechanical Services

Copies of the resource documents, presentations and agenda can be found on the Infrastructure Dialogues website [www.infrastructuredialogues.co.za](http://www.infrastructuredialogues.co.za)
Electricity Distribution in SA: Are we killing the golden goose?

There is growing concern at the lack of progress in restructuring the electricity distribution industry in South Africa, while backlogs continue to mount and assets continue to deteriorate. The decision by Cabinet in December 2010 to discontinue the process of restructuring the Electricity Distribution Industry (EDI), and the dissolution of EDI Holdings earlier this year has caused alarm in a business that is failing to maintain its assets. EDI is an asset-centric business, and in terms of sustainability, it is directly dependent on the performance of its infrastructure, which affects its ability to serve its customers effectively, and to collect revenue to finance its requirements.

EDI plays a significant role in the economic growth and development of any country, but without adequately performing assets and a sound electricity infrastructure, South Africa will be unable to support its growth targets, inspire investor confidence, or meet customer expectations.

The Department of Energy (DoE), whose mandate is to ensure secure and sustainable provision of energy for socioeconomic development, is committed to conducting a comprehensive review of the entire electricity value chain in order to develop a holistic approach towards energy security. But meanwhile, the uncertainty and delays in securing supply, implementing energy efficiency, and the continuing underinvestment in upgrading and maintaining the distribution system has heightened anxieties that the country faces an imminent electricity distribution crisis.

The challenges are manifold, pointing to inadequate investment in asset maintenance, lack of refurbishment investment, a lack of asset management strategies, limited coordination of efforts to address national problems, an underperforming industry and a chronic shortage of skills. The estimated maintenance, refurbishment and network strengthening backlog stands at R27.4 billion, and in order to effectively manage the future maintenance and refurbishment requirement, an estimated additional R2.5bn is needed per annum to deal with the backlog growth. The backlog figure is not static, and the longer it takes to address it the bigger the backlog will become, and equally the need for funding and resources to address the backlog will increase.

In addition, effective management of the revenue cycle continues to be a major challenge, compounded by a significant increase in bad debt, which has risen 93% from R311m (2007/08) to R600m (2008/09).

Eskom and the country’s 187 municipalities are tasked with managing the distribution of electricity to approximately 9 million customers, but the operation of facilities varies between regions and municipalities. Many networks are in poor condition, falling short of the substantial investment required to maintain and rehabilitate assets, and are perceived as unable to cope with the load of electricity demand.

This scenario suggests that the business model needs serious revision. Good management and leadership cannot be under-estimated as critical components to maintaining accountability for the assets that are being put in, requiring a shift in focus from the short term vision of politicians elected for 5 year periods, to a longer term view that creates plans for servicing long term assets.

ADAM – Holistic approach to distribution asset management

Part of the response to addressing the crisis in electricity distribution is the Approach to Distribution Asset Management (ADAM), a key programme initiated by EDI Holdings before its closure in March 2011. ADAM is a holistic, multi-year asset management initiative, centrally driven and locally executed, targeted at addressing maintenance, refurbishment and strengthening backlogs. It is conceived as a 10-year project with a 20-year funding mechanism behind it.

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Based on the idea that the asset is managed from design to final de-commissioning stage, ADAM’s aim is to ensure the integrity of critical electrical distribution infrastructure in South Africa that supports an environment that enables sustained economic growth, public safety and other essential public services.

The programme also identifies the need to introduce, through NERSA and National Treasury, tighter regulation and compliance of electricity distribution entities, inclusive of investment assets and skills development.

The plan is to follow a parallel phase approach that is governed by strict programme and project management practices, prioritising NERSA audited entities and short-term projects identified. The project will run parallel to the normal day-to-day running and operation of the utilities, with an eye on the long term power system master planning that must take place as part of this operation, and will look at optimising current available resources, while investigating funding options and making this funding available through a central mechanism. It is essential that the appropriate resource allocation and infrastructure required to execute this programme be agreed to upfront, and allocated before the programme is rolled out.

A central aspect of ADAM is its commitment to addressing the skills shortage through a variety of mechanisms: complementing existing resources in the industry with external expertise; identifying skills resources that have left the industry and enticing them back; and focusing on skills transfer and capacity building during execution. The aim is to leverage, harness and utilise the skills, expertise and experience gathered during the EDI restructuring process.

The EDI asset turnaround programme (referenced as ADAM above) represents a significant skills transfer and job creation opportunity, as well as a unique national opportunity for a focused long term technical skills development programme across the full engineering spectrum – construction staff, artisans, technicians, technologists, certificated engineers and training institutions.

“\nIn terms of managing the availability of supply, based on a sample of distributors, research indicates that unplanned outages occur due to assets not being well maintained and lack of capacity to perform preventative maintenance. A policy of reactive maintenance is adopted in many cases, rather than preventative maintenance, as planned maintenance does not exist in most municipalities. ”

Willie de Beer, ex EDI Holdings, COO

Finding the balance

Seeking solutions to resolving the crisis in municipal electricity distribution services is reliant not so much on creating policies, of which there are already many, but on the willingness of all parties to collaborate, i.e. business, government and labour. It also requires finding the balance between the objectives, the risks and the time horizons.

The key objectives in South Africa at this time could be said to be economic growth, job growth and equitable share, while the risks include the wellbeing of citizens, skills, water security, energy security, environment including climate change, competitiveness, and policy coherence and affordability. Risk, as defined in international terms, is the effect of uncertainty on objectives.

The key role players in addressing these issues, i.e. government and society, must necessarily engage in a range of activities around defining policy, and the technical work required. The policy aspect is, for the most part, run and owned by government, while the lobbying and advocacy is driven by entities such as BUSA, the unions and civil society.
Experience to date indicates that there has been over-lobbying on the business side and under-resourcing on the technical support, which applies equally to government and the private sector. Also, there is no lack of policy, but a failure to implement and administer the policies that do exist.

In order to embark on a plan to get the work done, there are four critical steps that must take place, each leading to the next in an iterative process: step one requires understanding the current reality; step two involves clarifying the objectives; step three, formulating the strategies; and step four, implementation.

**Understanding the current reality**

It seems clear that, given the status outlined above, the current service delivery model in South Africa is unviable. There has been little or no sustaining investment for a length of time, little or no growth investment, the electricity distribution industry is beset by a lack of skills, and the current status relies on an uncompetitive tariff pricing, even when compared to developed countries.

The average retail price in South Africa, from 1970 to 2008, was in the region of 25 to 30 cents per kilowatt (kWh). Prices must escalate naturally, and while they have to a degree, this is not sufficient: compare average industrial prices being charged to large industrial customers in China and India, which are up to 115 cents, with the local current retail price of 40 cents, and local industries that are being charged as low as 65 cents. Studies undertaken suggest that, taking account of the upper and lower bounds of South Africa society, the price should not be more than 100 cents, but definitely no less than 85 cents.

**Defining the key objective**

There should be only one objective in South Africa, and that is: to provide the requisite electricity service delivery, which must be defined in terms of quality, cost, sustainability, and all the other factors already raised here.

**Strategies - Implementation**

The key components for consideration in strategy development are structure, policy and service delivery, while the plan of action, as driven by the DoE, necessitates consolidating the “fact base”, government’s formal declaration of policy objectives, identification of all service delivery models and agreement on the best, and finally, implementation.

**Municipal overload**

The poor state of electricity infrastructure is nowhere more keenly experienced than at municipal level, with those tasked with delivery. In the case of Buffalo City Municipality (BCM), steps have been taken to identify a plan to restore their networks, and alleviate some of the pressure.

In spite of several new developments, the municipality has not even begun to catch up with their backlogs, largely a result of continued shortage of backlog funds, and shortage of maintenance and operating funds. The majority of municipalities are saddled with significant backlogs that directly impact on the state of the infrastructure, as most of the networks are in a very poor and deteriorated condition, the result of a number of factors, most of which have been outlined in this report:

- The extensive push towards electrification and development which has placed networks under enormous strain
- Insufficient maintenance
- Ageing and obsolete equipment
- Insufficient network upgrades

“Electricity is the golden goose that, in many cases, lays the golden egg for sustainability of our municipalities. The goose has stopped laying eggs, and we need to look at where the money is going…. At the moment, electricity is seen as a revenue-generating tax collection - but we are starting to cook the goose!”

*Mike Rossouw, Chairman, Energy Intensive Users Group*
• Diminutive Capital investment in the network, and

• Skills and staff shortages.

BCM has done due diligence in terms of a number of planning activities to alleviate the pressures. These include ringfencing, completion of its asset register, and of a Master Plan that includes a report on the current status of the electricity network, an infrastructure refurbishment plan, network integrity, strengthening and development plan, an electrification plan, a servitude plan, and a risk management plan that takes account of power outages and disaster management.

However, the Master Plan indicates that the electricity network has a backlog of upgrading, refurbishment and replacement estimated at R680 million, a figure that does not include ongoing maintenance. Current funding allocations are totally inadequate to meet the municipality’s requirements, in addition to which there is non-compliance with NERSA requirements.

In a review of the most pressing challenges, a critical factor is the inability to retain staff, resulting in an overworked and reduced staff complement, and an unsatisfactory work environment, if one considers the need to fix ongoing illegal connections under sometimes dangerous circumstances. Vandalism is rife, and illegal wires are removed, but reconnected on a daily basis. Consequently, staff attraction is an issue, as salaries and career paths are often not conducive for attracting the best and most skilled in the industry. Staff training is in place through apprentice schools and accreditation, but these efforts are not yet able to meet the gaps in staff requirements.

In addition, the financial viability of the electricity distribution service is a concern, relating to the ability to achieve sustainability, compounded by the pressures for cross subsidisation. Stakeholder participation is confined to engagement with NERSA on tariff harmonisation, licensee conditions and enforcement, power quality and the reliability of the supply, and with the DOE on policy guidance and funding issues.

Service delivery is perhaps the most visible shortfall, hampered by illegal connections, and inadequacies in terms of monitoring systems, maintenance, funding, and capable staff. There has been a loss of focus on the core functions, made more difficult by a highly unionised environment, lengthy procurement processes, aged and deteriorated equipment, and the mandate to provide free basic electricity, as well as the electrification of informal areas.

The challenges are enormous, and unless a comprehensive plan is implemented, and the current networks restored, municipalities like BCM will find it difficult to make their way out of the morass.

**KEY QUESTIONS & CHALLENGES**

The review of the alarming state of electricity distribution provoked much spirited debate around a number of pressing issues, and reinforced the sense of urgency for prioritising solutions to keep electricity distribution on track in South African municipalities, and to avoid a collapse of EDI.

Areas of focus highlighted during the debate encompassed the following: the shortfall in funding, the grant for informal settlement upgrades, unrealistic tariff structures, leveraging the surcharge on tariffs, revenue collection, the need for more effective engagement with leadership and decision-makers, and broader stakeholder engagement, the merits of ringfencing and the case for alternate business models, the attraction and retention of critical skills and lack of those skills in general, over-engineering of infrastructure, responsibility for execution of current action plans, regulation and compliance, private participation, the status of IPPs, Eskom’s challenges as a distributor, and the challenges of overloading already strained networks. These are summarised below.

**The funding shortfall**

In an environment where backlog and a chronic shortage of funding are real problems, the reports of funding being reduced are a concern.

The response is to look at where the funding is coming from, whether from the fiscus, the municipalities’ own funding, from customer tariffs, or through the transfer of the service itself. The reality is that municipalities don’t have the revenue, and it would be difficult to tax the customer any more. The answer lies, therefore, in improved efficiency, improved service delivery, and perhaps even service transfer.
Capacity of municipalities has decreased, and in terms of elections and budget allocations, there is more money going into social responsibility projects than into infrastructure. In most municipalities, the electricity departments are often the only ones that are self-sustaining and profit generating, so the majority of their funding goes towards sustaining and subsidising other departments. This suggests that there is a need to turn this around, and to relook at the allocation of budgets, which links to engagement with leadership, and a more collaborative process to set priorities. It is also important to look at where the focus and energy is going, in terms of funding. There are certain projects, for example sewerage, which can be seen and smelt, or a water leak or pothole, which is visible, but electricity infrastructure can only be seen when it blows up, and often does not receive attention until it does.

**Grant for informal settlement upgrades**
Treasury reported on a new grant specifically geared for informal settlement upgrades, although this was the first that participants, and municipalities, had heard of this. There was interest about where that funding is located and how it will be disbursed, as municipalities can’t obtain funds to address their own plans to upgrade at present.

**Are the tariffs realistic?**
The subject of tariffs currently being charged to customers was examined, in particular whether these are realistic or sufficient to allow for maintenance of assets, and in the light of comparison with other countries. While it is important to rephrase the current base, as municipalities achieved approximately 47% of their total electricity budgeted capital investment, it is fair to say that tariffs are not properly designed or calculated, and are potentially insufficient and unrealistic.

The real issue here is that if the current performance of the asset is not known, the performance of the network is not monitored, and without an asset management strategy, it is difficult to work out what to approve. An EDI study showed that there was not sufficient investment back into the assets to achieve sustainability.

**Surcharge on tariffs**
On the subject of tariffs, National Treasury has made provision for a surcharge to add on to municipal tariffs for services outside of the provision and maintenance of electricity, and is running a process to identify municipalities eligible for the surcharge.

While municipalities are aware of the surcharge that can be charged onto electricity tariffs, and of exactly what Eskom is charging them, 25% is only one part of the entire tariff being charged to the municipality, with penalties on maximum demand. So they are looking at a 40% increase that could easily be passed on to customers, but the politicians would not allow them to go beyond 25% or 27%. To be sustainable, they would need to go higher than what has been announced. In addition, one can’t have the same tariffs for each municipality, so there would need to be a move away from the guidelines and look at more cost-reflective tariffs, e.g. the big industries located in specific metros etc.

Regarding the surcharge, it is also necessary to put up a flag against simply introducing the surcharge, as there needs to be an understanding of where the money is going, instead of pumping more money in without assessing its destination. The argument here is that ringfencing is the first step towards understanding the business, and getting a line of sight, and some municipalities are doing a good job in this regard.

**Revenue collection**
Revenue collection ties into the sustainability debate, amplified by the concern over the increase in bad debt over a number of years. There is evidence that municipalities are under-collecting in terms of development charges, and although there is provision for the indigent for free basic services, there is a need to look at whether this is properly determined, whether it is going to the right people, and whether they are paying enough. These provisions need to be linked to networks and maintenance.

There is some concern over whether the right things are being prioritised, or whether vision is blurred by the political flavour of the day, for example the “switch-on” campaigns.

**Broader engagement – with leaders, decision-makers, stakeholders**
Questions were posed regarding the plans, and ability, of municipalities to engage leadership in more meaningful ways, to establish platforms to engage decision-makers, and to broaden the stakeholder base. While all agree that there are problems around getting decisions from politicians, particularly around issues like the collection of sufficient revenue from other structures, this situation is very frustrating for those with technology solutions. The cycle of political leadership is generally 5 years, which makes it difficult to set meaningful plans for long-term assets and delivery plans.

The engagement process must factor in plans to invest in and leverage technology, as the industry is far too big to manage with limited input, and so there must be collective commitment to finding the resources that will allow the industry to rely on appropriate technologies.

There must be recognition that the country is faced with inadequate generation capacity, and that the whole value chain must be addressed, from transmission, to distribution, to the systems to deal with sustainability. There is not much evidence of planning for the country, and yet the industry must plan for the country, and must link with the right components to planning. Some view the problem around proper planning to be political, and misdirected influence.

Regarding stakeholder engagement, only NERSA and the DOE featured in presentations, with no mention of users, developers, customers and so on. Consultants are interested in participating in processes with municipalities in a more meaningful way, and in collaborating as buyers of developments, but there is no clarity on achieving collaboration with a broader spectrum of stakeholders in this way. In terms of NERSA, there are stringent guidelines regarding how to structure customer forums and meetings, and while BCM, for example, does sit with developers, they don’t have a customer forum, so this needs to be taken forward.

Platforms like the Infrastructure Dialogues are very valuable forums, but there needs to be more systematic efforts to bring decision-makers, and the right mix of decision-makers in terms of electricity distribution, into one room to review problems, look at the range of solutions on offer, and develop action plans and solutions to addressing the challenges.

**Delivering on action plans**

It was emphasised that an action plan has, in fact, been developed, the result of 30 resolutions tabled by national government, SALGA, NERSA, business, labour and civil society at the 2008 Electricity Distribution and Maintenance Summit. This raises the question of who is accountable for the non-execution of action plans that have already been developed.

The straight answer is that the Minister changed and the politics changed, and the resolutions were not met, and action plan not implemented. This ties into the cycle of leadership issue, but the general answer is that the DOE is the custodian of that process, and of delivering on the outcomes of the Summit.

**Merits of ring fencing**

The case for ring fencing was debated, and whether this constitutes a partial or total solution. Some proposed that a better solution was to create municipal entities and to address the skills shortage in that way, by establishing separate grading systems and packages.

Putting aside the business model for the moment, or whether the solution is municipal entities, while ring fencing may not be the answer, it is a very important step. The structure alone will not resolve the challenges in this industry, as there are other things to be addressed, for example the whole governance aspect, and the structure of the business, whatever business model is in place. What needs to be right is that the business unit or entity must be in a position to focus on core activities and deliverables, and there must be flexibility of leadership to direct and perform. Ring-fencing makes it possible for the utility to perform to its maximum capacity and efficiency.

There is, nonetheless, the firm belief that the business model of municipalities must be assessed. There should be the freedom to run electricity departments as profit centres, and for those in charge to make decisions about putting profits aside to attract talent, or for maintenance, or to retrofit equipment, or whatever the most pressing need is. Managers should be given the right to make those decisions, as well as whether sufficient revenue is being collected, or whether more effort should be put into collections against debts. There also needs to be a
proper asset audit to find out the current asset status and performance, and a proper asset preservation objective established.

Business units must be looked at carefully, and ring fencing is very important in this regard. However, regarding opting for municipal entities, decisions like this must not be rushed, as council would still be allocating the budgets, and with the same shareholder, things may not necessarily differ from the current status quo, with the same supply chain management, the same grading etc. It is also important to look at the work environment which may not be conducive to good performance, and which may account for people leaving the organisation.

*Attracting and retaining critical skills and addressing skills shortage*

There is no dispute that the attraction and retention of critical skills in the provision of electricity services is a major risk, along with the general shortage of skills. The industry is highly technical, and yet the same policies, regulations and collective bargaining principles are applied across the board. There is a troubling dearth of technical skills, and although investment has been made in training, municipalities are unable to retain the skills of its trained staff members.

A further obstacle to progress is the national grading process and the national moderation committee, which fails to distinguish between the relative values and differences between, for example, a switching officer and a training officer. There are currently 33% vacancies for engineers, and 45% for electricians, and while municipalities may wish to bring on contractors, the length of time it takes to secure contracts is a deterrent, as are PPPs, which involve long bureaucratic processes.

People who stay in municipalities are generally there to serve, as it is impossible to compete with industry, or to attract people with 58 percentile packages. Transformation efforts to recruit black engineers are also difficult to sustain, for the same reasons.

The bottom line is that there are insufficient technical skills to meet electricity demands. The matter is compounded by a lack of leadership in terms of skills development, as well as how to take the capacity that does exist and develop it around the broader industry, to include not just engineers, but artisans etc. So while the need for skills is critical, so is the need to develop existing skills.

A commitment to work together on the skills problem is critical, to work with the Department of Labour to ensure that people obtain the necessary skills and experience, and to continue to push for artisans being trained at Apprentice Schools to receive the requisite experience.

*Over engineering of infrastructure*

Concerns were raised over the cost of over engineering of infrastructure, which is perceived by some to overshadow short-term costs of trying to save on maintenance issues, and to lead to a shrinking of skills.

The issue here is the extent to which the focus is on capital or on maintenance. It is not a “one size fits all” scenario, as it is dependent on what aspect of the supply line is being addressed. The cost of unserved energy is enormous, as if there is a power outage for a complete metro, for example, one needs to weigh the requisite cost to the economy of the outages, versus the costs of preventing it. The need is to balance between the cost of unserved energy and the cost of maintenance.

It is also important not to assume that simply because infrastructure is working there is nothing to do. It will conceivably take 20 years to get to a place where things are functioning optimally.

*Regulation and compliance*

There is acknowledgement that there are gaps in ensuring compliance in the industry, and that not enough is being done to “wield the big sticks”. The general feeling is that unless the maintenance issue is regulated, it won’t be adequately addressed across the board.

There is a definite need to enforce regulation and compliance, but there are interesting challenges around this issue, particularly in clarifying accountability. The current situation, with NERSA regulating, and municipalities also regulating, ensures that nothing is regulated, and the result is complexity and uncertainty. This matter needs to be resolved. The industry is in
urgent need of tighter regulation, compliance enforcement, and safeguards to ensure that people are accountable for the business entrusted to them – until that is in place, the challenges will not be addressed.

**Private sector participation**
It was a point of interest that in the discussion around the issue of capacity as the major constraint in the industry, the subject of private sector participation had not received sufficient attention. This raises the question of what it will take to get more private sector participation on longer-term contracts, management contracts, concessions and the like.

It is a viable option to look at private sector participation through different methodologies, which may not be applicable to all municipalities, but perhaps could apply at a project or regional level. The industry must look at capacity broadly, and must factor in the private sector, although there are difficulties related to the policy on outsourcing, and has reference for all infrastructure development in the country. There is a tendency to think that people in the private sector are expensive, but there is nothing more expensive than infrastructure that doesn’t perform or function.

The notion of a developmental state does not mean that the state must deliver all services, as private investors can do it as well, so there is a need to break the perception that the state must do everything. It was also observed that unions have a misunderstanding of privatisation, which does not equal job losses, but in fact, can be good for job creation.

However, the industry must recognise that the private sector will never invest if there is uncertainty, as investors are reluctant to make long-term investment decisions when policies change so rapidly. There are currently about five or six key constraints that are preventing the private sector from putting investment on the line, and it is only once these constraints have been removed that private investment will take off.

**Independent power producers – where are they now?**
Following the World Summit on Sustainable Development in South Africa in 2004, a plan of action was crafted for Johannesburg, and agreements made by Eskom, regarding independent power supplies. And yet there has been no information on the status of independent power producers (IPPs), or on the current percentage added into the national grid by some of these alternative energy suppliers.

The subject of IPPs relates to private sector participation, as they, too, want answers in relation to the market, to the people with whom they will contract, and their role in terms of interaction. They are also, understandably, concerned about their return on investment, and in this asset-centric and monopoly type of business, it is something of a challenge to encourage people to come into the market, without these questions being answered.

Consequently, the take-up of IPPs has been slow, indicating that what is really needed is for government policy to streamline the process for IPPs to come on board.

**Eskom’s challenges – on a par?**
The primary focus was on the experience of municipalities, but questions were also raised around the extent of Eskom’s challenges in terms of skills and tariffs.

Eskom’s challenges are very similar, but where it differs is in terms of investment, as the entity is able to put money back into the system, and is also able to gauge the way forward through referencing international benchmarks. The most challenging areas are around electrification, and the introduction of new generators into the network.

Perhaps the real difference regarding Eskom distribution is that they understand their baseline performance, and the gap between where they are and where they want to be, although it will require double figure investment to address the gaps. Another benefit is Eskom’s ability to adopt an integrated
approach compared with the municipalities, and they are better at ring fencing, and grading and rating their people in terms of skills.

So although Eskom has some of the same challenges, the strategy for addressing them is much better and more effective. This makes it critical to create strong partnerships between Eskom and the municipalities.

**Overloading already strained networks**

Municipalities are hindered not only by insufficient funds for maintenance, but also by the fact that many of their sub-stations are almost 100% overloaded. The end result is that as long as the maintenance backlog increases, the sub-stations and networks will be worked almost to a state of collapse, made worse by their already deteriorated state.

The challenge of overloading networks and the inability to deliver due to inflexibility and network constraints are real concerns, but until the industry assesses current assets properly, how the network is performing, where the gaps are, and how to close them, there will not be much progress in addressing overloading. The EDI sector must combine with other sectors, e.g. water, to change the general mindset around asset management, and try to ensure that some sort of performance measurement system is put in place.

**In conclusion**

As these discussions highlight, the primary challenges in electricity distribution can be summarised as inadequate investment in asset maintenance, lack of refurbishment investment, the absence of asset management strategies, a lack of coordination at national level to address problems, an underperforming industry and a shortage of skills. These challenges heighten the urgency for the rollout of the EDI asset turnaround programme, as part of a national strategy to deal with infrastructure maintenance, refurbishment and network strengthening backlog.
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