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DISCUSSION PAPER ON THE DECOMMODIFICATION OF ELECTRICITY

Contextual Background

In South Africa, the government utility Eskom has a control on the generation and transmission of electricity, and municipalities purchase bulk electricity from Eskom in order to fulfil their constitutional mandate of electricity distribution. During apartheid, electricity was subsidised and Eskom tariffs were kept low, declining in real terms between 1980 and 2007 (DME 2008). This resulted in an inability to fund the development of new electricity-generation capacity required to keep pace with increased economic growth and electricity demand, and to carry out maintenance and rehabilitation of the electricity distribution network (Eskom 2012). Eventually in 2008/09, after a loss of R9-billion threatened the sustainability of the electricity sector, Eskom received a government bailout. Since then, there has been a concerted shift towards tariffs that are more closely aligned to costs. Because of the historical under-pricing, the tariff increases have been significant (between 2008 and 2011, electricity prices increased by 78% in real terms), raising concerns around affordability for end users (Eskom 2012).

Tariff increases affect not only municipalities whom are agents of delivery to the public and wish to generate profit from the sale of electricity, but also end users of electricity, especially the households. The provision of electricity is a significant source of revenue (electricity tariffs represent approximately a third of total municipal revenue) and a major

expenditure item for municipalities. Significant tariff increases, coupled with the poor economic environment, present a dilemma that must be unpacked because the electricity sector is subject to administered prices. This means that prices (or end-user tariffs, in the case of electricity) must be determined through a regulated framework, and not through market supply and demand forces.

Municipalities purchase bulk electricity at the given price and then resell electricity (at a high tariff) to end users. However, the National Energy Regulator of South Africa (NERSA) imposes regulatory restrictions that limit the extent to which tariffs can be increased, effectively limiting how much of the increased costs can be passed on to end users. This is a particularly important limitation in the context of developmental local government in South Africa, because revenues generated from electricity distribution enable municipalities to reinvest in the sector (ensuring ongoing service sustainability) and to cross-subsidise the delivery of electricity to poor households. An investigation has yielded results that at times this revenue generation by municipalities through electricity which is a basic right, is used by Municipalities to maximise surplus gains which cross-subsidises other remittances which contradicts the values of electricity being a fundamental right. Electricity losses and theft further exacerbate the situation. Municipalities have historically overpriced electricity, charging high tariffs and earning large surpluses. These surpluses, which should be reinvested in the electricity sector, are used to fund the delivery of non-electricity services and other expenditure items such as wages (Barnard 2010; Bisseker 2012). The consequence is that municipalities depend on electricity profits, beyond what is desirable and legislatively permissible.

Institutional and regulatory arrangements

In South Africa, the supply and distribution of electricity is state led. Through its state-owned entity, Eskom, national government is responsible for the bulk (96%) of electricity generation79 and all transmission (DME, 2008). Schedule 4b of the Constitution assigns responsibility for distributing electricity to municipalities (RSA, 1996). Although only metropolitan and local municipalities distribute electricity, municipalities are allowed to delegate service delivery to an entity. In practice, Eskom and licensed municipal distributors undertake the distribution activity. The municipality has to pay Eskom

directly in cases where Eskom distributes electricity on its behalf. Oversight of the electricity sector lies with NERSA. In terms of the Electricity Regulation Act, NERSA has wide-ranging powers to ensure regulatory compliance. Its role includes considering applications for constructing and operating distribution facilities, issuing rules to facilitate implementation of government's electricity sector policy and objectives, regulating prices and tariffs, enforcing performance and compliance, and acting against instances of non-compliance (RSA, 2006).

NERSA is central in setting the tariffs on the following basis:

(i) charged by Eskom to municipalities for generating electricity, and

(ii) charged by municipalities to end users.

Municipalities wishing to exceed the tariff increases charged to their end users are allowed to apply and motivate to NERSA for an above-guideline increase (permission for which is in most cases granted). Various pieces of legislation further regulate the electricity distribution operations of municipalities:

- The FBE policy stipulates the minimum amount of electricity that each municipality must provide free of charge to poor households (DME 2003). The amount of FBE is currently set at 50 kilowatt hours (kWh). National Treasury subsidises the delivery of FBE via the Local Government Equitable Share (LGES) allocation and uses a monthly income of R2300 as the threshold for determining indigent households (National Treasury 2013). Municipalities may increase the amount of FBE provided and the monthly income threshold used to define indigent households, but all municipalities are expected to abide by the minimums set out in the FBE policy;
- The Municipal Systems Act provides guidance to municipalities on the principles that should underpin the levying of fees for basic services. Section 74 outlines the items that revenue derived from electricity distribution should be spent on: capital, operating, maintenance, administration, replacement costs and interest. Essentially revenue earned via tariffs should be reinvested in the sector. Section 74 of the MSA calls for special tariffs or subsidisation of service delivery to poor households, while

non-poor users should be charged tariffs that are reasonably associated with costs of provision (RSA 2000);

- The Municipal Finance Management Act (MFMA), in Sections 41 and 42, manages the interface between state utilities (in this case, Eskom, a municipality, and National Treasury) and regulatory agencies within a sector. In accordance with the MFMA, Eskom must report monthly to National Treasury on the amount paid by each municipality for bulk electricity, any arrears, and actions taken to recover arrears. In terms of Section 42 of the MFMA, Eskom must submit plans for any increase in the price of bulk electricity to both the Department of Energy and NERSA. Eskom's submission must contain the written views of National Treasury, the South African Local Government Association (SALGA) or any municipality, and must explain how these views have been taken into account (RSA 2004a).
- The Municipal Fiscal Powers and Functions Act (MFPFA) regulates the imposition of surcharges on electricity tariffs by municipalities (RSA, 2007). Revenue from tariffs and revenue from surcharges are governed by different pieces of legislation and have different purposes. Revenue from tariffs must be reinvested in the sector (as detailed in the MSA) but, as a surcharge is a municipal tax, revenue from surcharges can be used for general expenditure.

Financing Electricity Distribution

Distribution of electricity entails significant operating revenues and expenditures for municipalities. These two aspects of electricity distribution are considered below. In order to take a differentiated view of municipalities, the analysis is based on a five-pronged categorisation of municipalities: metropolitan municipalities, secondary cities, large towns, small towns and rural municipalities.

Municipal revenues derived from electricity services

Municipal operating revenue consists of own revenue and intergovernmental transfers. The provision of electricity is a significant source of revenue (electricity tariffs represent approximately a third of total municipal revenue).

Table 1: Budgeted electricity operating revenue as a percentage of total operating revenue, (2006/07–2012/13)

MUNCIPAL CATEGORY	2006/2007	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012	2012/2013
Metros	26.2%	26.4%	27.6%	33.7%	32.6%	35.1%	38.6%
Secondary Cities	31.5%	28.6%	27.7%	34.1%	36.9%	39.3%	41.9%
Large Towns	26.2%	25.1%	24.5%	26.4%	27.4%	29.5%	30.6%
Small Towns	23.5%	24.7%	22.9%	25.2%	23.7%	23.8%	24.6%
Mostly Rural	8.2%	8.1%	8.0%	8.8%	5.6%	5.5%	5.8%
Total Operating Revenue	24.3%	24.2%	24.6%	29.1%	28.8%	31.3%	34.1%

Having said that, as Table 1 shows, electricity generates own revenues for the metros, secondary and large towns more than the small and rural settings. Various factors can restrict the extent of revenue derived from electricity, including non-payment (stemming from consumer inability or unwillingness to pay) or regulations that limit the size of tariffs that can be applied. Various factors can restrict the extent of revenue derived from electricity, including non-payment (stemming from consumer inability or unwillingness to pay) or regulations that limit the size of tariffs that can be applied.

Municipalities receive intergovernmental grants such as the Local Government Equitable Share (LGES) allocation (which is targeted at enabling municipalities to provide FBS) and various conditional grants aimed at assisting municipalities in extending access to electricity. Currently, through the LGES allocation, municipalities receive a subsidy for each basic service (energy, water, sanitation and refuse removal). As at 2013, the energy subsidy is R56.29, which is then multiplied by the number of households earning below R2300 per month to arrive at the total energy subsidy allocated to a municipality (National Treasury 2013). Revenue from the LGES allocation is aimed at supplementing the operational and maintenance costs associated with the provision of electricity.

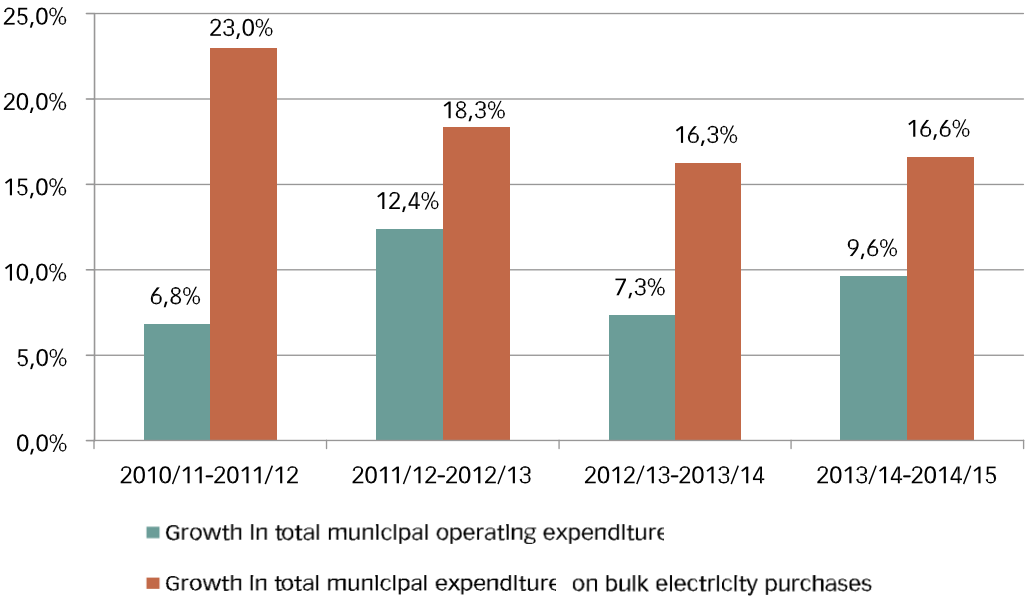
As part of the 2013 Division of Revenue, three electricity-related conditional grants are allocated: the Energy Efficiency and Demand Side Management Grant, and the Integrated National Electrification Programme Grant, which is divided into two: one for municipalities and one for Eskom. Conditional grants are typically used to assist municipalities with capital funding. This is the case with respect to the Integrated

National Electrification Programme conditional grant, where the funding is aimed at addressing the electrification backlog, installing bulk infrastructure and addressing rehabilitation and refurbishment needs.

Municipal expenditure on electricity services

Given Eskom's monopoly of electricity generation and transmission, municipal distributors purchase bulk electricity from Eskom at wholesale pricing, which incorporates wholesale energy charges and transmission charges (DME, 2008). In terms of distributing electricity, this is the major operational expenditure item affecting municipalities. The exact cost at which municipalities purchase electricity from Eskom varies and is based on geographic distance, maximum demand and the pattern of demand (NEDLAC 2010). Figure:1 illustrates the growth in total operating expenditure relative to the growth in expenditure on bulk electricity purchases. In each of the years reviewed, the growth in expenditure on bulk electricity purchases exceeds total growth in operating expenditure.

Figure1: Growth in total municipal operating expenditure relative to growth in total municipal expenditure on bulk electricity purchases (2010/11–2014/15).



Source: National Treasury data

In 2009, Eskom applied to NERSA for approval to implement a 31.3% increase in electricity-generation tariffs. Since then, NERSA has regularly approved significant increases to Eskom for the generation and sale of bulk electricity: 24.8% for 2010/11, 25.8% for 2011/12 and 25.9% for 2012/13. The large increases are set to continue beyond 2016, when Eskom has indicated that it will return to inflation- based tariff increases (National Treasury 2011: 151).

Reinvesting in the electricity sector and cross-subsidisation

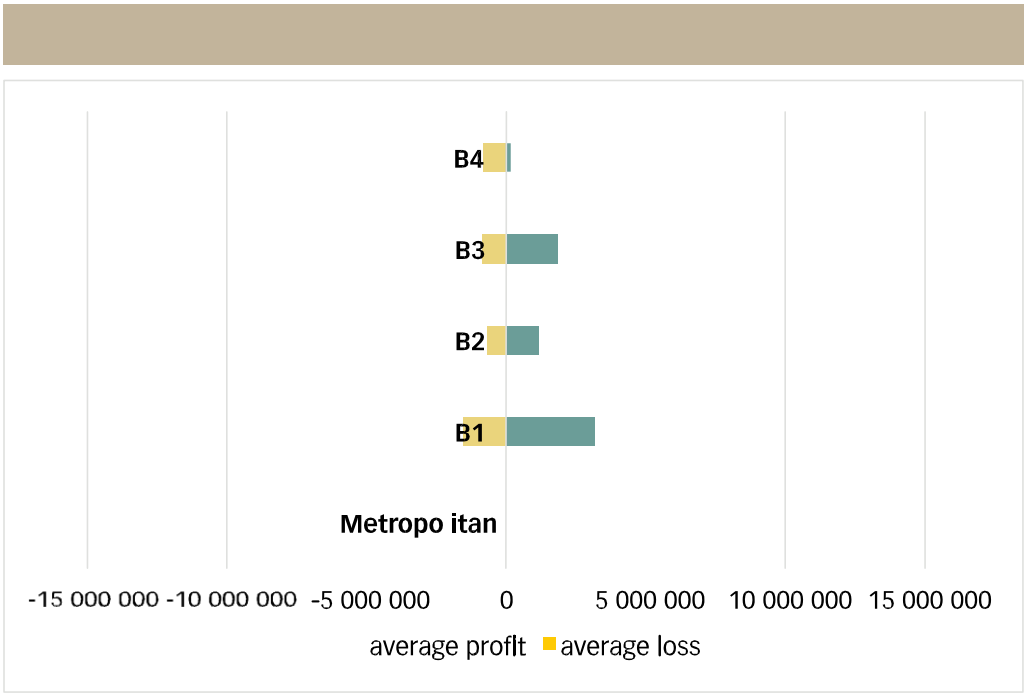
Revenue raised through tariffs in a particular sector is aimed, in the first instance, at funding reinvestment in that sector. Section 74(2) (d) of the MSA (RSA, 2000) envisages tariff revenues being reinvested in capital, operating, maintenance, administration and replacement-related costs associated with a service. This provision is particularly important, as it is aimed at ensuring that infrastructure underpinning a service is well cared for in terms of effective spending on maintenance and asset renewal. Within the electricity distribution industry, this reinvestment has not been taking place as much as it should have been. Research by the Commission (FFC 2013) indicates that municipalities under-budget and under-spend on maintenance and renewals. In 2011/12, municipalities (in aggregate) under-budgeted by R5-billion and under-spent by nearly R10-billion on general maintenance. Within the electricity distribution industry, a backlog in terms of asset renewal of between R8-billion and R41-billion exists. These figures underline two important points. The first is that the infrastructure underpinning electricity distribution is in a state of decay, thus threatening the ongoing, sustainable distribution of electricity. The second is that tariff revenue is most likely being used to cross-subsidise other forms of municipal spending.

Figure 2 illustrates the average difference between revenue and expenditure earned, by municipal category, in seven areas of service delivery: electricity, water, waste water management, waste management, health, housing, and road transport. The average is based on 2010/11, 2011/12 and 2012/13.

With respect to metropolitan municipalities, the operating revenue from particularly electricity, but also water and waste water management, far exceeds the operating expenditure for these services (i.e. a profit). On the other hand, the revenue from waste management, municipal health, housing, and road transport is smaller than the operating expenditure for these services (implying a loss). The size of the 'profit' earned from electricity, water and waste water management is similar to the size of the 'loss' recorded for waste management, municipal health, housing, and road transport, thus pointing to a probable and significant case of cross-subsidisation between services. At the other end of the spectrum, rural municipalities (B4) do not earn enough revenue to cover their significant losses. Secondary cities (B1), large towns (B2) and medium to small towns (B3) all appear to be able to cover their losses without using the full profits earned.

Figure 2: Cross-subsidisation, by municipal category

Source: National Treasury data



Municipalities are meant to use tariff revenue to ensure the ongoing viability of the service for which it was earned. However, Figure 2 suggest that municipalities are failing to do so, in the process endangering the continuity and quality of service delivery. In this regard, surcharges are interesting, as they can be used by municipalities to fund cross-subsidisation, without endangering areas of key service delivery infrastructure.

Section 229 of the Constitution empowers municipalities to apply surcharges (RSA, 1996). A surcharge refers to a charge in excess of the municipal tariff that a municipality may impose on fees for a municipal service provided (RSA, 2007). In contrast to revenue from a tariff, which should be reinvested in the sector from which it originates, revenue earned from surcharges are viewed as general revenue, and can thus be reinvested more broadly within a municipality. One of the express aims of the MFPFA is to regulate "the exercise by municipalities of their power to impose surcharges on fees for services provided" (RSA, 2007). Chapter 3 of the MFPFA relates to norms and standards to guide the application of surcharges by municipalities. Responsibility for devising these guidelines lies with the Minister of Finance. The Act envisages that the norms and standards will provide prescriptions on the following:

- The maximum surcharge that can be applied by a municipality.
- Bands or ranges within which surcharges may be imposed.
- How to apply a differentiated approach to the application of surcharges; for example, guide- lines may differ based on municipal category, capacity or the service in question.

The legislation thus envisages robust norms and standards. However, to date, this section of the MFPFA remains inactive. In practice, it is difficult to determine where the tariff for a service ends and a surcharge begins. What is seen as overpricing could in fact be what municipalities are implementing as a surcharge. For clarity, the practice around surcharges relative to tariffs needs to be regulated. In this regard, National Treasury should devise norms and standards as articulated in the MFPFA. Such regulations would make possible improved oversight of the extent of revenue that

should be reinvested in a particular sector, relative to what can be used to cross-subsidise other services.

Apart from adding much-needed transparency, a key implication of applying formal norms and standards to the practice of cross-subsidisation would most likely be the setting of upper limits that would restrict the extent to which cross-subsidisation could occur. This would increase the need for alternative local government revenue sources, such as a local business tax and others. As shown, electricity is an important source of revenue for municipalities, but potential developments in the sector threaten to negatively affect municipal revenue derived from electricity. For example, a shift toward using non-grid energy and renewable technologies by businesses and those households that can afford the initial high costs.

Empirical studies on determinants of municipal revenue are less common than on determinants of municipal expenditure. In an evaluation of local tax effort across 200 municipalities in El Salvador, Gallagher (2001) finds that the major determinants of local tax revenue are economic and demographic factors, i.e. the extent of poverty, the size of the population and the level of urbanisation. Luo and Douglas (1996) evaluate the determinants of revenue effort, which (as opposed to revenue capacity) refers to actual revenues collected. Borge and Rattso (2003) evaluate the relationship between costs and user charges in the sewage industry, focusing specifically on the extent to which higher unit costs are passed on to consumers in the form of higher user charges. Their model is based on two equations (one for unit cost and one for user charge) and uses instruments to mitigate the problem of simultaneity, whereby unit cost is a possible endogenous variable in determining cost and vice versa. Their findings indicate that the relationship between cost and user charges is very robust and that 40% of a cost increase is passed on to the end user. In the Northern Cape Province municipalities scenario, an evaluation of this nature would be interesting for two reasons: (i) the extent to which municipalities are allowed to pass on increased costs to end users is regulated; and (ii) if they pass on greater costs to end users, municipalities may inadvertently affect redistribution, given that unaffordable tariffs may prompt non-payment.

A Increases in the price of bulk electricity purchases are used as a proxy for electricity price increases. The reason for using a proxy is that there are inter- and intra-municipal differences in the electricity prices charged by the 237 municipalities that distribute electricity. However, in the case of all municipal electricity distributors, electricity bulk purchases is the dominant determinant of electricity tariffs charged, determining 70% of the tariff charged to households and thus serving as a good proxy for electricity price increases.

Recommendations and Implications

Based on the analysis, the following recommendations are made:

- To increase transparency with regard to tariff revenue and surcharges for cross-subsidisation, norms and standards should be devised to guide municipalities on the application of surcharges (as envisaged in terms of the MFPFA).

  Justification: Due to lack of transparency, it is difficult to say whether electricity tariff revenue, or surcharges on electricity tariffs, are being more severely affected by increases in the price of bulk electricity purchases.
- The norms and standards should be developed, strictly enforced and used by oversight bodies to determine the extent to which reinvestment should be happening within a particular sector, relative to cross-subsidisation of non-sector expenditure.

  Justification: As outlined in the MSA and the MFPFA, revenue earned via tariffs has very different uses from revenue derived from surcharges on a tariff, with the former meant to be reinvested in the sector, while the latter can be used for general expenditure, including cross- subsidisation. To ensure a balance in this regard, municipalities require both better enforcement and guidance.
- Developments aimed at prioritising environmental sustainability may increase the cost of bulk electricity purchases, which will in all likelihood be passed on to municipal electricity distributors. This will endanger the sustainability of the sector and the ability of a municipality to cross-subsidise service delivery to lower income groups. Government thus needs to put in place a plan to manage the risks associated with increases in the price of bulk electricity purchases.

Justification: Government has emphasised its commitment to ensuring environmental sustainability, as evident, for example, in the pending implementation of a carbon tax (postponed to 2016), the already implemented National Environmental Management Air Quality Act (RSA, 2004b) and the 2012 National Framework for Air Quality Management (DEA, 2013). Compliance with these regulations will affect Eskom and the associated costs of compliance will get transferred to end users, whether directly or via municipal distributors. In the latter case, these increased costs are likely to be transferred via higher prices for bulk electricity purchases. As the modelling in this chapter shows, increases in the price of bulk electricity purchases have a negative impact on the revenue of municipalities and thus on their ability to meet their mandate of basic service delivery.