Budget Speech Competition 2013

Essay Question:

South Africa faces rapidly rising electricity prices and electricity shortages. It is argued that the electricity price increases are necessary to fund the current build programme but also to improve the financials of Eskom so that it can borrow funds on financial markets. The price increases for users of electricity are exacerbated by municipal mark-ups. At the same time, the electricity sector is the largest emitter of CO2 in the country. Reducing South Africa's carbon footprint will require significant shifts from coal generation to cleaner types of generation. This is likely to come at a higher cost and put further pressure on electricity prices.

- What should government do to improve the efficiency of the electricity market and smooth the price increases?
- Should South Africa provide preferential electricity tariffs to poor households? Justify your answer.
- Should South Africa provide preferential electricity tariffs to certain industries? What are the likely impacts on the economy and employment?

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1. Introduction

Electricity supply and electricity cost is a complex topic that has immense ramifications for the economic and social future of South Africa. I believe that any argument for electricity-orientated policy should be made within the framework of government's long-term goals. According to the National Development plan, our fundamental goal is to tackle the problems of poverty, inequality and unemployment (Zuma 2013:2). The first important way to achieve this is through job creation, which in turn requires the growth of our economy. I will show that two important factors that aid economic growth are increased electricity capacity as well as the competitiveness of South African businesses. However I argue that there is also a second path to achieving the goals of increased employment and poverty relief. This is through directly increasing living standards and thus creating an inclusive society in which people are raised to a level at which they are able to continue helping themselves.

In the course of this essay I shall show that while increased electricity capacity may imply higher electricity costs, competitiveness of businesses and increased living standards require low electricity costs. There is thus a tension between the means of achieving the goals of the NDP. Therefore the question becomes: how does the government increase electricity supply at the lowest possible cost? At the same time we must keep in mind another important long-term goal of the NDP: sustaining our environment (Gordhan 2013:15). This essay shall attempt to find a solution to the electricity crisis that minimizes these tensions and thus achieves the goals of the NDP in the most efficient way possible.

I will argue that increasing electricity supply while keeping electricity costs low requires an increase in the efficiency of electricity production and generation, and that this in turn requires an increased role for Independent Power Producers (IPPs) as well as more intensive regulation of municipality- imposed electricity tariffs. Moreover I shall argue that preferential electricity tariffs for poor households and certain industries are essential to ensuring the growth and stability of the South African economy.

2. The Relationship between Electricity Costs, Business Competitiveness and Economy Wide Growth.

In the 2013 Budget Speech, Finance Minister Pravin Gordhan asserted that a considerable increase in private sector competitiveness is required in order to create jobs and raise living

standards. This is because increased competitiveness boosts exports, encourages greater investment in production and ultimately strengthens aggregate demand. However increased business competitiveness requires decreased costs to businesses. As electricity is a significant business expense, the provision of low- cost but high- quality electricity can thus play a central role in promoting economic growth.

The effects of changes to electricity prices are particularly hard-felt in electricity- intensive sectors. Graph 1 illustrates that the industry sector, which includes manufacturing and mining, makes up 60% of total South African electricity consumption. Consequently electricity prices heavily influence the sustainability of these sectors. This proposition is substantiated by the study conducted by Deloitte, in which South African manufacturing CEO's ranked energy cost and policies as the 3rd most important factor in their ability to compete on a global scale (Deloitte 2013). It is important to note that these electricity-intensive sectors provide a large proportion of South Africa's jobs. Table 1 demonstrates that manufacturing accounts for close to 13% of employment while mining accounts for an additional 2,5%. Therefore actively ensuring low electricity prices for the manufacturing, mining and industrial sector at large is essential for reducing unemployment and growing the economy.

Graph 1: Electricity Consumption by Sector for 2006

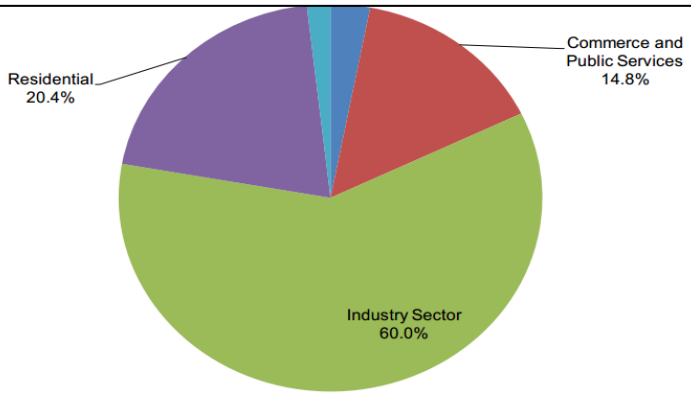


Table 1: Employm

Energy Department, 2010: 66

Table 3.1: Employed by industry and sex – South Africa

	Jan-Mar 2012	Apr-Jun 2012	Jul-Sep 2012	Oct-Dec 2012	Jan-Mar 2013
	Thousand	Thousand	Thousand	Thousand	Thousand
Both sexes	**13 422**	**13 447**	**13 645**	**13 577**	**13 621**
Agriculture	656	638	661	685	739
Mining	336	357	349	357	365
Manufacturing	1 722	1 678	1 727	1 730	1 753
Utilities	91	98	105	98	117
Construction	986	1 012	1 046	1 061	1 020
Trade	3 057	2 966	2 962	2 921	2 855
Transport	783	791	834	816	813
Finance	1 741	1 737	1 811	1 804	1 781
Community and social services	2 891	3 012	3 025	3 028	3 072
Private households	1 151	1 153	1 124	1 076	1 105

Quarterly Labour Force Survey, Quarter 1, 2013

3. The Relationship between Electricity Costs, Living Standards and Unemployment

Electricity costs contribute significantly to poor household's cost of living and the NDP stresses that lowering the cost of living is an important means to tackling poverty (Gordhan 2013:8). This strategy works through two different channels. Firstly, keeping the cost of living low enhances real income and thus directly raises living standards and combats poverty. For example, preventing electricity price hikes deters a situation in which poor South Africans are forced to decide which essentials to cut from their monthly budgets (Maimane 2012).

However, lowering living costs such as electricity prices also acts indirectly through a second channel to alleviate poverty. When the cost of living decreases, a larger choice set becomes available to poor people. For example, looser budget constraints may provide for more favourable conditions in which one can concentrate on completing one's education. This in turn increases one's employability and strengthens the supply side of the economy. In other words, when government lowers the cost of living, it helps to uplift poor people to the level at which they are empowered to continue uplifting themselves.

This argument is strengthened by the results of wave 1 of the National Income Dynamics Study which show that in 2008, six hundred and sixty-one respondents were unable to continue with their education due to not being able to afford to stay in school. It is as a result of realities such as this one that the NDP recognises that reducing the cost of living is essential for broadening economic participation and eliminating poverty (Gordhan 2013:16). Therefore actively keeping electricity costs low for the poor is essential both to directly increasing their immediate standard of living as well as to providing poor people with the opportunity to further increase their standard of living in the long run.

4. The Relationship between Electricity supply, Economic growth and Electricity Prices

In the 2013 Budget Speech, Gordhan (2013:6) states that 'the addition of electricity-generating capacity...will support improved growth rates over the medium term.' This is

because investment in electricity- related infrastructure provides for a more reliable and better quality supply of electricity and thus creates an environment conducive to expanding businesses and economic growth.

The need for such electricity- generating infrastructure is obvious. Over the past few years the economy has been experiencing infrastructure constraints (Hausmann 2008:7). Among these constraints are those caused by Eskom's aging plant which is being run to the maximum (Newbery & Eberhard 2008: 4). The quality of electricity supply has decreased (Newbery & Eberhard 2008: 5) and electricity shortages have become a relevant worry (Newbery & Eberhard 2008: 4). The dire consequences of Eskom's insufficient infrastructure are illustrated by the 2008 report published by the National Energy Regulator of South Africa (NERSA) which revealed that the load shedding of 2008 had cost the economy R50bn (Steyn 2013). Consequently Eskom is investing in a R337bn capacity expansion programme that will add 17000 megawatts of new generating capacity to the national electricity grid (Steyn 2013).

Although clearly necessary for the growth of the economy, a R337bn build project has highly undesirable effects on electricity prices. Eskom has made it clear that electricity prices need to increase significantly in order to fund these projects. Consequently, as illustrated by graph 2, real electricity prices have been rising sharply since 2009 and are predicted to continue in this fashion for the next few years.

Graph 2: Eskom Electricity Prices

Eskom electricity prices (Courtesy of Professor Anton Eberhard and Chris Logan)

(Planting, 2012)

5. Resolving the Dilemma in the Long-run: Independent Power Producers

The government is thus faced with a dilemma. On the one hand, as seen through the discussion on business competitiveness and the cost of living, growing the economy and combating poverty requires keeping electricity prices low. On the other hand, as illustrated through the discussion on infrastructure needs, growing the economy and combating poverty (through the medium of job creation) would seem to require a significant increase in electricity prices.

I will now propose a solution to the above- posed problem. What is required in order to keep electricity costs low while increasing electricity supply is a significant increase in the efficiency with which electricity is produced and distributed. If this can be achieved then it may be possible to offset the increase in the price of electricity required to finance additional infrastructure, with a decrease in the price of electricity resulting from increased efficiency and thus decreased costs of production. I shall argue that a significant increase in the efficiency with which electricity is generated becomes possible by allowing for a greater role of Independent Power Producers (IPPs).

In the 2013 Budget Speech (2013:8), Gordhan acknowledges the current lack of professionalism, accountability and effective planning and management within the public sector. As Eskom is a state-owned utility, it is possible to argue that allocating a greater portion of electricity generation to the private sector will result in efficiency gains.

In a similar manner, the Democratic Alliance has argued that the role of IPPs is essential in providing South Africa with reliable, efficiently- produced electricity and taking some of the production pressure off Eskom. Eskom itself has acknowledged that IPPs have a role to play

in the provision of electricity. However as the situation currently stands, IPPs are apportioned a maximum of 30% of South African electricity production (DA 2008:1). According to the DA, this percentage is too small an allocation to create a competitive and thus efficient electricity supply environment (DA 2008:1). The DA thus proposes that a greater portion of electricity be apportioned to IPPs. However in order to attract more IPPs into the market certain policies must be put into place.

For one, the separation of Eskom's transmission division from its generation division has been proposed. According to this suggestion Eskom's sole ownership of the national electricity grid signifies a conflict of interest which dissuades potential IPPs from entering the market. Therefore the transmission division should be transformed into a separate state-owned entity (DA 2008:2).

Another modification to the electricity market that has been suggested is that of revoking Eskom's status as sole purchaser of power (DA 2008:2). Currently although IPPs are permitted to produce up to 30% of electricity supply, they are forced to then sell this electricity to Eskom. This too would appear to be a conflict of interest as Eskom then has asymmetrical power in determining the quantity of independently produced power that is bought as well as the prices at which electricity is sold. According to the DA's argument (2008:2) IPPs should rather be able to feed power directly into the national grid or alternatively be allowed to sell electricity directly to large companies.

The argument that there is a need to restructure the electricity generating sector is supported by Professor Anton Eberhard. He argues that the procurement of IPPs "will bring greater price and cost transparency, and will impose greater cost discipline in Eskom's financial management" (Yeld 2013). In other words, greater IPP involvement will result in efficiency gains both through the efficient efforts of the IPPs themselves, as well as through a subsequent increase in Eskom's efficiency. Moreover Eberhard & Newbery (2008:8) argue that the separation between Eskom's transmission office and planning office is essential in order to avoid a conflict of interests. Finally the argument that Eskom's status as sole buyer should be revoked is supported by the leading economist Dr. Ioannis Kessides who asserts that such an arrangement will make the market much more competitive and thus more efficient (in DA 2008).

I would therefore argue that the above proposals should be implemented in order to increase competitiveness in the electricity generating sector. This in turn will result in greater efficiency and thus lower electricity costs. This is because, unlike state-owned companies such as Eskom, private companies know that they face take-overs and bankruptcy when operations are mismanaged and thus they have greater incentive to ensure absolute cost efficiency (Newbery & Eberhard 2008: 5). Therefore the greater the extent of private sector participation, the greater the efficiency gains. This expectation is supported by an empirical study conducted by the World Bank which shows that private sector participation in electricity supply in developing countries convincingly outperforms state- owned entities in terms of higher labour productivity and operational efficiency (Gassner et al 2009:5).

An added benefit of IPPs is that they face a lower cost of capital. This is because Eskom is currently heavily indebted. This makes it a risky investment and consequently it has trouble borrowing at low interest rates. Part of the proposed electricity tariff increase is there to cover Eskom's investment costs, and therefore if IPPs are able to borrow for cheaper, electricity tariffs should increase by less.

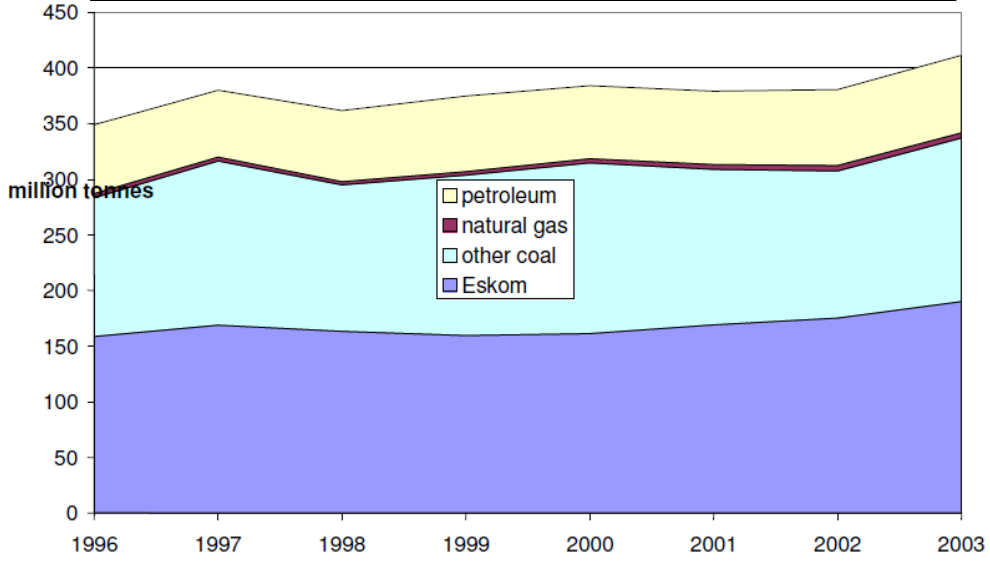
However my argument as stated above faces a major objection. One may argue that an increase in efficiency does not necessarily result in a decrease in electricity prices. This argument is substantiated by the above- mentioned empirical study, which finds no evidence of a systematic change in electricity prices corresponding to the IPPs' increases in efficiency (Gassner et al 2009:3). In fact the study asserts that *higher* tariffs are often recommended as part of an electricity reform (Gassner et al 2009:5). This phenomenon may have a number of explanations.

One is that electricity supply is initially so underpriced that even 'significant efficiency gains do not produce a financial equilibrium or justify lower prices' (Gassner et al 2009:5). Another explanation is that independent producers may require higher mark- ups to cover for risks that state-owned entities do not face, thus increasing electricity prices (Newbery & Eberhard 2008: 8). Additionally it is important to note that within the South African context, the selected IPPs would mostly be producers of 'Green Energy'. In fact of the bidders selected for Window 2 of the Renewable Energy Independent Power Producers programme, nine were selected for the solar photovoltaic technology, seven for wind, two for small hydro and one for concentrated solar thermal (CSP) (BuaNews 2012). However Green Energy is

currently significantly more expensive to produce than coal- generated electricity, which will push up electricity prices further.

Yet it is precisely upon this final point that my response to this objection lies. In the short-run, the assimilation of IPPs into the electricity sector will more than likely result in an increase in electricity prices as argued above. However in the medium to long-run, as technologies improve, the cost of production of renewable energy is predicted to drop thus ultimately lowering independently produced power costs and consequently electricity prices. This is substantiated by the current 'falling costs of renewable energy compared to the rising costs of fossil fuels' (Mhalanga in Greenpeace Africa 2013). Wind turbine prices are predicted to continue falling as low-cost manufacturers from emerging economies enter the market (Pasolini 2013). Moreover, renewable energy would have tangible environmental benefits given the current high percentage of coal- generated electricity in South Africa (Winkler 2003: 28) and its corresponding CO_2 emmisions (illustrated in graph 3). This in turn would support a healthy workforce (by circumventing pollution-related illnesses) and ensure the continued productivity of the agriculture sector (which might otherwise be adversely affected by environmental changes) (Schwab & Sala-i-Martín 2011: 51).

Graph 3: South Africa's CO_2 Emissisions



Source: Energy Information Administration of the US Department Of Energy [46] and Eskom Annual Report

(Newbery & Eberhaed 2008: 51)

6. Smoothing Price Increases in the Short-Run: Regulation of Municipality Mark-Ups

Although I have argued that through the integration of IPPS into the electricity industry it is possible to achieve low electricity prices in the long-run, in the short- run electricity price increases are unavoidable. However the manner in which these increases are implemented can drastically affect their impact upon the economy, employment and the standard of living. Originally Eskom requested large once off leaps in prices, however this would likely result in businesses containing expansion or shutting down and consequently in decreased growth and employment (Altman et al, 2010: 56). Moreover it would result in a drastic decline in the standard of living of poor people. NERSA acknowledged this fact and in response developed the Multi-Year Price Determination methodology for the regulation of Eskom's revenues, which aims to ensure 'reasonable tariff stability and smoothed changes over time' (NERSA, 2012:7). Consequently a regularised price path has been determined that does not follow Eskom's original requests for large once-off leaps. Altman et al (2010: 61) find that if price increases follow this regularised path, the impact on GDP and employment for each increase is relatively small.

Moreover, in its 2010 MYPD2 ruling, NERSA provides guidelines for acceptable tariff revisions for municipalities. This too plays a vital role in smoothing electricity prices in the short- run. The critical issue thus becomes the extent to which municipalities comply with NERSA rulings on price determinations (Altman et al, 2010: 61). In a sample of 25 municipalities, Altman et al (2010:58) found that the electricity tariffs for small firms rose by 39% to 90% over the period from October 2008 to November 2010, in contrast to the 49% to 59% increase indicated by NERSA guidelines. It is therefore apparent that more rigorous monitoring of municipality tariff mark-ups would contribute significantly to smoothing out short-run electricity price increases.

7. Critical Evaluation of Preferential Tariffs

The unfavourable situation in which South Africa's electricity production and distribution industry finds itself, means that even if the most effective efficiency- increasing and tariff-regulating policies are implemented immediately, electricity prices will still have to increase in the short-run. Yet as I showed through my discussions on business competitiveness and the implications of the cost of living, it is critical to keep electricity prices as low as possible for electricity-intensive industries and poor households. It is for this reason that I believe that preferential tariffs to certain industries and poor households are essential. However having previously only stated my argument in favour of keeping electricity prices low for these sectors of society, I shall now look at potential objections to preferential tariffs and respond to them accordingly.

7.1. Preferential tariffs for electricity-intensive industries

The primary objection that one may have against preferential electricity tariffs for certain industries is that it may lead to a situation in which Eskom is unable to recover its costs. Such a situation is unsustainable and is in fact partly what landed Eskom in its current troubles.

The prime example of such an occurrence is Eskom's dealings with BHP Billiton. The contract agreed to between the two entities has in recent years resulted in BHP Billiton paying significantly below cost price for electricity. In fact BHP Billiton has been paying about R4.65 billion a year for electricity that has been costing Eskom about R8.6bn. to produce (Crotty 2013). This has severely affected Eskom's financials and consequently there have been calls for a serious investigation into the true socio-economic effect of the protection of heavy industries (Sapa 2013).

Although the situation as outlined above is indeed undesirable I would respond by arguing that it is by no means a necessary outcome of preferential tariffs. Rather it comes about as a result of poor management of contracts. In the BHP Billiton example, the contract formula was based entirely on the aluminium price and the exchange rate (Sapa 2013) and thus made no allowance for Eskom's costs (Crotty 2013).Consequently a slump in the global price of aluminium and a dramatic increase in Eskom's operating costs after 2007 resulted in the current massive losses (Crotty 2013). It was thus the poorly thought-out contract formulae, as opposed to the preferential tariff itself, that lead to the problem.

When managed properly, preferential tariffs for certain industries are able to stimulate investment and growth while still recovering costs. If NERSA plays a more effective regulating role then the benefits from preferential tariffs for electricity-intensive industries will far out-weigh the costs.

7.2. Preferential Tariffs for poor households

The primary objection that preferential tariffs for poor households face, arises from the fact that subsidizing electricity prices for a certain sector of society is effectively done by raising electricity prices for the rest of society. In others words it means a redistribution of sorts, and redistribution is plagued by inefficiency. Redistribution provides a disincentive to accumulate wealth which in turn dampens investment in potentially profitable projects. This ultimately slows down economic growth and spurs on unemployment. It could therefore be argued that preferential electricity tariffs for the poor actually end up hurting the very people that they are aimed to help.

I would respond to this objection by arguing that the implications of not directly aiding the poor are far more dangerous for the growth of the economy than any of the adverse effects of redistribution. Although poverty alleviation through job creation is essential, it takes time. However time may not be something that South Africa has. To understand why, it is important to remember that when South Africa made the transition from Apartheid to democracy in 1994, expectations amongst the poor were high. According to McDonald & Pape (2002: 3), COSATU committed to the 'redistribution of resources and power' in order to finance the public provision of basic necessities such as electricity, water, housing, food, clothing, and recreational facilities. Consequently poor people believed that their lives were about to dramatically change for the better. However, nearly a decade later unemployment is rampant and living standards are still extremely low amongst the poor. Over recent years it has become apparent that low living standards and the obvious inequality that still plagues society are fuelling feelings of abandonment and anger. Poor people feel let down by the promises of their government and disillusioned with the system of democracy. Such frustration has harmful consequences for society at large and the economy as a whole.

This can be seen from the sharp rise in violent crime, which is a 'direct reflection of socio-economic polarization' (Saul 2005: 226) and which discourages investment in the country. Moreover the dangerous tensions bubbling beneath the surface, which are manifested in often violent public protests, are ultimately endangering the durability of South African democracy (Friedman 2005: 15). This too discourages investment in South Africa, slows down economic growth and fuels unemployment.

To see examples of social unrest in the context of electricity costs, one need look no further than the illegal reconnections, strikes and demonstrations that came to be associated with the Soweto Electricity Crisis Committee and Operation Khanyisa (Veriava & Ngwane 2004: 132). These actions came about in response to impoverished residents' power being cut off when they couldn't pay the high electricity costs.

The devastating effect that social unrest can have on the economy was demonstrated by the strikes and subsequent shootings at Marikana. Finance Minister Pravin Gordhan correctly predicted that growth in South Africa would slow to 2.5% in 2012, against the forecast of 2.7% as a result of the strikes. Moreover after the shootings, rating agencies downgraded the credit rating status of the country, major banks and certain South African companies (Cameron 2012). According to Tesfay (in McClenaghan 2012) there is evidence that as a

result of the social unrest many companies have put their plans for further investment in South African on hold.

Therefore my argument is that if the government allows electricity costs to rise dramatically for the poor, their standard of living will abruptly drop and South Africa may find itself once again in the midst of social protest and unrest. This in turn will be far more damaging to the growth of the economy and job creation attempts than any of the consequences of subsidizing differentiated electricity tariffs for poor households.

8. Conclusion

Dr. Iraj Abedian claims to know in excess of R20bn of investment that is on hold for one reason alone: South Africa's 'lack of a credible energy policy' (Planting 2012). The consequences of failing to effectively address South Africa's electricity needs have been severe and will continue to provide stumbling blocks to achieving the noble goals of the NDP unless drastic changes are implemented. However, as this essay has outlined, the context in which South Africa's electricity issues have emerged is complex and multifaceted. Understanding the intricate interactions of business competitiveness, the living standards of the poor and electricity capacity is critical to arriving at policies that will ultimately overcome poverty, inequality and unemployment. I have argued that while the increased involvement of the private sector in electricity production will positively impact the environment, increase efficiency and reduce electricity prices in the long-run, it is vital that municipal regulation and preferential electricity tariffs are implemented in order to aid the businesses and poor people of South Africa in the short-run. Ultimately, effective electricity production policy is an essential component in supporting the growth of our economy and the empowerment of our people. As the National Development Plan urges, it's our future- let's make it work.

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