

## **ENERGY EFFICIENCY LAUNCH OF THE SUMMER SAVINGS CAMPAIGN**

### **Q&A**

#### **1. How has South Africa performed on electricity savings and new supply?**

The electricity emergency arose because unexpectedly rapid growth in demand reduced the reserve margin – the difference between the electricity consumed and supplied – to well below 10%. The norm is between 17% and 25%, in order to ensure that a sudden increase in demand for electricity or breakdowns do not lead to a disruption in supply.

In the first few months after the electricity emergency in January 2008, savings rose to about 5%. Since then, however, savings have eroded to virtually zero. We need to increase savings in order to permit maintenance of electricity plants, which usually takes place in January. That is when demand is relatively low because people do not need to heat their houses. Still, if we do not increase savings, there is a risk of rolling black outs if maintenance takes more time than expected or if there are any breakdowns.

Government and Eskom could have asked the National Energy Regulator of South Africa (NERSA) to raise electricity prices very high – to three or four times the current level – in order to ensure supply of electricity, including the reserve margin, was equal to demand. They decided not to because that would fuel inflation and have a negative impact on the economy and households. Instead, they agreed with business, labour and civil society that everyone would try to save electricity, even if they could afford to use more.

Government and Eskom plan to increase supply substantially by:

- Major investments in large new electricity plants, which will be completed in four years.
- Investment by Eskom in a number of smaller plants, which provide some help for peak use times but which have relatively high costs because they use gas and other more expensive fuels.
- Encouraging production by private producers, including companies that can produce electricity easily as a by product, as well as clean alternative energy produced from solar power and wind.

#### **2. What is Government doing to contribute to energy savings?**

There are two ways in which energy savings can be enabled. The first requires behavioural change. A shift in energy consumption habits by all South Africans has the potential to contribute to a collective effort to save electricity. The second involves investment in electricity saving technologies such as solar heating in households and, for business, more efficient electric motors and processes.

Over the year, a significant number of energy efficiency projects have been undertaken by Government and commerce. For example, Government is taking the lead by using

Public Buildings. Cabinet has approved the implementation of a programme of energy efficient measures in National Government Buildings, which is currently underway and which will be extended to provincial and local government. To date, Government has retrofitted over 4 000 buildings, currently saving R56 million per annum as a direct result of this investment.

In striving to support the residential sector, Government, in consultation with the commercial sector is spearheading initiatives such as its appliance labelling programme. In the industry and mining sectors, Government is in the process of implementing a suite of “leadership by demonstration” programmes.

In addition, Eskom has made positive inroads into driving energy savings initiatives, including:

- Between January and November 2008, Eskom installed 19.8 million CFLs achieving savings in excess of 420MW in the evening peak.
- Since 2004, Eskom has exchanged some 35 million CFLs through a mass CFL roll out programme, focusing on low income households in both urban and rural areas including the Eskom direct supply, Metropolitan and smaller municipal areas, whereby CFL’s have been issued in exchange for a used and working incandescent lamp.

A positive spin-off from these activities has been the generation of 15,750 temporary jobs during 2008 by Eskom in the form of Black Women Owned (BWO) Energy Services Companies (ESCOs) which have been created.

### **3. Is Government/Eskom offering incentives to entice South Africans in its bid to save energy?**

The main incentives to save energy are to avoid black outs and to hold down electricity bills. Even those households that do not get accurate electricity bills every month but pay an estimated amount can make substantial savings in the long run with a little effort.

The Government is introducing some tax incentives for investment in energy efficient technologies, and is providing R300 million to provide energy-efficient light bulbs for poor households. Eskom provides a subsidy for households to purchase solar water heaters.

### **4. Is Government/Eskom going to apply penalties, and if so, what will this mean for us?**

Eskom, with the support of the Government and the National Energy Regulator of South Africa (NERSA), is working on block tariffs for business. These block tariffs seek to encourage companies to save electricity. In essence:

- Companies would have a “baseline” for electricity consumption, which would usually be consumption in 2005/6, possibly adjusted for growth in output and other relevant

factors. BUSA and Eskom are currently negotiating proposals for the process and criteria for adjustment in the baseline.

- Companies would pay a higher tariff for electricity if they use more than 90% of the baseline amount. Current proposals would involve only a relatively small increase in tariffs up to 95% of the baseline. A company that used more than 95% of the baseline would pay the full economic cost of electricity, which is two to three times the current rate.

In addition, new building standards will be introduced that require buildings to use more electricity efficient heating, cooling and lighting. These standards will be phased in over time in order to ensure the cost is not too high.

## **5. What can sectors such as business and labour do to achieve significant energy savings?**

Businesses and households can save electricity immediately by only using lights and appliances when they need to, and turning them off otherwise; and by being careful about the use of heat and cooling equipment. For instance, people can use blankets instead of space heaters, turn off their geysers and pool motors during the day, and avoid using air conditioning. Retailers can make sure their refrigerators are covered and turn down the air conditioning.

In the longer run, we all need to look into using equipment that is electricity efficient. Government is exploring tax subsidies to make this easier for companies. Eskom already offers a tax subsidy for solar water heaters, and Government is providing electricity-efficient light bulbs free to consumers.

## **6. Can households really make a difference to SA's energy savings?**

Definitely. Households account for over a third of all electricity usage. If they all saved 10% of their current use, total electricity usage would fall 3%. That would significantly increase the reserve margin. And many households can save more if they are just more careful with lighting, heating and cooling, and the use of appliances like pool motors.

## **7. We have historically seen problems with coal supply management – is this under control now?**

Shortages of coal, combined with heavy rains that hindered transport and made stocks less usable, contributed to the emergency at the start of 2008. Since then, Eskom has worked with coal suppliers and government to address the problem. It has built its coal stocks up to a months' supply, in contrast to one week at the start of the year.

**8. You mentioned that planned maintenance is taking place in January 2009. This is the first I hear of this. Why has this not been communicated before and how are you going to ensure that we know about this timeously?**

Government and Eskom are working on a plan to communicate progress on maintenance and in saving electricity over the next few months. We do need to do more to empower ordinary South Africans to understand this serious challenge that faces our country. We hope to be able to give regular reports in the near future, and we look to the media to help us communicate them.

**9. You speak about behavioural changes that South Africans need to make. Can you give me some examples?**

To save your 10% on a typical middle class household that consumes 600 units (kWh) per month:

- Use less hot water – use 10% less hot water - save 5%
- Use CFL's and do not switch lights on if not needed – save 2.5%
- Use a microwave rather than an oven. This will use half the time and consume half the energy – save 2%. Or braai more, use a gas stove and save even more.
- Switch all appliances at the plug to save stand by power – save 1%
- Boil only enough water for the number of cups of coffee/ tea you want to make - save 1%. Or use a gas stove to boil your water.
- If you have a swimming pool the pump – only run it for 4 hours per day instead of 8 hours - save 8%

In fact – the above measures can achieve a total saving of 19.5%.

Other examples are:

- Turning off lights when you don't need them
- Turning off your geyser during the day
- Set your geyser to 60 degrees
- Opening windows or sitting outside instead of using air conditioning
- Using a blanket and warmer clothes instead of space heaters
- Using gas for cooking, if possible
- Avoiding tumble dryers for clothes – they use an extraordinary amount of electricity.
- Make use of the Eskom subsidy and install a solar water heater and save 50% of your consumption in one go

**10. Who do you believe can make the most difference in energy savings in South Africa?**

We need everyone to contribute. It's true that the smelters, mines and heavy chemical producers use the most electricity. But they also contribute a lot to the economy, and

especially to exports. If we simply cut their usage, we would cause a lot of damage to the economy. To avoid that, we are asking that everyone do whatever they can to save electricity. Taken together, every little bit adds up to a lot.

**11. In the event of energy savings incentives and penalties being introduced, how will this be measured?**

The billing systems for companies make it possible to measure usage on a monthly basis. Block tariffs to encourage conservation of electricity will only be applied to households when billing systems are in place that ensure accurate and timely billing.

Everyone should be aware, however, that electricity prices will at least double in the next two or three years, which is unavoidable to pay for the new investment programme. For this reason, if you start saving electricity now, you will be in a good position to avoid paying a lot more for electricity in the next year or so.

**12. How can consumers track how much energy they are saving every month?**

Consumers can read their own electricity meters, and check that their use is reduced. In many municipalities, if you communicate your meter reading to the city, they will charge you based on the reading rather than the estimate. That means you can start saving on your bill immediately.

**13. How do you intend to get South Africans to buy into energy savings?**

Our approach is to ensure that South Africans know about what Government is doing to save energy, because we believe it is important for us to show leadership through example and action – we are committed to being energy efficient from within – making every watt count - and is actively implementing effective and sustainable energy savings programmes and initiatives.

We know that our people will understand the challenge we face and help us deal with it. We are all in this together – reliant on one another – and need to make every watt count.

We also plan to work with civil society, churches, organized business and labour – everyone who stands to benefit from a safe and security supply of electricity and a stronger economy. We will communicate regularly on the need to save as well as on progress in reducing electricity usage.

**14. What is an ordinary South African getting out of this “new” Energy Efficiency initiative?**

The initiative will mean that ordinary South Africans who have electricity can continue to enjoy uninterrupted use. Moreover, the process of getting electricity to those households that still don't have electricity – about one in five - can continue. Businesses will have the

same benefit which means that All South Africans benefit from increased investment and economic growth. Finally, in these hard economic times, saving electricity will mean saving money, directly affecting the pockets of South Africans.

## **15. Energy efficiency audits**

### **a) What is an energy efficiency audit, and how can it contribute to electricity savings?**

Depending on the purpose to which electricity is put, there are numerous opportunities to use it more efficiently. In residential and commercial buildings the opportunities for savings are reasonably well known and are generally applicable.

The same is not the case in the agricultural, manufacturing and mining sectors. In these sectors an energy efficiency audit can be undertaken to identify opportunities to improve energy efficiency which will have the long term benefit of reducing the energy intensity of our economy without loss of production, while at the same time achieving savings in the amount of electricity used.

Professional electrical specialists are able to evaluate the many ways in which electricity is used in a factory for example and identify opportunities for improvement in energy efficiency. Improvements can include both operational (behavioural) and equipment recommendations. In all cases monitoring and verification of the improvements will be recommended.

### **b) How much does an energy audit cost and what savings can a company expect?**

This varies depending on the size and complexity of the facility being audited. In order to minimize the costs, BUSA has worked with Government to develop a generic audit protocol with specific checklists for agriculture, manufacturing, mining and commercial facilities. It is important to consider the long-term savings impact that an energy audit will enable for business, industry and Government.

### **c) Who can do an energy audit?**

Depending on the complexity of the facility, an energy audit can be undertaken by certified energy efficiency specialists or electrical engineers.

### **d) How will Government support energy efficiency audits?**

Government has been supporting the National Cleaner Production Centre for some time to manage assessments in SMMEs in the agricultural processing, chemical and textile and clothing sectors. Recently, energy efficiency assessments were carried out in the chemical sector as a pilot run for a more extensive roll out. The pilot was successful in that significant energy efficiency opportunities were identified.

In addition, additional funding has been secured by Government to support the roll out of this approach by using the generic energy efficiency audit protocol to identify opportunities in mining and manufacturing and agriculture. Invitations have already been circulated by BUSA and their affiliates to their member companies. Preference will be given to SMMEs.

**e) Can an energy audit impact a business' environmental impact, i.e. can it enable a business to become 'greener'?**

The more efficient use of resources like electricity is one of the cornerstones of cleaner production and in the case of electricity consumption has a positive impact on both generation and consumption of electricity and thus on greenhouse gas emissions. In addition, water consumption for electricity generation is reduced if less electricity needs to be generated.

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