

ENERGY ADVOCACY

Issue 1 | May 2015

SOUTH AFRICA'S ENERGY SITUATION

FUEL PRICING IN SOUTH AFRICA

**RIGOROUS TRANSFORMATION
OF THE ENERGY SECTOR FOR
WOMEN PARTICIPATION**

**TOP 20
ENERGY SAVING TIPS**

May is
Energy
Month

ABOUT LOAD SHEDDING

WHAT IS LOAD SHEDDING?

- When there is not enough supply capacity available to meet the demand from all customers, it could be necessary to interrupt power supply at certain times, to certain areas.
- If your supply is interrupted without notice of load shedding, or not as per your load shedding schedule, it is more likely that the outage is caused by other reasons, for example: cable theft or technical problems.
- Load shedding is only applied when all other voluntary & contracted demand reduction has been exhausted in order to avoid a total collapse of the electricity supply grid (a national blackout). By rotating and shedding the load in a planned and controlled manner, the system remains stable.
- If load shedding is required, the National System Operator instructs its stakeholders on the stage that is to be shed. The duration of load shedding will depend on the specific supplier, region and circumstances.

SOME SITUATIONS THAT MAY RESULT IN LOAD SHEDDING:



CRITICAL LOADS THAT ARE PROTECTED



Critical loads are loads that are protected from load shedding because they either maintain the operational integrity of the power system or impact on public infrastructure. Protection measures include the exclusion from load shedding schedules, installation of backup facilities, or implementation of specific protocols for interaction between the customer and the licensee.

THE FOLLOWING ARE CRITICAL LOADS:

- PUBLIC TRANSPORT
- WATER PUMPING (POWER STATION REQUIREMENTS)
- PORTABLE WATER SUPPLY TO THE PUBLIC
- SEWAGE SYSTEMS
- REFINERIES AND FUEL PIPELINES
- COAL MINES THAT SUPPLY POWER STATIONS
- CRITICAL LOADS ASSOCIATED WITH ESSENTIAL SERVICES E.G. POLICE, FIRE FIGHTING, HOSPITALS
- TELECOMMUNICATIONS INFRASTRUCTURE
- TRAFFIC LIGHTS
- AIRPORTS
- RAILWAYS

HOW DOES THE SYSTEM OPERATOR RESPOND?

BEFORE LOAD SHEDDING IS APPLIED, THE FOLLOWING LEVERS ARE EXHAUSTED:

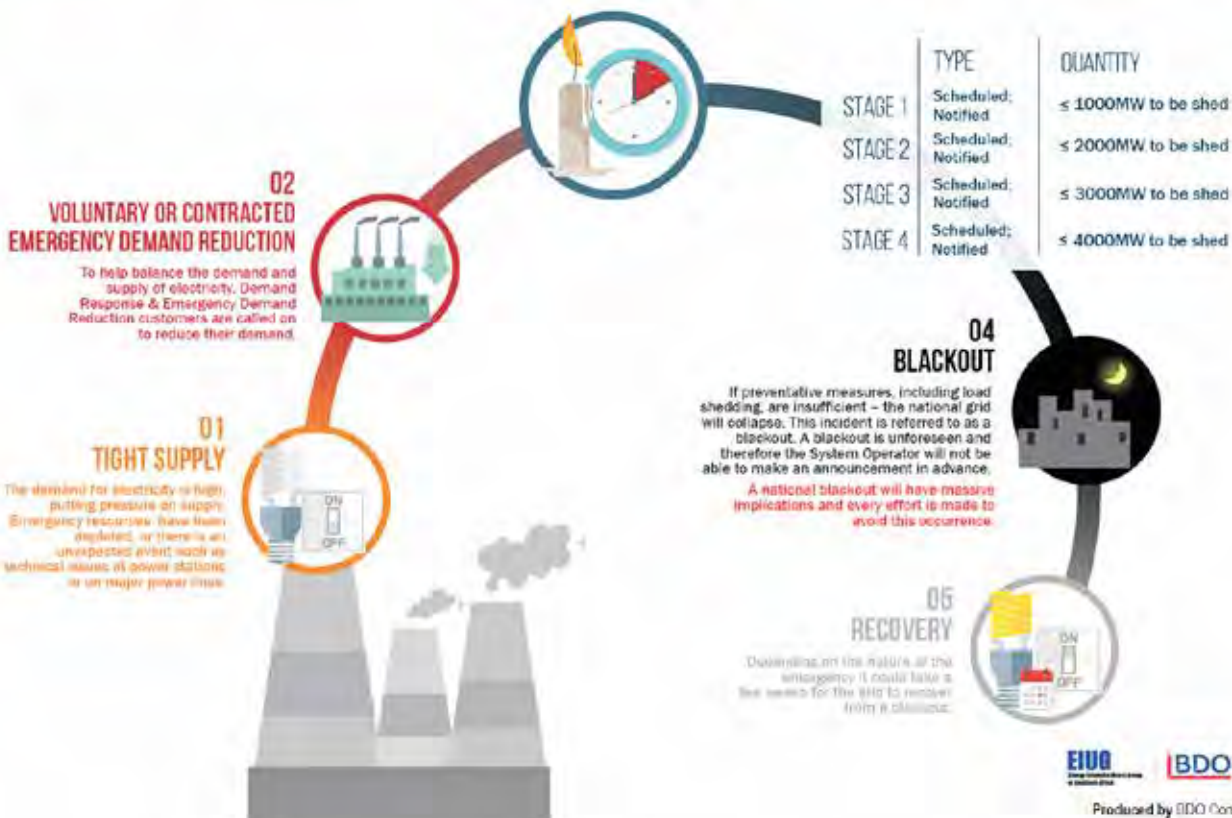
- All available generation.
- Contracted and voluntary demand reduction options with large customers.

If all these options have been exhausted and demand still cannot be met, the National System Operator will proceed with load shedding.

THE LOAD SHEDDING PROCESS

03 LOAD SHEDDING

As a last resort and preventative measure, consumers are cut off on a rotational basis for 2-4 hours to protect the electricity grid from collapse. Depending on the stage, the National System Operator instructs the Regional Distribution Centers, 126 Municipalities and Key Industrial Customers to implement load shedding according to their schedules.



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EDITOR'S NOTE

It gives me great pleasure to present the inaugural issue of the Department of Energy's quarterly external magazine. We are delighted to be launching "Energy Advocacy" which aims to provide you with insight into the DoE's role in the country's economic growth and socio-economic development. This external newsletter of the DoE will be published on a quarterly basis in hard copy and electronically.

In this issue, we reflect on the overall mandate given to the Department towards ensuring security of energy supply in all the various forms in order to benefit the citizens of South Africa. Expanding access to modern energy services and building energy security is a priority activity of the government which sets out to accommodate the basic needs of millions of South African citizens, and to facilitate human and social development, as well as ensure sustainable economic growth.

In view of the energy challenges the nation is currently facing, all citizens are urged to familiarise with sector developments and issues as contained in this publication, and to use energy sparingly. In this issue we have also included "energy saving tips" for daily use. Did you know that implementing these tips will save you some of your hard earned cash?

May 2015 is the first designated annual Energy Month. During this month we will be creating awareness of energy efficiency matters among all citizens, with the intention of growing a culture of energy saving among all South Africans.

Welcome to "Energy Advocacy!"

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NUCLEAR ENERGY IN SOUTH AFRICA

South Africa is committed to the expansion of nuclear energy as part of our total energy mix, which is balanced and diverse to ensure security of supply.

At the dawn of our new democracy in 1998, an Energy White Paper was crafted as a basis for addressing the future energy needs of South Africa. The Energy White Paper also identified that “decisions on the role of nuclear power, as with any other supply option, need to be taken within the context of an integrated resource planning process”. Further to this, Cabinet endorsed the framework for nuclear power expansion as it is articulated in the Nuclear Energy Policy of 2008. This was shortly followed by the Cabinet endorsed Integrated Resource Plan (IRP) 2010-2030, which stipulates that 9.6 GWe or 23% of new electricity has to be generated by 2030. The IRP was developed on a foundation of extensive modeling that takes factors such as greenhouse gas emissions, cost effectiveness, deployability and various other policy requirements into consideration.

South Africa is committed to the expansion of nuclear energy as part of our total energy mix, which is balanced and diverse to ensure security of supply. In November 2011, Cabinet established the National Nuclear Energy Executive Coordinating Committee (NNEECC) that comprises Cabinet Ministers who are tasked with making high level strategic decisions for the Nuclear New Build Programme. The NNEECC has been revised since the State of the Nation 2014, and is now the Energy Security Cabinet Subcommittee which comprises 10 Cabinet Ministers who oversee the needs of the entire energy mandate.

Many countries across the world are currently actively pursuing the use of nuclear power as a clean, affordable and reliable base-load form of energy for the generation of electricity that is needed to power economic development. Evidence of this can be seen in the active nuclear build programmes among all the BRICS nations (Brazil, Russia, India, China and South Africa) that are collectively constructing more than 60% of all new nuclear power plants in the world (>43 power reactors are under construction).

South Africa's Nuclear New Build Programme is envisaged to bring tremendous socio-economic benefits to the nation. This ranges from the reduction in greenhouse gas emissions, access to advanced technology and enhanced skills development - to stable, sustainable, clean, and cost competitive base-load electricity. Most importantly, it speaks to the re-industrialisation and localisation of manufactured components, mining of other minerals and uranium beneficiation through a strong localisation strategy.



Government's drive towards job creation will be enhanced through the opportunities that will arise from the Nuclear New Build Programme.

The Department of Energy recently signed Inter-governmental Framework Agreements with a number of nuclear vendor countries who are interested in participating in South Africa's Nuclear New Build Programme. Subsequently, and in partnership with all the nuclear State Owned Entities, other government departments, and academic institutions, the department concluded a series of Vendor Parade workshops with the same countries by the end of November 2014. Among the countries engaged were Russia, France, China, South

Korea, and the United States of America. The purpose of the Vendor Parade workshops was for vendor countries to showcase their nuclear technology offerings and to demonstrate how they plan to meet South Africa's needs for the Nuclear New Build Programme.

On the education front, South Africa hosts some of the most reputable academic programmes for nuclear energy studies. The North-West University postgraduate programmes in nuclear boasts an international profile of lecturers and students. The world renowned University of Witwatersrand specialises in radiation protection and nuclear physics. Other institutions such as the University of Pretoria, University of Cape Town, Nelson Mandela Metropolitan University, and University of Johannesburg; offer several graduate and postgraduate studies in nuclear energy.

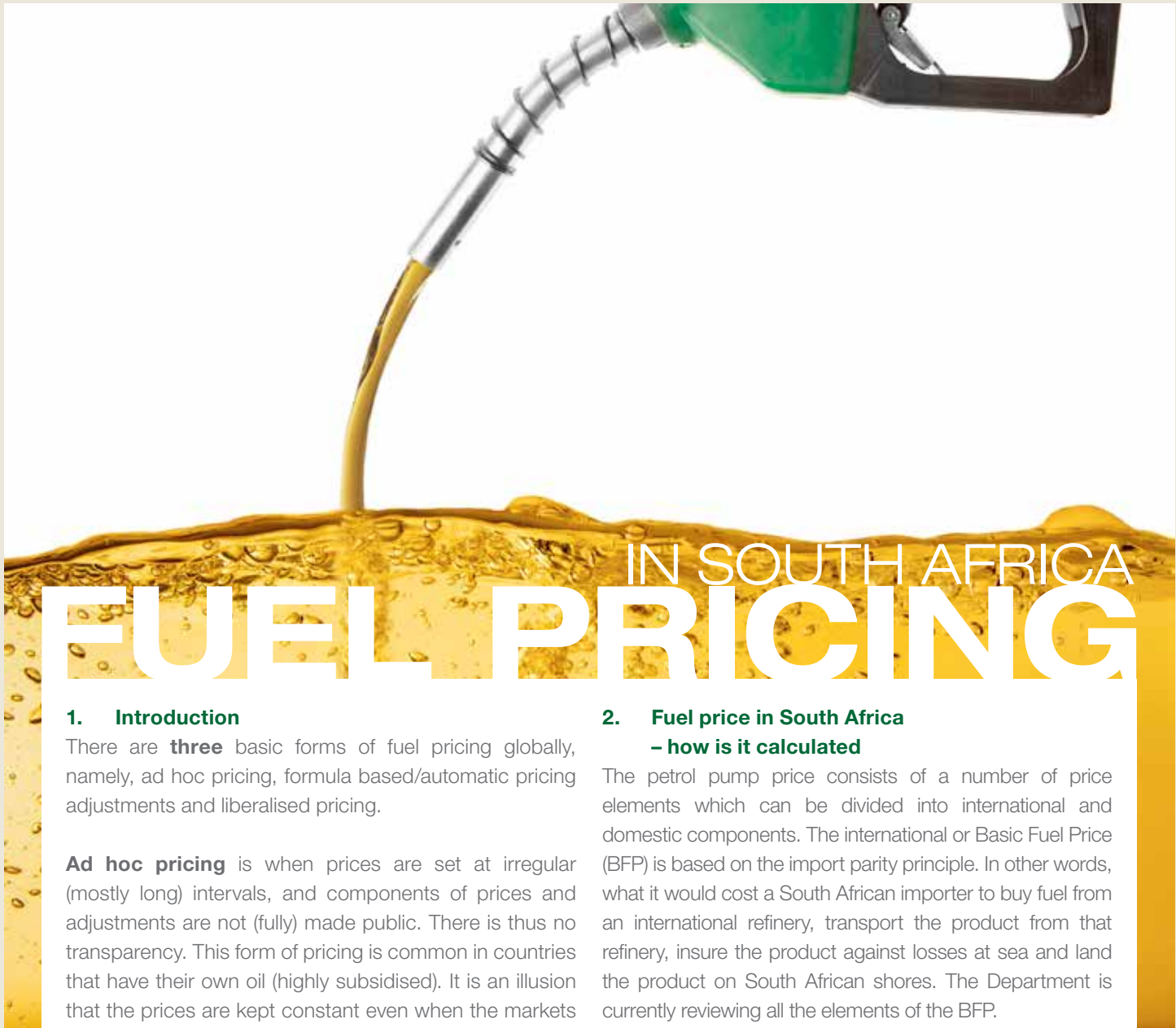
iThemba LABS in the Western Cape brings together scientists working in the physical, medical and biological sciences. The facilities provide opportunities for modern research, advanced education, the diagnosis and treatment of cancer and the production of unique radioisotopes.

The primary function of the South African Nuclear Energy Corporation SOC Limited (Necsa), is to serve as the anchor for nuclear energy research, development and innovation in South Africa. Necsa's strong research focus is mainly directed at nuclear technology applications. It particularly relates to medical isotopes production and applied chemistry with an emphasis on uranium chemistry; as well as all aspects of the nuclear fuel cycle, including waste issues. Necsa boasts our only Nuclear Research Reactor known as SAFARI-1, where cutting edge nuclear research and development takes place.

For 30 years South Africa has safely operated Eskom's Koeberg nuclear power plant which contributes 5% to the national grid. The country also has an established nuclear regulatory framework and safety culture that is overseen by the National Nuclear Regulator (NNR) - the safety authority.

The National Radioactive Waste Disposal Institute (NRWDI) was recently established to deal with the long term management of the country's radioactive waste disposal.

Government's drive towards job creation will be enhanced through the opportunities that will arise from the Nuclear New Build Programme. The programme will require skills in a variety of engineering, scientific, legal, finance and medical fields. This will be a key driver of our objective to achieve a more knowledge based economy, as seen in the case of many nuclear countries such as the USA, France and South Korea.



FUEL PRICING IN SOUTH AFRICA

1. Introduction

There are **three** basic forms of fuel pricing globally, namely, ad hoc pricing, formula based/automatic pricing adjustments and liberalised pricing.

Ad hoc pricing is when prices are set at irregular (mostly long) intervals, and components of prices and adjustments are not (fully) made public. There is thus no transparency. This form of pricing is common in countries that have their own oil (highly subsidised). It is an illusion that the prices are kept constant even when the markets are bullish or that the prices will go down as a result. The Bolivian scenario that was publicised a few years ago, is an example of that

In **formula based/automatic pricing adjustments**, the components of the price, the factors underlying the price increase and the adjustment intervals are all generally set by statute, and the State institution or panel of experts is assigned to monitor prevailing regulations. Prices are generally published, but in some countries the formulas are not. In South Africa, both the prices and the formula are published.

Under the **liberalised pricing system**, the market sets the prices, so it is depoliticised, but there is a formula to it, such as what can be seen in Australia. The Australian Competition and Consumer Commission (ACCC) do however still act as a watchdog to ensure that there is no price collusion. In this case, the State's role is reduced to setting taxes and excise duties only.

2. Fuel price in South Africa – how is it calculated

The petrol pump price consists of a number of price elements which can be divided into international and domestic components. The international or Basic Fuel Price (BFP) is based on the import parity principle. In other words, what it would cost a South African importer to buy fuel from an international refinery, transport the product from that refinery, insure the product against losses at sea and land the product on South African shores. The Department is currently reviewing all the elements of the BFP.

2.1 Basic Fuel Price (BFP)

The BFP reflects the realistic cost of importing a litre of petroleum product from international refineries with products of similar quality compared to local South African specifications and standards.

2.2 International influence on the domestic price of fuel

(a) International market spot prices

The largest component of the BFP is the price that one would be paying on the international markets when physically importing the products to SA. The Free on Board (FOB) product prices from different locations in the world, based on product quality and availability in the market, are used. The petrol FOB price is calculated as 50% of the Singapore spot price for 95 octane unleaded petrol. The diesel FOB price is based on the spot prices of 50% of the Mediterranean price for gas oil and 50% of the Arab Gulf price for gas oil. These prices include the quoted spot price market premiums where applicable.

(b) Freight cost to bring petroleum products to SA

The freight cost reflects the price of voyages from Augusta (in the Mediterranean), Singapore and Mina-al-Ahmadi (in the Arab Gulf), in a 50:50 ratio as described in the point above. The tariffs that are published by the World Scale Association Limited for transporting refined products via medium range vessels are used. It is adjusted to a weighted average for SA coastal ports and demurrage for three days is added. It is then adjusted to the Average Freight Rate Assessment (AFRA) of the London Tanker Brokers panel, plus a 15% premium for transporting fuels to SA.

(c) Insurance costs

It is calculated as 0.155 of the product FOB and freight costs, to cover insurance costs, as well as other costs such as letters of credit, fees of surveyors and agents and laboratory costs.

(d) Ocean loss or evaporation

In the trading, shipping and insurance of international petroleum products, a loss of 0.3% for products has been accepted as a normal leakage/clingage and evaporation loss. This normal loss is not insurable and is therefore the responsibility of the buyer.

(e) Demurrage

Petroleum products are loaded onto ships at ports in the Mediterranean area, Arab Gulf and Singapore and these products are discharged at South African ports. Demurrage rates are published by the World Scale Association Limited. In the calculation of the demurrage cost, the total demurrage time is limited to three days.

(f) Wharfage or Cargo dues

The South African harbour facilities are utilised to off-load petroleum products from ships into on-shore storage facilities. The cost to utilise these harbour facilities is based on the tariff set by the National Ports Authority of South Africa.

(g) Coastal storage

Coastal storage covers the cost of providing storage and handling facilities at coastal terminals. The calculation of storage is based on the typical cost of international product storage of \$3 per ton per month for 25 days worth of stock.

(h) Stock financing costs

The BFP includes a charge for the financing of 25 days' stock at an interest rate of two percentage points below the Standard bank prime rate.



2.3 Domestic influences on the price of fuel

To arrive at the pump price in the different pricing zones (magisterial district zones) certain domestic transport costs, government imposts, or taxes and levies and retail and wholesale margins are added to the international price or BFP.

(a) Transport costs (zone differential)

This element recovers the cost of transporting petroleum products from the nearest coastal harbour (Durban, Cape Town, Port Elizabeth, East London or Mossel Bay) to the inland depot servicing the zone or area. The transport costs to the different zones are determined by using the most economical mode of transport i.e. pipelines in the C zones, roads in the B zones and rail in the A zones. These are the only elements of which the values differ per pricing zone. It is also the reason why the petrol price is not the same across our whole country.

(b) Delivery costs (service differential)

This element compensates marketers for actual depot related costs (storage and handling) and distribution costs from the depot to the end users at service stations.

(c) Wholesale margin

This is the money that is paid to the oil company through whose branded pump the product is sold, to compensate for marketing activities.

(d) Retail margin

The retail margin is fixed by the Department of Energy and is determined on the basis of actual costs incurred by the service station operator in distributing petrol. It includes the driveway related costs, such as rental, interest, labour, overheads and profit.

(e) Fuel tax

This is a form of tax levied by government, as announced by the Minister of Finance during the February budget vote speech and that is effective from the price change in April each year.

(f) Road Accident Fund (RAF)

It is used to compensate third party victims of motor accidents. It is also announced by the Minister of Finance during the February budget vote speech and effective from the price change in April each year.

(g) Custom and excise levy

A duty collected in terms of the Custom Union agreement.

(h) Demand Side Management (DSM) levy

A DSM levy is applicable on 95 octane unleaded petrol that is consumed in the inland area. This levy was implemented as part of the price structure of 95 octane unleaded petrol in January 2006 when it was introduced into the inland market for the first time. Most vehicles in the inland market do not require 95 octane unleaded petrol to run and the unnecessary use thereof in the inland area would result in "octane waste" with negative economic consequences. A DSM levy was introduced to curtail the demand thereof in the inland area.

(i) Illuminating Paraffin (IP) tracer dye levy

To curtail the unlawful mixing of diesel and illuminating paraffin, an illuminating paraffin tracer dye is injected into illuminating paraffin. An illuminating paraffin tracer dye levy was introduced in the price structure of diesel to finance expenses related thereto.

(j) Petroleum pipelines levy

The annual budget of the Petroleum Pipelines Regulator is approved by the Minister of Energy and the Minister of Finance. In terms of the Petroleum Pipelines Levies Act, 2004 (Act No 28 of 2004), a levy of 0.19 c/l was implemented as part of the price structures of petrol and diesel on 7 March 2007.

(k) Slate levy

This is a levy that is used to recover the monies owed to oil companies due to the time delay in the adjustment of the petrol pump price. It is adjusted on a monthly basis, in line with the self-adjusting slate mechanism, depending on the funds in the slate account.

Fuel Price Composition

	Petrol 95 ULP c/l	Petrol 93 ULP & LRP c/l	Diesel 0.05% S c/l	Diesel 0.005% S c/l	Illumi- nating Paraffin c/l
Wholesale margin	33.500	33.500	64.700	64.700	64.700
Secondary storage	17.400	17.400	17.400	17.400	17.400
Secondary Distribution	12.600	12.600	12.600	12.600	12.600
Router differential	0.000	0.000	0.000	0.000	7.400
Retail margin	151.100	151.100	0.000	0.000	0.000
Zone differential in Gauteng	33.100	33.100	33.100	33.100	52.700
IP tracer levy	0.000	0.000	0.010	0.010	0.000
Fuel levy	224.500	224.500	209.500	209.500	0.000
Customs & excise duty	4.000	4.000	4.000	4.000	0.000
RAF levy	104.000	104.000	104.000	104.000	0.000
Petroleum products levy	0.150	0.150	0.150	0.150	0.000
Slate levy	0.000	0.000	0.000	0.000	0.000
DSML	10.000	0.000	0.000	0.000	0.000
Equalisation Fund Levy	0.000	0.000	0.000	0.000	0.000
Incremental Inland Transport Recovery levy	0.000	0.000	0.000	0.000	0.000
Pump Rounding	0.400	0.400			
Sub-total	590.750	580.750	445.460	445.460	154.800
Contribution to the Basic Fuel Price	536.250	524.250	554.630	559.030	564.128
Retail price	1,127.00	1,105.00			
Wholesale price			1,000.090	1,004.490	718.928

Table 1. Fuel price composition for March 2015

3. Conclusions

The BFP, quoted in USD/barrel or USD/ton is converted to US cents/litre by applying the international conversion rates (for example, barrels to tons, tons to gallons and gallons to litres) and is then converted to South African cents/litre by applying the applicable Rand/US Dollar exchange rate.

To arrive at the final petrol pump price in the different fuel pricing zones (magisterial district zones), domestic costs, imposts, levies and margins are added to the Basic Fuel Price (BFP).

3.1 Important months in fuel pricing

April: The transport tariffs (pipeline, rail and road) are adjusted in April of every year, based on the NERSA pipeline tariffs, the Transnet rail tariffs and the Road Freight Association road rates. Similarly, the fuel levy and RAF is adjusted, subject to the Minister of Finance's February budget vote speech.

September: The salaries for forecourts attendants and cashiers are adjusted in line with the wage negotiation agreements in September every year.

October: The wholesale and retail margins, including secondary storage and transport costs are adjusted in October every year.

Quarterly: The Octane differential between 93 octane petrol and 95 octane unleaded petrol is adjusted every quarter.

Why is petrol cheaper in neighbouring countries even though they purchase it from SA?

The neighbouring countries do not have the same taxes and levies that are applicable in South Africa such as the Road Accident Fund (RAF) and fuel levies.

Why is SASOL not selling petrol at lower prices as they produce it from coal and are located in GP?

The fuel price in South Africa is regulated and you cannot have a dual pricing system in the same country. It should be noted that SASOL supplies between 25-30% of the country's fuel demand and cannot meet the national demand on its own.

The oil companies are furthermore involved in product swaps to ensure that they supply their clients throughout South Africa. For example, the SASOL service stations in the coastal areas are supplied with fuel from the coastal refineries and the same is true for some of the inland service stations which do not belong to SASOL.

Why is the government not deregulating fuel prices?

The playing fields are not level in the South African petroleum sector. For example, an independent wholesaler cannot import products from the international market and deliver to customers in South Africa because of a lack of access to infrastructure.

On the other hand, service stations that are located in remote areas could close down because of their distance from the supply points. The petrol attendants and cashiers could also lose their jobs to self-service initiatives that will save costs and maximise profit for the retailers. These are just a few examples of why South Africa is not yet ready for the deregulation of the petroleum industry.

Why is ULP95 more expensive than ULP93 in GP, but cost the same in coastal areas?

It is because of the 10 cents per litre DSM levy described in the above that has been implemented to curtail the unnecessary use of ULP95 in the inland market. It is widely believed that there is no material difference in vehicle performance, regardless of whether ULP93 or ULP95 is used, especially in the inland market

Why is the government not buying oil from African countries at lower prices?

The Government is not involved in the commercial business of purchasing crude oil, unless for strategic purposes. The import statistics from SARS however indicates that companies in South Africa are purchasing oil from African countries such as Nigeria and Angola. It should be noted that oil is traded on the international market and the price is quoted in US Dollars globally.



Frequently asked questions

Why are the fuel prices changing every month?

It is government policy for the fuel prices to be adjusted on a monthly basis as the Rand dollar exchange rate, crude oil price and the price of petroleum products on the international market changes on a daily basis. It was agreed that one month will be a reasonable period for dealing with the back log, since the prices are fixed at the beginning of each month.



NECSA CELEBRATED 50TH ANNIVERSARY of the SAFARI -1 Research Reactor

On the 18 March 2015 Necsa celebrated its 50th anniversary of the SAFARI-1 Research Reactor. NECSA is one of the State Owned Entities of the Department of Energy. The celebration started in the morning with the SABC's Morning Live broadcasting live from the NECSA facility - showcasing the work that is done at NECSA.

SAFARI-1 is a 20 Megawatt tank-in-pool type Nuclear Research Reactor, owned and operated by the South African Nuclear Energy Corporation (Necsa), and it is located at Pelindaba, 30 km west of Pretoria. SAFARI-1 is an acronym for South African Fundamental Atomic Research Installation, and is South Africa's only nuclear research reactor.

Since its commissioning on the 18 March 1965, SAFARI-1 has achieved many outstanding successes and is currently engaged in a number of activities which are not only fascinating but, also of great benefit to mankind. SAFARI-1 provides products and services both locally and internationally to various industrial and institutional sectors, proving that nuclear technology does indeed offer many beneficial applications.

In 1998 SAFARI-1 was awarded the prestigious ISO 9001 certificate for compliance to international quality standards. At the time it was the second nuclear reactor in the world to receive this award. The ISO 9001 accreditation recognises the ability of SAFARI -1 to operate within the international standards of design and production in providing quality products and services to industry and the community.

Since its commissioning on the 18 March 1965, SAFARI-1 has achieved many outstanding successes and is currently engaged in a number of activities which are not only fascinating but, also of great benefit to mankind.



President Jacob Zuma, Minister Joemat-Pettersson and officials at Safari-1 50th Anniversary celebration

SAFARI-1 has subsequently also received the ISO 14001 Environmental Management (2003) and OHSAS 18001 Occupational Health and Safety Management System (2011) certification. SAFARI-1 utilises an overall Integrated Management System which not only encompasses environmental controls but, also includes operational safety, product quality radiological and conventional safety and security systems which ensure that a good safety culture is established.

The official unveiling of the SAFARI-1 Research Reactor plaque took place during the second session of the programme. It was officially opened by His Excellency President Jacob Zuma and the Minister of Energy, Ms Tina Joemat-Pettersson, Deputy Minister of Energy, Ambassador Thembisile Majola with dignitaries that included, Dr Yukiya Amano, Director-General of the International Atomic Energy Agency as well as the Chairperson and CEO of NECSA.

In his speech, Mr Yukiya Amano, Director-General of the International Atomic Energy Agency (IAEA) said nuclear technology has much to contribute to the social and economic development of Africa.

“Your country provides an excellent example of how modern technology can be used effectively to advance development and improve people’s lives. South Africa is also a role model in terms of South-South cooperation, generously sharing its expertise in the nuclear field with

countries on the African continent and beyond,” he said. Amano continued to say that nuclear power is now safer, throughout the world, than it was before the Fukushima Daiichi disaster. He also acknowledged some safety improvements made at the Koeberg Nuclear Power station that is located in Western Cape. SAFARI -1 has been instrumental in this regard, leading to the creation of many products - we have a positive impact in the daily lives of people around the world.

Delivering the keynote address President Zuma said “We are gathered here today to mark the 50th anniversary of the SAFARI-1 Nuclear Research Reactor. This site has for decades been an iconic landmark in this part of South Africa. More than 20 years ago our country made a determination to use nuclear technology only for peaceful purposes,” said State President Jacob Zuma.

He further advised that there should be no doubt that the country has the expertise and the knowledge in the nuclear disciplines. “Of course for the new build programme we have to do more in this regard. We have to expose more people to study nuclear sciences. We have to enhance our collaboration with the IAEA and other international institutions,” said President Zuma

The President congratulated NECSA and the SAFARI-1 team for the work that they have done in operating the reactor and in finding solutions to many challenges and placing our country on the world map.

RIGOROUS

TRANSFORMATION

OF THE ENERGY SECTOR FOR WOMEN PARTICIPATION



The transformation of the energy sector has been a focal area in transforming the sector for women's participation since the establishment of the Department of Energy (DoE) five years ago. Through policy, government has paved the way for women to take part in the oil and gas sector as equal participants. The Liquid Fuels Charter that is now part of the Act and law, allows women to have a stake in this well established and lucrative industry. Through pro-active and collective action, women should be assured that this industry shall never again be solely preserved for men.

The new millennium has marked a significant shift in both women's and society's thoughts and attitudes about women's equality and emancipation.

The new millennium has marked a significant shift in both women's and society's thoughts and attitudes about women's equality and emancipation. Many members from the younger generation feel that 'all the battles have been won for women' while many feminists from the 1970's know the longevity and ingrained complexity of patriarchy only too well. There are now more women in the boardroom, greater equality in legislative rights, and an increased critical mass of women's visibility as impressive role models in every aspect of life. One could therefore easily assume that women have gained true equality. The unfortunate fact is that women are still not paid equally for doing the same work than their male counterparts and women are still not presented in equal numbers in business or politics. Most importantly; globally women still do not enjoy the same access to education and health as men. In addition, violence against women is far worse than that against men.



In 2012, the Department hosted an information session for business women in Pretoria, in partnership with Women in Oil and Energy South Africa (WOESA). At this session, women motivated that workshops should be held in all provinces, to allow them to gain easy access to information on upcoming opportunities in the energy sector. They also made the following recommendations:

- The Department needs to work on getting women positioned in the energy sector;
- Women need other programmes, road shows and initiatives that facilitate training and information sharing for women in the various energy sectors, such as petroleum, gas, renewable energy, as well as exposure to available technologies in the context of business development;
- There should be an increase in skills development and training of women on how to enter the energy sector;
- More days should be considered for bringing about commissions;
- The DoE Senior Managers should attend these sessions to address the negative reflection of lack of women empowerment in the Renewable Energy Independent Power Producer Procurement Programme (REIPP); and
- Follow-up workshops should be conducted to ensure capacity building.

In 2013 the DoE signed a memorandum of understanding (MOU) with WOESA in which DoE pledged to inform WOESA about relevant business opportunities. WOESA's mandate as a women empowerment organisation is to facilitate and promote business opportunities for enhancing the participation of South African women in the oil and energy sector. The DoE thus assists WOESA in achieving its transformation mandate and in return, WOESA pledges its support to the Department towards achieving its policy objectives.

The workshops were held in provincial central business precincts countrywide during 2014, and attracted an average of 100 women per workshop. The invitations were not limited to women who are already in the sector, but were open to all interested women. The main objective of the workshops was to inform women of opportunities that are available within the energy sector. This included both those who were already knowledgeable as well as aspirant entrants in the sector. It ultimately served to develop an interest among a wider group of women to join the sector.

Sectoral stakeholders who are experts in their various fields were invited to conduct presentations on topical issues aimed at promoting access to opportunities and highlighting the benefits of the energy sector. It included the finance sector, Sector Education and Training Authorities (SETAs), Energy State Owned Entities (SoEs), Oil Companies, and last but not least, the Department of Energy.

A common denominator that was highlighted in all the presentations was the need for women to understand that they can only expect to enter and make a significant economic contribution in the energy sector through hard work and not through preferential treatment.

The outcome of the workshops indicated overall satisfaction in terms of programme, content, relevance, presentations, networking and participation opportunities by the attendees. Going forward, the participants requested more workshops for follow-up purposes that are coordinated in such a way that it also includes women who are based in the rural outskirts of the provinces.

The Department of Energy is implementing this programme in line with the National Strategic Framework on Women Empowerment and Gender Equality, with particular reference to the Women Empowerment Programme.



CHAMPIONING THE DEVELOPMENT OF A **SUSTAINABLE ENERGY MIX** IN SOUTH AFRICA



The South African Government once again reaffirmed the importance of addressing the country's energy challenges, in order to stimulate economic growth and development in an environmentally friendly manner.

The Department of Energy as the lead department together with other government departments, state owned entities, and universities, amongst others, have conducted nuclear Vendor Parade workshops with; Russia, China, France, South Korea and the United States of America in preparation for procurement process decisions. The Vendor Parades followed the signing of Intergovernmental Framework Agreements on Nuclear Cooperation with several nuclear vendor countries that have shown interest in the South African Nuclear New Build Programme.

In September 2014, the Department signed an Agreement with the Democratic Republic of Congo (DRC) on the Grand Inga Hydro Power Project Treaty. The Agreement promotes cooperation in the fields of electricity, hydroelectricity, renewable energy, and energy efficiency. This is done through various mechanisms such as the exchange of information on the respective electricity policies of our countries, institutional arrangements and regulatory frameworks; technology transfer, research and development cooperation.

The project has the potential of generating 40 000 megawatts of hydroelectricity. It is divided into seven phases, and as part of the first phase, South Africa will have a 2500 MW offtake.

The government has no intention of abandoning coal as an energy source, but is determined to find cleaner technologies that will reduce the adverse environmental impact associated with greenhouse gas emissions from coal generation.

In addition to acknowledging the responsibility for 'keeping the lights on', the Department announced an ambitious household electrification target of reaching 260 000 households through grid electricity supply. By the end of the 2014/15 financial year, a target of 292 714 households was achieved, with an additional 14 059 off grid connections completed. This is as a result of good cooperation between Eskom and some municipalities and Metros.

To date, 5.6 million households have been connected to the electricity grid, 14059 households are connected to electricity using off grid technology, while 353 solar water heating units have been installed in houses. The Department of Energy is working towards full universal access by 2025 through the upgrading and strengthening of the electricity network infrastructure in the country.

The importance of security of supply of coal cannot be overstated, and government has prioritised this need to ensure that there is sufficient supply for existing and future power stations. This measure is complemented by ambitious targets for the production of additional, cleaner energy through traditional means and green energy. The traditional methods include nuclear power for base-load energy generation, which will be generated in a safe and environmentally sustainable manner.

Government is also prioritising hydroelectricity generation from a regional perspective, through the use of inter-regional water resources. Lastly, the pace of oil and gas exploration, including shale gas exploration by the State and industry will be intensified as part of improving self-sufficiency in an ecologically sustainable way. The road map for the implementation of the nuclear procurement programme is progressing well with R850 million allocated to the Department and its relevant agencies to undertake further research and development, especially with regards to safety matters. Government will also pursue the regulation of the handling of hazardous materials, in terms of international obligations, and the development of nuclear policies and legislation to ensure the peaceful use of nuclear energy.

In order to transform the energy sector, an Energy Master Plan will be developed to crystallise the immediate actions that will have to be undertaken by the Department to achieve this objective. As a result, the Minister of Energy has undertaken to institute a review of the entire sector, including instituting changes within the Department and State Owned Entities, where necessary. "The government has no intention of abandoning coal as an energy source, but is determined to find cleaner technologies that will reduce the adverse environmental impact associated with greenhouse gas emissions from coal generation."

Government is committed to research and development, through the South African National Energy Development Institute. In fact, for the past five years, underground coal gasification has been underway at Matimba power station with the aim to develop new technologies for the extensive exploitation of coal reserves in the form of gas as opposed to traditional combustion means. This highlights government's unswerving approach to research and development, with Medupi and Kusile power stations being ready for state-of-the-art carbon capture and storage processes.

There have recently been a number of gas discoveries on the continent - including in Mozambique, Tanzania and on our West Coast. The lack of gas infrastructure however, including pipe lines and storage facilities, has made it a challenge for gas to feature as a major energy carrier in our current mix. Government seeks to anticipate the infrastructure necessary to open up the gas market for the residential, commercial and industrial sectors through the Gas Utilisation Master Plan.

The prospect of gas replacing imported crude oil in the transport sector is very high on the government agenda, since it bodes well for our macro-economic outlook, particularly in the balance of payments. Our hope is that gas will become the most common energy carrier for public transport, freight and domestic heating and cooking in the near future. This Gas Utilisation Master Plan will be published for public comments soon.





THE DEPUTY MINISTER OF ENERGY INSPECTS ELECTRIFICATION PROJECT IN NAMAKGALE

The Deputy Minister of Energy, Ambassador Thembisile Majola, visited the Ba-Phalaborwa Local Municipality on 22 February 2015 to inspect the electrification project and engage with the community of Namakgale, Malungane village. This visit of the Deputy Minister was part of the Public Participation Programme which aims to accelerate the service delivery imperatives of government.

The Ba-Phalaborwa Local Municipality has distribution licence in the Phalaborwa town. Eskom is the licence holder in all the outskirts and rural communities. The population within the municipality is 150 737 which translates to 41 115 households. Approximately 95% of the households have access to electricity. During the 2014/15 financial year, the municipality was allocated R9 million to complete the 2012/13 projects in Tshubye, Nyakelang and Malungane. A total of 1190 households were electrified and energised in December 2014.

The Deputy Minister kicked off the programme after the political briefing, by conducting a walk about to the four identified houses and interacting with the beneficiaries. Electrical starter packs were also handed out to them. Each pack included a two plate stove, an iron, a kettle and groceries. The beneficiaries shared some of their excitement with the Deputy Minister and explained how the provision of electricity changed their lives. It enabled them, among others, to light their houses, cook food, etc.

The Executive Mayor of Ba-Phalaborwa Municipality Cllr Nomvula Sono and the Mayor of Mopani District Municipality Cllr Rakgoale, were also in attendance as the Deputy Minister further engaged around 1000 of the community members.

This visit of the Deputy Minister was part of the Public Participation Programme which aims to accelerate the service delivery imperatives of government.



In her keynote address at the community engagement, the Deputy Minister outlined the importance of having electricity and its benefits to the community. She further appealed to the community to report cable theft to the authorities. The Deputy Minister indicated that electricity is key to any development and emphasised that there can be no development without electricity. Electricity therefore forms a major cornerstone in the development of communities and contributes to economic growth.

This event that took place at Malungane as part of the Public Participation Programme, gave the local community an unparalleled opportunity to interact with the Department on issues relating to electricity.

South Africa International Renewable Energy Conference

4-7 October, 2015

Cape Town International Convention Centre, South Africa

independent power producer procurement programme, will be almost ready to commission during the conference. Some will be operational by then and the progress of these will also be showcased at the conference.

The Government of South Africa through the Department of Energy in conjunction with the South African National Energy Development Institute (SANEDI) and the Renewable Energy Policy Network for the 21st Century (REN21) will host the South African International Renewable Energy Conference (SAIREC) on 4-7 October 2015, at the Cape Town International Convention Centre. The International Renewable Energy Conference (IREC) is a platform for government, private sector and civil society leaders to jointly address the goal of advancing renewable energy and has provided the impetus for several momentous initiatives over the past decade.

The hosting of the SAIREC 2015 by South Africa was approved by Cabinet in June 2013 Cabinet. This will be the first time that this bi-annual Conference is held on the African continent.

The hosting of the IREC in South Africa is an opportunity to expose the positive developments in Africa in the renewable energy space to international governments and finance institutions. From a South African perspective, such exposure will support the national renewable energy policy and targets for the introduction of renewable energy into our national grid. Many successful projects from the first bidding window that form part of the renewable energy

South Africa has a MOU with the International Energy Agency (IEA) and is a member of some of the implementation agreements pertaining to renewable energy, energy efficiency and climate change. As such, the Department engages in many international renewable energy programmes that provide access to global information that is assimilated into South African initiatives. It was thus logical to host this higher profile conference showcasing South Africa's strides in the renewable energy sector.

SAIREC will provide a platform to address energy security and access. Under the theme "Powering Africa", SAIREC will demonstrate why Africa is the business destination of choice for the renewable energy sector. The conference will be an ideal platform for discussing the renewable energy value chain; whether you are in business, government, a practitioner who works on improving access to clean, low carbon energy sources or someone who would like to learn more about renewable energy in general.

Attendance will be complimentary but as seats are limited, delegates will have to register in advance to gain access to the venue. Information about registration will be available in April on the following websites (Powering Africa):

www.energy.gov.za and www.sanedi.org.za.

A History of Success

The IREC conferences provide a common platform for government, private sector and civil society leaders to jointly address the goal of advancing renewable energy. Over the past decade, the conferences have provided the motivation for several momentous initiatives.

SAIREC 2015 is the sixth in the series of global Ministerial-level Conferences on Renewable Energy. It builds on the success and outcomes of the previous events in Abu Dhabi (2013), India (2010), Washington (2008), Beijing (2005) and Bonn (2004).



International Conference
on Renewable Energy, Bonn
International Conference
on Renewable Energy, Bonn



IREC 2008
International Conference
on Renewable Energy, Washington



ADIREC 2013
Abu Dhabi

State of the Nation Address extracts

by His Excellency Jacob G. Zuma on 12 February 2015

The year 2015 marks 60 years of a historic moment in our history, when South Africans from all walks of life adopted the Freedom Charter in 1955, in Kliptown, Soweto.

They declared amongst other things, that South Africa belongs to all who live in it, black and white, and that no government can justly claim authority unless it is based on the will of all the people. That was a powerful, visionary and reconciliatory statement which set the tone for the nonracial democracy we have established.

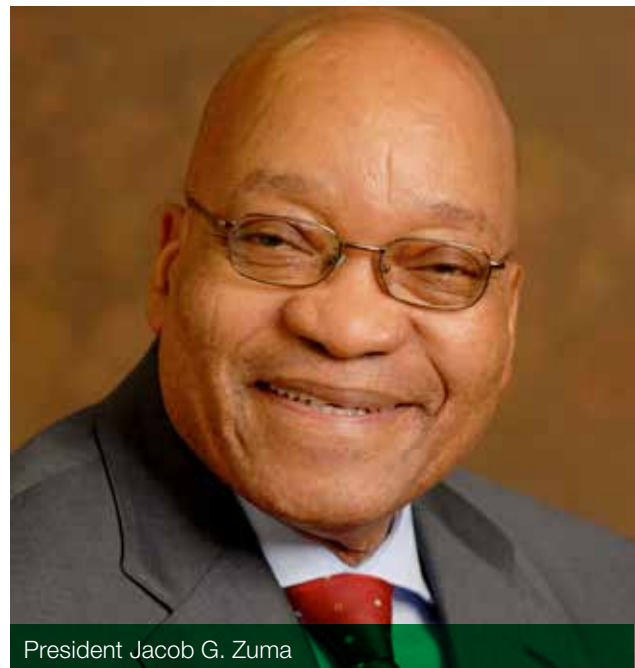
The year 2015 is the Year of the Freedom Charter and Unity in Action to Advance Economic Freedom. It is the year of going the extra mile in building a united, democratic, non-racial, non-sexist and prosperous South Africa. It is also the year of rededicating ourselves to eradicate racism and all related intolerances in our country.

From this year, schools must also practise the African Union anthem, in preparation for the celebration of Africa month in May, as we implement the African Union decision in this regard.

The country is currently experiencing serious energy constraints which is an impediment to economic growth and is a major inconvenience to everyone in the country. Overcoming the challenge is uppermost in our programme. We are doing everything we can to resolve the energy challenge.

Bakwethu, Uhulumeni wenza konke okusemandleni akhe ukubhekana nesimo sokuncipha kukagesi ezweni. Siyazi ukuthi lesi isikhathi esinzima, kodwa sizodlula, ngoba sinezindlela yokusebenza loludaba. We have developed a plan which involves both short, medium term and long term responses. The short and medium

term plan involves improved maintenance of Eskom power stations, enhancing the electricity generation capacity and managing the electricity demand. The long term plan involves finalising our long term energy security master plan.



President Jacob G. Zuma

For sustainability, Government will establish strategic partnerships for skills development with the countries that will partner with us in the Energy Build Programme, while also generating skills locally.

As a priority we are going to stabilise Eskom's finances to enable the utility to manage the current period. In this regard, Government will honour its commitment to give Eskom around 23 billion rand in the next fiscal year.

The "War Room" established by Cabinet in December is working diligently around the clock with Eskom, to stabilise the electricity supply system and contain the load shedding.

During this period, we have to work together to find solutions. We urge all individuals, households, industries and government departments to save electricity in order to reduce the need for load shedding. The Department of Public Works has been instructed to ensure that all government owned buildings are energy efficient. Given the high cost of diesel, Eskom has been directed to switch from diesel to gas as a source of energy for the utility's generators. Households are also being encouraged to switch from electricity to gas for cooking, heating and other uses.

The construction of the three new power stations Kusile, Medupi and Ingula, will add ten thousand megawatts of capacity to the national grid. The quest for alternative energy sources is also ongoing.

To date government has procured four thousand megawatts from Independent Power Producers, using renewable sources.

The first three bid windows of the renewable energy procurement process attracted more than 140 billion rand from private investors. A total of 3900 megawatts of renewable energy has also been sourced, with 32 projects with a capacity of just over 1500 megawatts completed and connected to the grid.

Eskom itself has completed the construction of the Sere Wind Farm, which is already delivering 100 megawatts to the grid, well ahead of its intended launch in March this year. Government also began procurement in December 2014, of 2400 megawatts of new coal fired power generation capacity, from Independent Power Producers.

The procurement process for 2400 megawatts of new gas fired generation will commence in the first quarter of the new financial year. A total of 2 600 megawatts of hydro-electric capacity will be sourced from the SADC region. With regards to the long term energy master plan, we will pursue gas, petroleum, nuclear, hydropower and other sources as part of the energy mix. South Africa is surrounded by gas rich countries, while we have discovered shale gas deposits in our own Karoo region.

The Operation Phakisa Ocean Economy initiative, launched last year, also promises to unveil more oil and gas resources, which will be a game changer for our country and region. Government is also exploring the procurement of the 9,600 megawatts nuclear build programme as approved in the Integrated Resource Plan 2010-2030. To date government has signed Inter-Governmental Agreements and carried out vendor parade workshops in which five countries came to present their proposals on nuclear. These include the United States of America, South Korea, Russia, France and China. All these countries will be engaged in a fair, transparent, and competitive procurement process to select a strategic partner or partners to undertake the nuclear build programme.



Our target is to connect the first unit to the grid by 2023, just in time for Eskom to retire part of its aging power plants. With regards to hydro power, the Grand Inga Hydro-electrical Project partnership with the Democratic Republic of Congo will generate over 48,000 megawatts of clean hydroelectricity. South Africa will have access to over 15,000 megawatts.

For sustainability, Government will establish strategic partnerships for skills development with the countries that will partner with us in the Energy Build Programme, while also generating skills locally.

There are still 3.4 million households in the country without electricity. In the June 2014 SONA, I announced that infrastructure support will be given to specific municipalities in the country.

Funding has been provided for electrification to the following municipalities in the 2015/16 financial year: Amathole District Municipality, Umzinyathi District Municipality, Alfred Nzo District Municipality, Lukhanji Municipality and O.R. Tambo District Municipality.



SOUTH AFRICA'S

ENERGY SITUATION



In December 2014, after Eskom implemented Stage 3 load shedding, Government intervened to relieve pressure on the national grid. The last time the country experienced such power cuts, was in 2008 when national rotational load shedding was implemented.

In the second week of January 2015, Eskom was forced to introduce Stage 1 load shedding which meant it had to load shed up to 1000 MW. The national power system remains under pressure as Eskom is at times unable to produce the full amount of electricity the country needs. This is mostly due to maintenance and unexpected breakdowns at power stations.

The country's energy situation is receiving Government's highest priority and everything possible is being done to minimise disruptions in the supply of electricity.

This cannot be achieved by Government alone though. We need the support of all South Africans to solve our collective problems around the energy situation in the same spirit and manner in which we addressed the challenges of 2010. Let us rise to the occasion together once again to ensure success in this initiative.

While the current energy constraints pose an immediate challenge, this is by no means a permanent crisis for our country. Government has a long-term plan to ensure that the country's future energy needs are met. Government is working actively to achieve this over time through the provision of an energy mix which comprises coal, solar, wind, hydro, gas and nuclear energy.

Stabilising the country's power system over the next 90 days has been prioritised to improve our energy outlook.

Interventions to free 3 000 MW required for Eskom to carry out maintenance with minimum disruptions have been developed.

For example, in future, biomass, wind power, solar power and hydro-power will contribute 11.4 Gigawatts of renewable energy to the national grid. These plans are highlighted in the Integrated Resource Plan (IRP) 2010 – 2030 which is the country's blueprint to meet our medium- to long-term energy needs.

Cabinet pronounced to address the energy situation on 11 December last year. To put this in motion, a technical War Room was first established at Eskom and then later relocated to the Union Buildings. There is an Inter-Ministerial War Room that comprises relevant Ministers who are supported by a Technical War Room that consists of Directors-General. Cabinet also approved a five-point intervention plan to deal with the country's energy issues.

The War Room has a clear mandate to deliver on Cabinet's intervention strategy working together with experts and State Owned Enterprises. It is further supported by a Communications Ops Room to ensure that South Africans are updated on the situation. Through the work of the War Room, a number of the elements of the five point intervention plan have already been achieved.

Activities that can be undertaken to provide immediate relief to the constrained grid are among other being fast-tracked. Stabilising the country's power system over the next 90 days has been prioritised to improve our energy outlook. Interventions to free 3 000 MW required for Eskom to carry out maintenance with minimum disruptions have been developed. These include running the Open Cycle Gas Turbines at a high load factor to provide a capacity of 2000MW over longer periods.



The first unit from Medupi (Unit 6) will be synchronised to the national grid during the first half of 2015. Delivery of Medupi Unit 6 is crucial in creating the capacity required to stabilise the system, but it cannot be rushed as this can put the asset that took the State seven years to build at risk. Significant progress has been made towards the synchronisation of Unit 6 with a few milestones remaining. Eskom is mindful of the need to not compromise quality assurance from the experts to ensure that Medupi Unit 6 is not placed at risk for first synchronisation. The first unit from Eskom's Medupi Power Plant in Limpopo is expected to add about 800MW to the national grid when fully commissioned.

In the short term, all South Africans need to pull together to alleviate the current strain on our energy resources and support the national grid. This can be done by switching off all high energy appliances such as geysers, pool pumps, ovens and air conditioners when called on by the national energy alerts and power bulletins broadcast on radio and television.

It is encouraging that many South Africans have already adhered to these energy alerts during critical periods in the supply of our electricity. These efforts have protected the national grid and have saved approximately 450 megawatts when it was most needed. All South Africans should continue to partake in this national effort.

When a power station undergoes routine maintenance or there is an unexpected breakdown it results in less electricity available on the national grid. In these instances the power system has the capacity to compensate for the loss through other power stations on the grid. However, when there are numerous unexpected breakdowns at the same time Eskom does not have enough electricity to meet the demand from all consumers. In such cases it could be necessary to interrupt supply to certain areas through load shedding.

This is a last resort measure and is only applied after all other options have been exhausted. Eskom will first tap into gas and hydroelectricity generation and request certain large power users to reduce their demand. Only if the demand can then still not be met, will Eskom proceed with load shedding.

All South Africans and businesses can play their part by familiarising themselves with the load shedding schedule in their respective areas. The schedules allow consumers to plan ahead so the power disruptions have less of an impact on families and businesses. Load shedding schedules can be accessed via www.eskom.co.za or through the power providers for the various local

municipalities. This is important to note as the different stages of load shedding take place at different times.

Businesses have been extensively consulted on how they can support the country's energy plans. The War Room also engages businesses to provide the technical capacity for maintenance where needed and to increase supply of short-term power from Independent Power Producers. Government will continue to talk to businesses about Demand Side Management (DSM) to further reduce electricity usage between 10% and 15%.

South African industry is a major consumer of energy with annual consumption at 148,559.94 gigawatt hours (GWh) or 60% of South Africa's total demand. Through installing variable speed drives on cubed law loads it can save up to 60% of energy

Property owners, retailers, banks, hospitality establishments and hospitals can also make a major contribution to national energy savings by changing the way electricity is used. They are responsible for approximately 14% of the country's annual electricity consumption. This can be reduced by switching off lights that are not in use and setting air conditioners to 23 degrees. Better scheduling of operations, improved matching of equipment to applications and regular maintenance can furthermore save up to 40% of their electricity consumption.

South African industry is a major consumer of energy with annual consumption at 148,559.94 gigawatt hours (GWh) or 60% of South Africa's total demand. Through installing variable speed drives on cubed law loads it can save up to 60% of energy. The use of electronic ballasts in their industrial lighting systems can save up to 60% of the electricity. Reflecting on all the above, it becomes clear that South Africa's energy situation can be managed when we all do our part.

NEW SHIPPING VESSELS

hired for offshore support duty

After some of PetroSA's shipping vessel contracts expired, a new fleet of three anchor handlers/supply vessels was commissioned to accomplish a variety of specialised tasks, such as being interchangeably used to support PetroSA offshore installations.



As exploration takes place in deeper waters, there is a growing demand for larger, more complex and more powerful support vessels and anchor handlers. The three new vessels, the Captain John K, the Ragnhild K and the Kathy K, needed to be certified clear of any contagious viruses and are also subject to monthly inspections by the SHEQ department for hygiene and housekeeping.

These vessels accomplish a variety of tasks. A primary function is to transport cargo on a weekly basis to the FA Platform and bi-weekly, on Fridays, to the Orca, using the same vessel to do the run for cost saving purposes. Certain chemicals must also be returned to shore for proper recycling or disposal. The 'milk run' takes place every Friday to deliver cargo such as food containers, equipment and liquid bulk (Mono-ethylene glycol and diesel). The vessels also supply potable water when required to the Orca and FA Platform (if the demand exceeds the supply from the onboard fresh water-makers). Bottled drinking water is available on the installations and is supplied by the caterer. As per the SOLAS Regulations, which govern offshore manned installations, a standby vessel is required 24/7 within a 500 metre radius of the installation to provide emergency support if needed.

The new vessels, in addition to their cargo duties, perform these support tasks on a rotational basis at the Orca and FA Platform, which include emergency pick-ups,

evacuations and assist with firefighting. Standby vessels must also meet stringent requirements to ensure they are capable of emergency duties. For example, to conduct rescue operations, a standby vessel should have a minimum of two fast-rescue crafts. Some of the vessels in the PetroSA fleet are also equipped to perform support duties to the EM Buoy, an unmanned, self-sufficient control centre for all the sub-sea wells in the EM-Gas Field, situated about 40 kilometres from the FA Production Platform. The EM Buoy receives its process instructions from the FA Platform via a redundant microwave link. These instructions get processed by its various control systems and it executes instructions to the sub-sea equipment, such as diesel generators, hydraulic systems, chemical storage and pumps. The EM Buoy receives regular maintenance and repairs and can only be reached with a purposedesigned, open-deck workboat with a carrying capacity of eight persons. For efficiency, the EM Buoy has a specially designed bumper-guide to allow the workboat to dock evenly during difficult sea conditions.

The workboat can only be launched in close proximity of the EM Buoy and therefore must rely on a support vessel for launching operations. PetroSA has two workboats; Lucky and Queen Nandi which carry passengers between the support vessel and the EM Buoy. PetroSA has procured a 4000kg davit system specifically designed for launching the workboat. Both the Ragnhild-K and the Pacific Askari vessels have been equipped to transport PetroSA employees to the EM Buoy for maintenance.

"Doing maintenance takes great teamwork and can be challenging as many aspects must be taken into consideration - weather, vessel availability and also catching the 'right' swell in order to safely board the EM Buoy, most of which is submerged. Safety is always a priority and therefore we seriously consider all the risks when going to the EM Buoy," says Theunis van der Walt, Lead Instrument Technician, E&P Logistics Base. Despite the challenging offshore conditions, no serious incidents or accidents have been recorded. Also, no environmental incidents were caused by the previous support vessels and we trust that this record will be upheld in the future.



TOP 20

ENERGY SAVING

TIPS

TIP 1

Reduce the temperature of your geyser to around 55 degrees Celsius so that you don't need to add too much cold water when you shower or do the dishes.

TIP 2

Remember to keep the lid on the pot when you cook to conserve heat and energy.

The size of the pot should match the size of the stove plate; this can save you up to 25% on the electricity you use while cooking.

TIP 3

Close the windows and doors when the air conditioner or heater is on to save a substantial amount of money.

TIP 4

Close the door every time you take items out of the fridge and also check that it seals properly.

TIP 5

Soak beans, sump and other related dry food over night. This will save time, money and several hours of cooking.

TIP 6

It will save a significant amount of energy and water when you shower instead of bathing.

Note: Electricity is good for electronic devices but gas is more efficient for heating and cooking.

**TIP 7**

Insulate your geyser by wrapping newspapers, old blankets or other insulating materials around it, as well as the hot water pipes.

TIP 8

Switch off lights, fans, computers and other energy-consuming appliances when you leave the room. It will save you money.

TIP 9

Always try to use appropriate cooking utensils when cooking. For example, use pots and pans with a flat bottom, as these consume up to 50% less energy. Note that an electric stove consumes a lot of electricity so use the plates and oven as little as possible.

TIP 10

Use the right energy for the right purposes. For example, use heaters for space heating rather than hotplates, and use an electrical kettle for water heating rather than an ordinary pot on the stove. You will use about 50% less electricity.

TIP 11

Enjoy a comfortable indoor climate both summer and winter by ventilating your room properly on a daily basis. Remember to switch off your heater, fan or air conditioner while ventilating the room.

TIP 12

Reduce your electricity account by skipping the washing machine's pre-wash cycle if your clothes are not particularly dirty. This will use up to 20% less electricity.

TIP 13

Save water and electricity by washing your bed linen at 60 degrees Celsius instead of 90 degrees. It will still be cleaned effectively.

TIP 14

Reduce the temperature on the heater from full heat to a comfortable level.

TIP 15

Turn off all stand-by modes every time you leave the house and before going to bed.

TIP 16

Use energy-saving light bulbs. They last much longer and use less electricity, saving you a notable amount of money in the long run.

TIP 17

Reduce your electricity bill by doing all your ironing at the same time.

Tip 18

Boil only the required volume of water. It is energy wasting to fill the kettle, just to prepare one cup of tea.

Tip 19

It is recommended that you rather open windows for ventilation than to use an air conditioner.

Tip 20

Regardless of the energy consumption of an appliance, always switch it off when not in use.

AFRICA ENERGY Indaba

Global energy luminaries gather at the 2015 Africa Energy Indaba in Sandton to kick off the World Energy Council's "Year of Africa" Programme.

The 2015 Africa Energy Indaba that took place on the 18th and 19th February at the Sandton Convention Centre in Johannesburg; not only initiated the World Energy Council's "Year of Africa" Programme, but also highlighted the city's world-class capabilities. The illustrious event that has become Africa's premier energy event was attended by hundreds of delegates, including several African energy ministers and energy experts from around the continent. It boasted an outstanding programme with no less than 130 speakers, comprising global energy luminaries.

The event also had an extraordinary exhibition which displayed the latest technologies for the provision of energy alternatives. This attracted a host of members of the public and visitors looking for solutions to load shedding issues.

High level delegates that attended the Energy Indaba and spoke at the event included the World Energy Council (WEC) chair, Madame Marie-José Nadeau and the WEC Secretary General, Christoph Frei. The MEC for the Gauteng Department of Infrastructure Development, Ms Nandi Mayathula-Khoza, gave the welcome address and the Department of Energy's Director General, Wolsey Barnard, conducted the opening keynote address on the Tuesday morning. Public and private sector officials were able to learn first-hand of the Department's exciting work in shaping the next decade of energy to afford all South Africans affordable, cleaner and equitable energy. Delegates were also addressed by speakers from Eskom and private sector companies that are prominent in the energy sector.

Dr Wolsey Barnard stated the following: "The National Climate Change Response Policy targets a reduction in carbon emissions by 34% by 2020 and 42% by 2025, relative to a business as usual emissions trajectory. However additional international funding will need to be made available to assist South Africa with its interventions and mitigation strategies.

The National Development Plan (NDP) identifies the need for South Africa to invest in a strong network of economic infrastructure designed to support the country's medium- and long-term economic and social objectives. Energy infrastructure and services is a critical component that underpins economic activity and growth across the country. In order to properly plan for the electricity needs of South Africa, an Integrated Resource Plan (IRP) was

This year's Africa Energy Indaba also saw the launch of the Women in Energy conference, which was opened by Ms Thembisile Majola, Deputy Minister of the Department of Energy.

developed to identify the preferred energy mix with which to meet electricity needs over the next 15 years. In line with the national commitment to transition to a low carbon economy, 17 800 MW of the mix is planned to be supplied from renewable energy sources.



I am of the view that energy infrastructure is a critical building block in the economy of any country as well as the continent. Furthermore, the future energy needs of Africa can only be sustainably unlocked through the provision of sufficient energy infrastructure focused on both domestic (for each country) as well as regional supply and demand integration.”

Dr Barnard also highlighted the following benefits that are offered by the development of regional energy markets:

- Improved security of supply;
- Better economic efficiency;
- Enhanced environmental quality; and
- Wider deployment of renewable energy resources.

He then explained that broadening our energy mix through tapping our vast renewable resources and fostering partnerships with the private sector is crucial in our quest to simultaneously address all dimensions of the energy trilemma, namely energy security, energy equity, and environmental sustainability.

“It is my view that the Annual Africa Energy Indaba provides us with a major regional opportunity for sharing experiences and deliberating these and other solutions to achieve our common energy objectives,” he concluded.

Brian Statham, Steering Committee Chair of the Africa Energy Indaba stated that “this was the opportunity for Africans to tell the African story, to challenge and clarify misperceptions about the continent. People who don’t know Africa have often only heard bad news and that is the only story they have and remember about the continent. The Africa Energy Indaba once again gave us an opportunity to showcase the many positive things happening; the opportunity to change people’s ideas about Africa.”

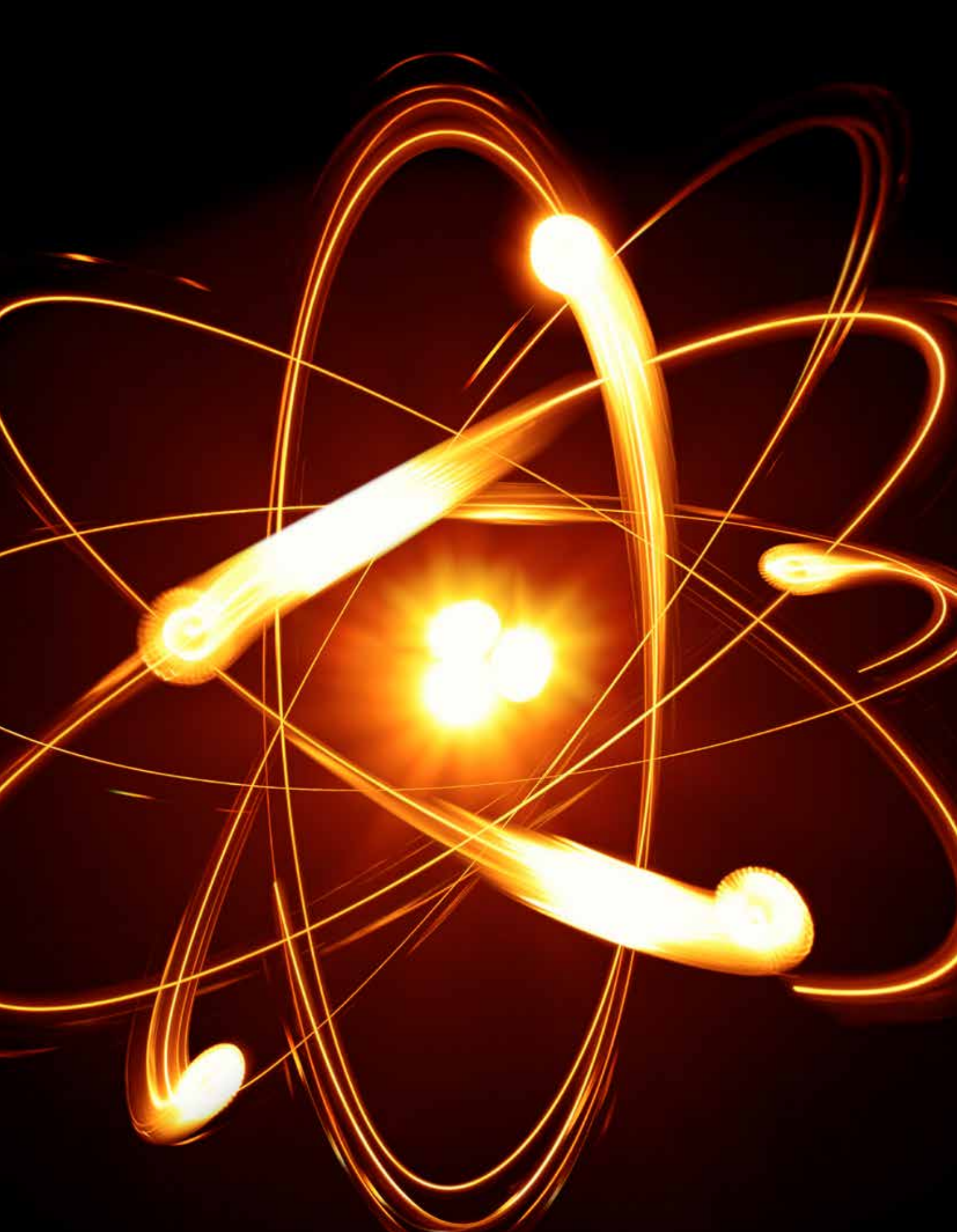
Numerous burning energy issues were addressed and debated within the various panel sessions and breakaway workshops that were held. Some of the most notable sessions included:

- “The vision for Africa’s critical infrastructure”;
- “Developing an appropriate mix of resources to deliver Africa’s economic potential”;
- “Making Africa the continent of choice for developmental resources and support”;
- “Power Africa: The Obama Initiative”;
- “Insights into unlocking finance for the development of energy projects in Africa”.

There were also sessions on skills development, regional cooperation, the energy-water nexus, smart grid and energy transmission and sessions on energy technologies including bioenergy, geothermal energy, oil, gas and nuclear.

This year’s Africa Energy Indaba also saw the launch of the Women in Energy conference, which was opened by Ms Thembisile Majola, Deputy Minister of the Department of Energy. She highlighted the important role that women play on the continent, and the strides the Department is making in empowering women in the energy sector.

The 2015 Africa Energy Indaba was made possible through strategic partnerships with the World Energy Council (WEC), the South African National Energy Association (SANEA) and the NEPAD Planning & Coordinating Agency (NPCA), as well as an exhibition partnership with the Gauteng Department of Infrastructure Development. The result was yet another successful energy event that will continue to enjoy high level support and remain a highlight on the African energy events calendar.



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