NAME & ORGANISATION	ISSUES/COMMENTS	RESPONSE
4. ALTERNATIVE GENERATION OPTIONS (INCLUDING RENEWABLES)		
Mr Christé de Wit	▪ Alternative forms of electricity generation.	Eskom is continually researching and investigating the potential to implement various alternative-generating technologies. There are a number of issues that need to be taken care of when looking at the options for electricity generation; these include cost, lead time for construction, environmental impact, and operating characteristics relative to peaking and base load power generation The planning for the construction of new power stations must also consider the different types of power stations that are required and their cost (which impacts on the price of electricity), the time taken to construct them, the environmental considerations and their operating characteristics. The total demand for electricity in South Africa is not constant; rather it varies on a 24-hour basis, with peak demand in the early morning and in the late afternoon / early evening. To optimally meet the total demand, it is thus necessary to have both "base load" electricity generating power stations designed specifically to generate electricity continuously at all hours, as well as "peaking" electricity generating power stations designed specifically to generate electricity only during the periods of peak demand. This is achieved by harnessing different energy sources and applying different technologies **Renewable energy: Hydropower:** South Africa is a water scarce country and does not have large rivers for hydropower. Eskom has two hydro power stations on the Orange River, the 360 MW (4 units each 90 MW) Gariep power station and the 240 MW (2 units each 120 MW) Vanderkloof power station. The use of these two stations is restricted to peak and emergency electricity demand situations, subject to the availability of water in the Gariep and Vanderkloof dams. Investigations are in progress for an upgrade at Gariep power station. **Wind energy**: An EIA is currently in progress for a wind energy facility of 100 MW on the West Coast of South Africa (near Vredendal). Wind energy is an important complement to other forms of electricity generation. Since the wind does not blow

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		continuously, and, apart from pumped storage schemes (which use more electricity than what they produce), large scale storage of electricity is not yet possible, wind energy cannot be relied upon for neither base load nor peaking or emergency electricity generation. **Solar energy**: An EIA has been undertaken and an environmental impact report has been submitted to the Department of Environmental Affairs and Tourism for a research and demonstration project for a concentrated solar thermal plant of 100 MW near Upington. Mirrors reflect the sunlight onto a central point. The project aims to research and demonstrate the heating of a molten salt at the central point in an intermediate step before boiling water and creating steam to drive a turbine and generate electricity. In principle the molten salt would retain its heat and hence be able to boil water and create steam after the sun is no longer shining. If all the necessary approvals are obtained, Eskom could start construction of the solar thermal plant in 2008/9. If constructed, it would be the biggest facility of its design in the world. **Efficiency programme:** Eskom is continuing to investigate ways to improve the use of electricity. Eskom has a demand-side management and energy efficiency programme target of 8,000 MW by 2025. This would be equivalent to avoiding the construction of two large coal-fired power stations

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Eric Herrmann on behalf of: Suzanne Erasmus Wildlife and Environment Society of SA	Regarding the EIA process update and extension of scoping for the above-mentioned project, I would like to draw your attention to the following point for consideration in the EIA process. ▪ The potential use of alternative energies, such as solar and wind, should be dealt with extensively in the EIA. Although nuclear power is a 'clean' source of energy compared to conventional coal- and oil-burning plants, there are inherent environmental and financial risks involved with nuclear power generation. In order for Eskom to defend the use of nuclear power versus other forms of environmentally safe energies, it is recommended that the EIA process addresses a full cost-benefit analysis for both the short and long-term of nuclear power and alternative energies (especially solar). ▪ While solar power may not produce nearly as many mega-watts as nuclear power, solar power stations can contribute to the energy supply, and possibly in such a manner that there is no need for additional power sources such as nuclear. The long-term costs of maintaining nuclear power plants versus alternative energies must therefore be considered in the EIA. This will allow a more object assessment of the EIA and the various power supply options by Interested and Affected parties, such as the Wildlife and Environment Society of South Africa (WESSA).	Thank you for these comments. These issues, where applicable, will be addressed in the impact assessment phase of the EIA. It is Eskom's stance that ALL of the primary energy resources in or available to South Africa, including solar, wind, wave, ocean current, tidal energy, biomass, hydro, gas, coal and nuclear need to be harnessed using the appropriate technology to provide the electricity that South Africa requires to support its economic growth and development. Projects are already underway regarding the different energy sources. Eskom is also pursuing improvements in the utilisation of electricity. Eskom has a demand-side management and energy efficiency programme target of 3000 MW by 2012 and 8000 MW by 2025. 8000 MW would be equivalent to avoiding the construction of two large coal-fired power stations. With respect to costs, all Eskom's large investments, such as those required for the building of new power stations, require approval, in terms of the requirements of the Public Finance Management Act, from the Minister of Public Enterprises and the Minister of Finance. Approval, and an electricity generating licence, is also required from the National Energy Regulator of South Africa (NERSA) prior to the construction of any new power station. NERSA determines the electricity prices/tariffs in South Africa. NERSA evaluates any application for an electricity generation licence in terms of its impact on electricity supply and demand and on the electricity tariffs. NERSA holds public hearings on applications for electricity generating licenses.
Mr Max Hoppe El Gecko Family Trust	▪ Alternatives to nuclear power – wind hydroelectric power.	

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Elise Krog	▪ I have just one question: Why does everyone seem to be totally ignoring the safe methods of power generation? Just because Eskom has not properly maintained its power stations over the years and created a power crisis now all of a sudden they wish to pollute our beautiful country and make everyone sick for no good reason other than plain greed. There are better alternatives like solar, wind and wave power. Why are they not spending good money on building solar, wind and wave power stations instead of wasting money on ruining the environment?	Thank you for your comments. An EIA is a tool designed to identify and investigate key issues and associated potential environmental impacts. This EIA is being applied for this purpose. Scoping will identify the key issues, which will be investigated in depth in the Impact Assessment Phase.
Elise Krog	Here are my comments below pertaining to the above-mentioned application. ▪ I would like to make a comment about renewable energy first as I have a very important point to make. I know that you are getting a LOT of objections to the nuclear power plants. In fact the only members of the public that are not objecting are those that don't have all the facts and those that are too lazy to do anything. Nobody that is properly informed and doesn't stand to make money from this is in favour of nuclear power. ▪ If ESKOM were to spend time and money putting up renewable power plants using solar, wind and wave power nobody would be objecting. Doesn't that tell you something? **Alternative Energy Sources** ▪ The background information document does not dedicate much or any information towards alternative energy sources. ▪ Eskom in fact has only allocated R4.5 Million towards renewable energy yet they have allocated R6 Billion towards nuclear energy. This entails that less than 1% of Eskom's "vision" is dedicated to alternative energy solutions and clearly shows the hard-line approach and thinking of Eskom. This alone irrefutably proves that alternatives are NOT being adequately addressed by Eskom NOR by this EIA process. ▪ Safe and truly renewable alternatives do in fact exist and need to be sufficiently addressed by this EIA process.	Thank you for these comments. These issues, where applicable, will be addressed in the impact assessment phase of the EIA. It is Eskom's stance that ALL of the primary energy resources in or available to South Africa, including solar, wind, wave, ocean current, tidal energy, biomass, hydro, gas, coal and nuclear need to be harnessed using the appropriate technology to provide the electricity that South Africa requires to support its economic growth and development. Projects are already underway regarding the different energy sources. Eskom is also pursuing improvements in the utilisation of electricity. Eskom has a demand-side management and energy efficiency programme target of 3000 MW by 2012 and 8000 MW by 2025. 8000 MW would be equivalent to avoiding the construction of two large coal-fired power stations.

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	▪ It is quoted in an official ANC document dating back to the year 2000 that "Koeberg produces 4% of South Africa's electricity and is more expensive to operate than any other power station". ▪ It is also quoted in official ANC documentation dating back to 2000 that the government would encourage sustainable and renewable forms of energy. Yet the reality is far from that.	
Dr Philip Lloyd	I would like to confirm the questions I raised at the workshop: ▪ In the justification for base load increases, no account was taken of the impact of the Southern Africa Power Pool, either its infeed to us or our exports to it. In particular, the possibility that either its demands might grow needs to be taken into account. ▪ There are announced plans for a further 3000MW of generating capacity in Botswana, of which 400MW at Moropule is for internal consumption and the remainder is for export. Much of this will come on line in the next 5 years. Why is its impact not taken into account? ▪ Botswana has recently announced 62tcf of natural gas reserves and a probable further 125tcf in the central Kalahari basin. This is more than sufficient to support a combined-cycle gas-fired power plant. If 4tcf of reserves at Temane was sufficient to justify Sasol's 800km long pipeline, 62tcf should be more than enough to justify a slightly longer pipeline bringing this gas to the Cape. Why does such a possibility not appear on Eskom's plans? ▪ A further question: In a paper late last year at Lephalale, Kumba reported that there were proposals to erect a total of 8 4200MW stations in the vicinity over the next 50 years, fed by coal from Grootegeluk. Is it too early for Eskom to include this in its plans?	Thank you for your comments. Eskom' long term (20 year) integrated strategic electricity plan, to the extent possible, takes into account the supply and demand in our neighbouring countries.
Miss Samantha Manton Kamhali	▪ I don't think it is wise to have nuclear reactor in this area because there are renewable/unharmful methods (wind power/solar power) that would meet our demands for electricity.	Thank you for these comments. These issues, where applicable, will be addressed in the impact assessment phase of the EIA.

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Curt Martheze	▪ It just seems highly unfair and unethical to even consider nuclear when the alternatives have so much to offer this country in the first place. Nuclear power is obsolete as far as I am concerned primarily due to its hazardous implications a lot of which the general public are unaware of. This makes it highly unethical more than anything.	It is Eskom's stance that ALL of the primary energy resources in or available to South Africa, including solar, wind, wave, ocean current, tidal energy, biomass, hydro, gas, coal and nuclear need to be harnessed using the appropriate technology to provide the electricity that South Africa requires to support its economic growth and development. Projects are already underway regarding the different energy sources. Eskom is also pursuing improvements in the utilisation of electricity. Eskom has a demand-side management and energy efficiency programme target of 3000 MW by 2012 and 8000 MW by 2025. 8000 MW would be equivalent to avoiding the construction of two large coal-fired power stations. **Renewable energy: Hydropower:** South Africa is a water scarce country and does not have large rivers for hydropower. Eskom has two hydro power stations on the Orange River, the 360 MW (4 units each 90 MW) Gariep power station and the 240 MW (2 units each 120 MW) Vanderkloof power station. The use of these two stations is restricted to peak and emergency electricity demand situations, subject to the availability of water in the Gariep and Vanderkloof dams. Investigations are in progress for an upgrade at Gariep power station. **Wind energy**: An EIA is currently in progress for a wind energy facility of 100 MW on the West Coast of South Africa (near Vredendal). Wind energy is an important complement to other forms of electricity generation. Since the wind does not blow continuously, and, apart from pumped storage schemes (which use more electricity than what they produce), large scale storage of electricity is not yet possible, wind energy cannot be relied upon for neither base load nor peaking or emergency electricity generation.
Miss Jennifer Dawn Mc Donald	▪ There are alternatives get with the real world – wind power / sea power.	
R.D.V. Nothnagel Pearly Beach Ratepayers Association	OTHER SOURCES OF ENERGY. ▪ I do not think that enough time and money has been spent on investigating alternative, renewable, sources of energy such as: a) Solar energy. ▪ We live in a country that probably has one of the highest number of sunny days in a year, in the world. Why do we not harness some of this energy that is going to waste? ▪ With hi-tech development such as used for the Sutherland telescope, (using mirrors) and what high temperatures can be created by solar reflection, should this area not be further investigated? b) Wind energy. ▪ In parts Europe and Scandinavia, a large proportion of the domestic demand is met from the use of wind power. Surely if the domestic need is catered for from renewable resources, then the industrial demand will be more easily catered for from other sources. ▪ The Southern and Eastern Cape areas are known as some of the windiest areas in the world. Again, a vast source of energy going to waste.	

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	c) <u>Wave energy</u>. ▪ We live in a country bounded on three sides by sea that was named hundreds of years ago as "The Cape of Storms". Surely some of this permanent supply of natural energy can be harnessed. d) <u>Water energy.</u> ▪ We have many large impoundments of water in this country. Why is this resource not utilized? Even a small hydroelectric plant can supply a small district with power and thus reduce the national load. e) <u>Fossil fuel thermal stations.</u> ▪ I know that coal burning power stations are polluting the atmosphere, contribute to global warming and the ultimate destruction of the earth but we have vast reserves of coal in South Africa and I think that spending a fraction of the proposed nuclear budget on the cleansing of emissions from these fossil fuel stations may serve the ultimate need far better than polluting the world with radioactive material. ▪ This would be far cheaper, on the pocket of the consumer, than building a series of nuclear monstrosities that have no guarantee of safety. (Remember the Koeberg sabotage debacle)	**Solar energy**: An EIA has been undertaken and an environmental impact report has been submitted to the Department of Environmental Affairs and Tourism for a research and demonstration project for a concentrated solar thermal plant of 100 MW near Upington. Mirrors reflect the sunlight onto a central point. The project aims to research and demonstrate the heating of a molten salt at the central point in an intermediate step before boiling water and creating steam to drive a turbine and generate electricity. In principle the molten salt would retain its heat and hence be able to boil water and create steam after the sun is no longer shining. If all the necessary approvals are obtained, Eskom could start construction of the solar thermal plant in 2008/9. If constructed, it would be the biggest facility of its design in the world. **Efficiency programme:** Eskom is continuing to investigate ways to improve the use of electricity. Eskom has a demand-side management and energy efficiency programme target of 8,000 MW by 2025. This would be equivalent to avoiding the construction of two large coal-fired power stations **Coal**: Eskom continues to monitor and investigate the progress internationally with the commercialisation of more efficient coal-fired power stations. Eskom is also researching underground coal gasification as a means to generate electricity from coal – a pilot facility is being established in Mpumalanga Province near the Majuba coal-fired power station. Eskom also monitors and participates in international forums investigating the possibility of capturing and storing carbon dioxide emissions. Alternative energy generation options are continuously being investigated. However, the technology does not exist to produce the vast amount of power that is required, from renewables.
Ms Anne Shirley Purdon Civic Association	▪ Why a Nuclear plant when most countries are moving away from them? Coal is not the only option - wind generators should be less costly - wind is free.	
Mr Alan Robb Leaping Course Production	▪ Alternatives to nuclear power. ▪ Other nations using effective alternatives to nuclear power.	

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Dr TN and Mrs TL Skinstad	▪ Instead of exporting our coal to China - rather build safer power stations utilizing our own coal.	the vast amount of power that is required, from renewables. Also, it would appear that, internationally, there is renewed interest and focus on nuclear power generation. Chapter 8 of the Scoping Report deals with alternatives. However, it must be noted that this EIA is dealing with five proposed sites, not different energy generating options.
Charles Tregoning	**Nuclear/Alternatives** ▪ We need to see what studies have been undertaken as to the alternative methods of generating electrical energy. This would include P.V and the F.I.T (Feed In Tariff) being used very successfully in Germany and Britain. So far this has been swept under the carpet. These could significantly reduce the base load according to reports from overseas. If the base load could be substantially reduced this would achieve a significant saving. ▪ However this has not been addressed by ESKOM at all. No mention has been made of these alternatives and a through investigation must be made before any decision is made	Thank you for these comments. Eskom is continuing to investigate ways to improve the use of electricity. Eskom has a demand-side management and energy efficiency programme target of 8,000 MW by 2025. This would be equivalent to avoiding the construction of two large coal-fired power stations. The Government (Department of Minerals and Energy – DME) is currently investigating incentives to promote renewable energy – this includes evaluating the concept of “feed-in” tariffs.
Mr Peter Wells	**RE: NUCLEAR POWER PLANT AT PEARLY BEACH.** Thank you to the team who made the presentation on behalf of ESKOM in Hermanus this evening. In the meeting you gave assurance that you would undertake to answer my/our questions honestly and those Q &A would be published on your website for all to see. Thank you. Let me state that I am not anti nuclear power. I have concerns re the procurement and our ability to handle the infrastructure. I also have concern about the necessity of the size of the total package. We all share this increasingly fragile planet (with plants and animals). Your honesty would be appreciated.	Thank you for your comments. These issues, where applicable, will be addressed in the impact assessment phase of the EIA. It is Eskom’s stance that ALL of the primary energy resources in or available to South Africa, including solar, wind, wave, ocean current, tidal energy, biomass, hydro, gas, coal and nuclear need to be harnessed using the appropriate technology to provide the electricity that South Africa requires to support its economic growth and development. Projects are already underway regarding the different energy sources. Eskom is also pursuing improvements in the utilisation of electricity. Eskom has a demand-side management and energy efficiency programme target of 3000 MW by 2012 and 8000 MW by 2025. 8000 MW would be equivalent to avoiding the construction of two large coal-fired power stations.

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	In July 2007 my 10 year old daughter and I drove past Witbank Coal Fired Power Stations. Having witnessed the air pollution created I am no fan of that process. Nonetheless this sight inspired a conversation about electrical power, the differences and benefits of coal, nuclear, hydro and renewable energy. Ultimately we came up with a mix of Hydro, renewable, quite a bit of nuclear (with very strict preconditions) and with quite a bit of "doing with less ". There was also a lot of planting trees and electric cars. Birth control was also mentioned (too many people). A more vegetarian oriented diet would reduce the bovine methane emission as well. Coal fired power stations didn't make the cut. The solution to energy crisis and global warming will have to be multi faceted. The solution is not restricted to just creating more costly capacity. **Pebble bed.** ▪ Suddenly ESKOM is going pell-mell to purchase 5 nuclear reactors. It seems that all 5 identified sites will be used. Previously it was Pebble bed. Why are you so fixated with big-ticket items? ▪ Is Pebble Bed dead? ▪ If not why are you pursuing it? ▪ Which other governments have embraced Pebble Bed reactors and if so why? ▪ Was pebble bed promoted on the soapies and if so why? **Hydro Electricity.** ▪ Well you have to build dams. OK. As part of global warming we are to expect flash floods. No doubt these will drag vast quantities of top soil out to sea. Dams will prevent this. Sure they will silt up. But then our children's children will have some excellent agricultural land. Please explain the benefits of Hydro electricity?	**Coal**: Eskom continues to monitor and investigate the progress internationally with the commercialisation of more efficient coal-fired power stations. Eskom is also researching underground coal gasification as a means to generate electricity from coal – a pilot facility is being established in Mpumalanga Province near the Majuba coal-fired power station. Eskom also monitors and participates in international forums investigating the possibility of capturing and storing carbon dioxide emissions. The pebble bed modular reactor (PBMR) technology is being developed by the PBMR (PTY) Ltd company. Eskom has submitted applications for an environmental authorisation and for a nuclear installation licence for a PBMR demonstration power plant to be constructed on the Koeberg site. The EIA for the PBMR Demonstration Power Plant is in progress. If successful then Eskom will purchase PBMR power stations, subject to normal commercial and regulatory conditions being met. The USA, France, China and Japan are examples of countries undertaking or associated with research into the high temperature reactor technology such as or similar to the PBMR technology, South Africa is a water scarce country and does not have large rivers for hydro power. Eskom has two hydro power stations on the Orange River, the 360 MW (4 units each 90 MW) Gariep power station and the 240 MW (2 units each 120 MW) Vanderkloof power station. The use of these two stations is restricted to peak and emergency electricity demand situations, subject to the availability of water in the Gariep and Vanderkloof dams. Investigations are in progress for an upgrade at Gariep power station.

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	▪ Water discharged from large dams seems to have enormous energy. Can that be used to turn another (smaller) turbine? **Saving electricity.** There are many ways of doing this. Why is ESKOM not promoting these simple suggestions? (Sorry I don't watch SABC TV) ▪ Hot water swallows 40 % of household electricity. OFF PEAK electricity is a good saver. If your hot water geyser comes on between 5 - 6 a.m. and 6 - 7p.m. in the evening household electricity consumption will drop dramatically. What would that saving be if be domestic hot water consumption dropped by 30 %? ▪ All you need is a timing device which is much cheaper that a nuclear power station. An insulating blanket also saves heat loss. Another benefit is the hot water will soon run out so people will use less water. If you set the temperature of your geyser at 55 degrees you save a lot of energy but you use more hot water. This requires a change in legislation. Not the biggest ask. What changes to legislation will be required? ▪ Energy efficient light bulbs. Well in our house all lights have been converted. It saves electricity. That said we run about 50 appliances off electricity so it is a sorely needed commodity. Is it possible to reduce the cost of energy efficient globes but removing import duties and VAT? ▪ Solar power. Well it can run the lights. It got pretty short shift at our meeting. The feeling was the panels only last 5 years. Necessity is the mother of invention. We will solve that problem in no time. What is the cost difference on solar lighting compared to the cost of the solar panel over 5 years? ▪ How would solar energy have to improve in order to run the TV, computer, fridge, kettle and alarm system at the same time? How many amps are required and how could that solar energy be generated? (A by product of the outages is many people learnt about amps) ▪ How long before technology reaches this point?	

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	▪ Daylight saving was suggested. With half the country getting up 1 hour later. A big saving in capacity. Could you quantify the saving? ▪ If for instance construction and factory workers started work at 7 a.m. and office workers at 9 a.m. the traffic congestion would be partly solved. ▪ There are many alternatives to air conditioning. How can legislation be changed to force new buildings to change in design and old building to convert? ▪ Does ESKOM have an interest in changing legislation? **Carbon Foot Print.** ▪ Well electric vehicles have a comparatively minute carbon footprint. But they need electricity. ▪ A golf buggy is an excellent low cost vehicle for running around town. However legislation is anti the use of these vehicles. Can this legislation be amended and what would be involved? ▪ What is the cost difference between running a Golf Buggy and a (petrol) Chico over 30 kms distance? ▪ Check out the Tesla. An electric car that goes from 0 - 100 kms in 4 secs. ▪ There are so many alternatives. Why are we not debating and promoting these? ▪ Arnold Schwarzenegger, "The Governor" (for those of you who are not watching) is doing the most marvellous job. He has prevented that idiot Bush from drilling for (more) oil in California. He has enacted legislation to make all homes and small businesses in California install solar lighting, he has implemented the first Hydrogen Highway (a highway with hydrogen fuel stops). He has proclaimed and extended more national parks than any previous governor. With Mayor of New York David Bloomberg they have established a committee of 200 odd mayors who are implementing the Kyoto Protocol which that chump Bush refused to sign. The list of brilliant changes is extensive. What is ESKOM doing to drive this process?	

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	Some Suggestions: Arnie says he "doesn't do guilt ". ▪ Meaning you don't have to do without if you think smart. VERY TRUE. Now how about some of this smart thinking for us South Africans. Not so. ▪ If we are going to install solar power lets manufacture those ourselves. ▪ If we are going to purchase Wind Farms lets manufacture those ourselves. ▪ If we are going to purchase Golf Buggies and Electric Cars lets manufacture those ourselves. ▪ If we start that process now all of Africa will be knocking on our door to buy from us. ▪ Once a car has achieved an operating speed (say 80 kms) it generates electricity used to charge a battery. Is it possible to add more batteries, which can then be plugged into another power source? (There is a battery on the market that switches off when it only has sufficient energy to start the vehicle again) **Let us set an impossible task as a " Vision of the Future".** ▪ Let us manufacture an electric train that runs in a vacuum tube from Cape Town to Cairo. The train other hovers on magnets (less friction 0 and is sucked along the vacuum. This train stops at all the major cities en route and covers the distance in less than 5 hours. Impossible? I think not. That's what people said to JFK when he suggested landing a man on the moon. And guess who controls space now. ▪ Dream the impossible. You will be amazed at the by-products. Ask NASA. ▪ To do this we will have to mature somewhat. We voted for a non-sexist, non-racist democratic South Africa. I really don't believe that this promise was delivered. ▪ Come on Guys. We are all in this boat together. Quit thinking that if you sit up front you wont get hit. YOU WILL. ▪ We can do much better. Lets start by working together.	

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Ms Sally Andrew	Need reliable comparisons between nuclear coal and R.E. on the following matters: ▪ Alternatives to nuclear power – in particular renewable energy ▪ Actual costs of nuclear including all hidden and externalized costs e.g. (decommissioning, environmental costs) job creation? ▪ Actual production of CO_2 (including mining and transport etc.) full life cycle ▪ All ongoing or potential environmental, health hazards and rights to people and life now and into the future including: e.g. proof radiation is safe to people and environment, dangers involved in mining nuclear materials, transport, storage, proof of no damage to environment for the future 100's of 1000s of years, consequences of accidents. ▪ Safe, health for (people and environment) cheaper, less CO2 intensive alternatives are genuinely explored by looking at renewable energy options.	Thank you for these comments. These issues, where applicable, will be addressed within a suite of specialist studies to be commissioned as part of the impact assessment (Section 10.6.5 of the Scoping Report). It is Eskom's stance that ALL of the primary energy resources in or available to South Africa, including solar, wind, wave, ocean current, tidal energy, biomass, hydro, gas, coal and nuclear need to be harnessed using the appropriate technology to provide the electricity that South Africa requires to support its economic growth and development. Eskom is continually researching and investigating the potential to implement various alternative-generating technologies. There are a number of issues that need to be taken care of when looking at the options for electricity generation; these include cost, lead time for construction, environmental impact, and operating characteristics relative to peaking and base load power generation
Mr Dodds Blom	▪ Wind power electricity? ▪ Anti nuclear	

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Mr Bowen Boshier	▪ The whole cycle of nuclear energy – in terms of CO2 production, water use, destruction of landscapes for mining, transport during construction, maintenance and decommissioning – needs to be audited and made public. If nuclear energy is as the BID states, the same as wind and solar power levels of CO2 production, then the overall costs of nuclear electrical production also needs to be taken into account and compared with other technologies. ▪ The complete costs of nuclear energy across its whole life cycle – projected forwards and allowing for inflation etc. ▪ The amount already spent on this technology in South Africa (including the PBMR project) This amount should be broken down into categories so that the public can see how our money is being spent and who it is going to. ▪ A comparison in terms of Rands per kilowatt-hour, with other forms of energy generation, across the complete the life cycle. ▪ A study to look into geothermal energy through the drilling of deep boreholes to tap geothermal heat to drive steam turbines. ▪ Comparisons should be based on the latest, most advanced and cheapest solar and renewable technology available internationally. Also the projected costs of solar energy production on the future as production of units increases to satisfy rising demand. ▪ My concern is that ESKOM is prepared to invest R6 billion in the nuclear energy industry, but only R4,5 million in alternative energy. I understand the need for a reliable base load, but am under the impression that not enough is being spent on alternative for this. ▪ Proof that there will be no long-term damage to any ecosystem through radiation and pollution. ▪ An explanation as to why Eskom needs to test already proven technologies such as wind generation?	The planning for the construction of new power stations must also consider the different types of power stations that are required and their cost (which impacts on the price of electricity), the time taken to construct them, the environmental considerations and their operating characteristics. The total demand for electricity in South Africa is not constant; rather it varies on a 24-hour basis, with peak demand in the early morning and in the late afternoon / early evening. To optimally meet the total demand, it is thus necessary to have both “base load” electricity generating power stations designed specifically to generate electricity continuously at all hours, as well as “peaking” electricity generating power stations designed specifically to generate electricity only during the periods of peak demand. This is achieved by harnessing different energy sources and applying different technologies **Renewable energy: Hydropower:** South Africa is a water scarce country and does not have large rivers for hydropower. Eskom has two hydro power stations on the Orange River, the 360 MW (4 units each 90 MW) Gariep power station and the 240 MW (2 units each 120 MW) Vanderkloof power station. The use of these two stations is restricted to peak and emergency electricity demand situations, subject to the availability of water in the Gariep and Vanderkloof dams. Investigations are in progress for an upgrade at Gariep power station. **Wind energy**: An EIA is currently in progress for a wind energy facility of 100 MW on the West Coast of South Africa (near Vredendal). Wind energy is an important complement to other forms of electricity generation. Since the wind does not blow continuously, and, apart from pumped storage schemes (which use more electricity than what they produce), large scale storage of electricity is not yet possible, wind energy cannot be relied upon for neither base load nor peaking or emergency electricity generation.

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	▪ A task team should be established to look into the impact alternative energy on big business and our current economic system. I am under the impression that certain stakeholders are suppressing alternatives at renewable energy as sources of electricity in order to maintain their profit levels. The motor industry should also be included in this. I am concerned that our present economic structures / corporations do not want a substantial shake up/restructuring. This would happen if alternative energy and transport systems were brought into the mainstream. I call on Eskom / our government to facilitate a shift across to more sustainable and less damaging technologies. By supporting technologies such as nuclear the problems may be exacerbated. Our energy systems should be modernized in line with healthy technologies (low emission /green) while we have the opportunity – i.e. before further substantial investments are made in nuclear tech. Our survival into future requires this. ▪ Energy efficiency: We need to look not only at energy as an alternative t nuclear and coal, but also at Energy Efficiency practices. These can significantly reduce the energy demand growth. ▪ A task team should be established to make sure that all energy saving systems available are incorporated into new and existing developments (housing, business, industry, infra-structures). This should a permanent body that oversees a sustainable future, and should be independent from big business (i.e. impartial and answerable sources, and not answerable, and not motivated by 'profits to share holders')	**Solar energy**: An EIA has been undertaken and an environmental impact report has been submitted to the Department of Environmental Affairs and Tourism for a research and demonstration project for a concentrated solar thermal plant of 100 MW near Upington. Mirrors reflect the sunlight onto a central point. The project aims to research and demonstrate the heating of a molten salt at the central point in an intermediate step before boiling water and creating steam to drive a turbine and generate electricity. In principle the molten salt would retain its heat and hence be able to boil water and create steam after the sun is no longer shining. If all the necessary approvals are obtained, Eskom could start construction of the solar thermal plant in 2008/9. If constructed, it would be the biggest facility of its design in the world. **Efficiency programme:** Eskom is continuing to investigate ways to improve the use of electricity. Eskom has a demand-side management and energy efficiency programme target of 8,000 MW by 2025. This would be equivalent to avoiding the construction of two large coal-fired power stations All Eskom's large investments, such as those required for the building of new power stations, require approval, in terms of the requirements of the Public Finance Management Act, from the Minister of Public Enterprises and the Minister of Finance. Approval, and an electricity generating licence, is also required from the National Energy Regulator of South Africa (NERSA) prior to the construction of any new power station. NERSA determines the electricity prices/tariffs in South Africa. NERSA evaluates any application for an electricity generation licence in terms of its impact on electricity supply and demand and on the electricity tariffs. NERSA holds public hearings on applications for electricity generating licences.
Ms Yolanda Buckland The Milkwood Smiles	▪ Anti nuclear. ▪ Wind power? ▪ Find another way.	Note that Eskom has not signed any contracts, and hence the only costs are those for the EIA, feasibility studies and activities to obtain information for the feasibility studies.

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Mr Christopher L Foster	▪ After Europe's decommissioning of nuclear plants in recent years increased investment in alternatives, why do we go nuclear? ▪ Why S.A government not involved in exploring and funding alternative to nuclear power?	
Ryan Donnelly	▪ To all the pro nuclear people I would like to remind you that Nuclear energy is not sustainable. ▪ Not correctly addressing our energy issue now will leave future generations with a dangerous waste and debt problem. Don't forget that costly and hazardous maintenance of the high-level radio active waste will continue far into the future. Ultimately all will suffer the economics of nuclear power in the future but especially the poor. ▪ Eskom slides the word sustainable development with the word nuclear on their website. Trust me we are not conned by this one. We all know that uranium has been identified as a limited resource. It has been further estimated that only 65 years of mining is left under the current situation. Building a society on a limited resource is indeed very questionable venture. ▪ If one has had a look at the energy demand graph Eskom keeps displaying you will notice that the large majority of the demand for energy is during the day. It has further been established that South Africa has very good solar power potential. ▪ I phoned the department of minerals and energy today and they confirmed that no government subsidies or tax incentives exist for solar power. In other countries it is these very tax incentives and government subsidies that pave the way for their booming solar industry. I also noted from conversations with the "department of minerals and energy" that their knowledge on solar systems was outdated due to their understanding of the below mentioned system. ▪ Eskom confirmed to me that they do not allow for the "grid tie system" or "Net metering system".	Thank you for these comments. These issues, where applicable, will be addressed within a suite of specialist studies to be commissioned as part of the impact assessment (Section 10.6.5 of the Scoping Report). It is Eskom's stance that ALL of the primary energy resources in or available to South Africa, including solar, wind, wave, ocean current, tidal energy, biomass, hydro, gas, coal and nuclear need to be harnessed using the appropriate technology to provide the electricity that South Africa requires to support its economic growth and development. Every 1000 MW of nuclear power capacity needs approximately 200 tonnes of natural uranium per annum. Thus, 4 000 MW of nuclear power operating for a 60 year period would require about 48 000 tonnes of natural uranium. South Africa's Reasonable Assured Resources (RAR) of uranium is estimated to be 521 000 tonnes, with a further 211 000 tonnes as inferred resources. [Reference: IAEA/NEA "Uranium 2005: Resources Production and Demand" – the "Red Book"]. Thus, South Africa has enough uranium resources to support a bigger than 20 000 MW nuclear programme for the envisaged 60 year lifetime of the modern nuclear power plants. Specifically with respect to solar energy: An EIA has been undertaken and an environmental impact report has been submitted to the Department of Environmental Affairs and Tourism for a research and demonstration project for a concentrated solar thermal plant of 100 MW near Upington. Mirrors reflect the sunlight onto a central point. The project aims to research and demonstrate the heating of a molten salt at the central point in an intermediate step before boiling water and creating steam to drive a turbine and generate electricity. In principle the molten salt

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	▪ This system allows private solar power operators the ability to tie into the national grid. Instead of spending money on batteries the money is spent on more solar panels. ▪ If Eskom and government are trying to cut down on Co2 then why do they obstruct the solar industry? ▪ We also need an electrical system that charges less to the poor which we can achieve by charging wasteful users increasingly more for their electricity consumption. This fair and timely appropriate system, which is in place in other countries, will encourage more efficient products and the industry thereof. ▪ If importing hydro power from the DRC is our cleanest and safest energy option then we should be developing Solar power energy in our country in order to have an independent clean renewable energy resource as is being done by the USA and other countries. ▪ If one thinks of futuristic times, what does one see?	would retain its heat and hence be able to boil water and create steam after the sun is no longer shining. If all the necessary approvals are obtained, Eskom could start construction of the solar thermal plant in 2008/9. If constructed, it would be the biggest facility of its design in the world. Note that it is the legal mandate of the National Energy Regulator of South Africa, and not Eskom, to develop the legislative framework for electricity supply in South Africa.
Ms Kali Griffin Wolvengat Farmer	▪ We are paying for our neighbouring countries subsidies on electricity – Why is this necessary if we cannot fulfill our own needs? Why not subsidize solar panels for housing needs. ▪	In the 2006/7 financial year Eskom exported 13 589 GWh to neighbouring countries and imported 11483 GWh, a net difference of 2106 GWh exported, which was less than 1% of the total electricity on the Eskom system. Eskom will continue to import electricity up to a maximum related to the reserve margin requirements. There are numerous projects in South and Southern Africa that are being investigated, planned or in progress that would impact whether South Africa is a net importer or exporter. It is anticipated that South Africa will become a net importer of electricity.
Mr and Mrs Eugene & Louise Hendry	▪ To investigate procuring the country's energy needs from its existing infrastructures, throughout the country to import it's energy needs from other countries. Thus not having to store hazards materials near our communities. Causing potential health hazards and death.	Eskom already imports electricity from neighbouring countries, primarily from the Cahora Bassa Hydro Electric Power Station in the northern part of Mozambique. Between 1000 and 1400 MW hydropower capacity is imported from Cahora Bassa, although some of this (about 300 MW) is sent back to the Southern part of Mozambique via South Africa. In the 2006/7 financial year Eskom exported 13 589 GWh to neighbouring countries and imported 11483 GWh, a net difference of 2106 GWh exported, which was less than 1% of the total electricity on the Eskom system. Eskom will continue to import

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		electricity up to a maximum related to the reserve margin requirements. Eskom is participating in a project to harness the hydropower potential of the Inga Falls on the Congo River in the Democratic Republic of Congo. This is a long-term project which includes the construction of a very long transmission line from the DRC, through Angola and Namibia into South Africa and Botswana. So as not to become over-dependent on our neighbouring countries for electricity, Eskom will limit the import of electricity. South Africa is rich in uranium resources, which can be used to generate electricity in nuclear power stations. Eskom is thus investigating expanding its nuclear power generation capacity to help meet the future demand for electricity.
Ms Shavonne Hill Summerhill Guest House	▪ Generate electricity with wind power / generator.	It is Eskom's stance that ALL of the primary energy resources in or available to South Africa, including solar, wind, wave, ocean current, tidal energy, biomass, hydro, gas, coal and nuclear need to be harnessed using the appropriate technology to provide the electricity that South Africa requires to support its economic growth and development. Eskom is continually researching and investigating the potential to implement various alternative-generating technologies.
Mr Mark Ian Jacobson	▪ Alternative fuel sources such as wind solar and wave will be well advanced by the time a plant would be operational, they need to be further explored and developed.	
Mr Peter and Colleen Laing	▪ Nuclear Power is an outdated means of generating power and alternative sources should be investigated.	
Mr Leslie Lawson	▪ Full research on alternative methods of power supply e.g. wave technology.	

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Ms Primrose N T Madikizela Transnet National Ports	▪ I would like to see ESKOM working more with / for nature by maximizing efforts in harnessing energy that has – negative effects to nature. South Africa needs all of us to work more with nature than against it. I still believe that a combination of the < powerful energy base loads such as sun, wind waves, etc. has the potential to provide us with the strong output that Eskom believes nuclear has. I would like research to prove that my thoughts are wrong. My feeling is that we are driven (Eskom) by what other countries do; yet such countries are not as rich in natural diversity as we have. South Africa is alive and rich in possibilities that no other country in this world can compare / match in what we have. ▪ Eskom must prove me wrong, together with DME's Integrated NR Planning Team!! ▪ We are working against nature and not for it. Maybe, we are working (Eskom) for 1 part of nature, i.e. person or business. Where are sustainability principles?	There are a number of issues that need to be taken care of when looking at the options for electricity generation; these include cost, lead time for construction, environmental impact, and operating characteristics relative to peaking and base load power generation The planning for the construction of new power stations must also consider the different types of power stations that are required and their cost (which impacts on the price of electricity), the time taken to construct them, the environmental considerations and their operating characteristics. The total demand for electricity in South Africa is not constant; rather it varies on a 24-hour basis, with peak demand in the early morning and in the late afternoon / early evening. To optimally meet the total demand, it is thus necessary to have both "base load" electricity generating power stations designed specifically to generate electricity continuously at all hours, as well as "peaking" electricity generating power stations designed specifically to generate electricity only during the periods of peak demand. This is achieved by harnessing different energy sources and applying different technologies **Renewable energy: Wind energy**: An EIA is currently in progress for a wind energy facility of 100 MW on the West Coast of South Africa (near Vredendal). Wind energy is an important complement to other forms of electricity generation. Since the wind does not blow continuously, and, apart from pumped storage schemes (which use more electricity than what they produce), large scale storage of electricity is not yet possible, wind energy cannot be relied upon for neither base load nor peaking or emergency electricity generation.

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		Hydropower: South Africa is a water scarce country and does not have large rivers for hydropower. Eskom has two hydro power stations on the Orange River, the 360 MW (4 units each 90 MW) Gariep power station and the 240 MW (2 units each 120 MW) Vanderkloof power station. The use of these two stations is restricted topeak and emergency electricity demand situations, subject to the availability of water in the Gariep and Vanderkloof dams. Investigations are in progress for an upgrade at Gariep power station. **Solar energy**: An EIA has been undertaken and an environmental impact report has been submitted to the Department of Environmental Affairs and Tourism for a research and demonstration project for a concentrated solar thermal plant of 100 MW near Upington. Mirrors reflect the sunlight onto a central point. The project aims to research and demonstrate the heating of a molten salt at the central point in an intermediate step before boiling water and creating steam to drive a turbine and generate electricity. In principle the molten salt would retain its heat and hence be able to boil water and create steam after the sun is no longer shining. If all the necessary approvals are obtained, Eskom could start construction of the solar thermal plant in 2008/9. If constructed, it would be the biggest facility of its design in the world. **Efficiency programme:** Eskom is continuing to investigate ways to improve the use of electricity. Eskom has a demand-side management and energy efficiency programme target of 8,000 MW by 2025. This would be equivalent to avoiding the construction of two large coal- fired power stations. Eskom also has research programmes investigating wave and ocean current energy options.

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		South Africa is rich in uranium resources, which can be used to generate electricity in nuclear power stations. Eskom is thus investigating expanding its nuclear power generation capacity to help meet the future demand for electricity.
Mr and Mrs Michael & Cecelia Ravenscroft Kleynkloof Private Nature Reserve	▪ Investigate Nuclear technology that does not need vast amounts of water for cooling, so that stations can be located inland.	Eskom requires building power stations on the coast for a number of reasons, including the stabilisation of the transmission network and the improvement in the reliability and security of supply at the coastal area and particularly the coastal areas of high growth in the demand for electricity, and the reduction in transmission line losses. Apart from these objectives, there are also other advantages of locating a power station on the coast, the primary one being the use of seawater for cooling of the turbine exhaust steam and condensing it back to water. It is not financially feasible to locate a coal-fired power station on the coast (due to the cost of transporting coal to the power station), whereas a nuclear power station is eminently suitable for location on the coast.
Mr Andreas Muehlhaus	I cant belief what I am reading! What is going on in the people's heads anyway? South Africa has a so many ways of producing clean energy, why nuclear power? Let me see: 1) You have space 2) You have sun 3) You have wind 4) You have the ocean Really guys not many countries have such a great constellation! And if the politicians say "we have no money", then I just can say this, do something against the f…ing crime and people will also invest inside South Africa again, which is beside that the best country in the world to live in! I wish you luck in washing the guys heads! (push them deep into the pit and let the feel the guts of the wave).	Thank you for your comments.

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Mr Wayne Ekermans	I think it is disgraceful that the government and all the other parties who are involved in designing and building this ugly and dangerous nuclear power station along this most beautiful coastline, especially with all of the eco and global warming going on. I grew up in S.Africa surfing all along our most beautiful countryside and I just think that it is wrong that they want to not only destroy the scenery, but also think of all that fauna and flora that only can be found along our coastline will be getting destroyed. The other thing that will be affected will be all the wildlife that lives in these areas they want to be building on. Nuclear anything is just stupid and god damn dangerous. What if something had to go wrong or the station causes a leak somewhere and gets into the air or just as bad the ocean, We South Africans love our outdoor lifestyles, as well as living off the sea around us. Not only that if there is a leak into the ocean think of all the contamination it would cause to everything in our oceans and surrounding oceans or eco-systems around S.Africa. A perfect example of how the ocean can spread things is when you just have to look at how an oil slick can be spread within seconds, minutes, or even hours, and that's oil which is bad, but not half or even more than half as devastating than what plutonium or any nuclear waste can cause. Not only does it cause total devastation, but it stays around for SO SO SO SO SO VERY VERY VERY MUCH LONGER than any other poisons and pollution in the world. To be honest I really don't think that these people who are thinking of doing this really care or have honestly thought about it thoroughly. Another thing is that if any of it becomes airborne, depending on which way wind is blowing, it can have a total devastation of a hell of a lot of our beautiful country. There are plenty of other more eco-friendly ways of getting energy resources. for instance, I stay in new quay Cornwall (UK) and all over the UK they have these large wind turbines either offshore or on land. With all the wind that we get in S.Africa I'm sure this would be a much better and more resourceful way of getting the power and energy we will need. This would most probably be the most economical way because of the howling south easterlies (Cape Doctor) in summer. Also think of how much wind we get all over the rest of S. Africa. Another way they are getting energy and power in the U.K is by	Thank you for your comments. These matters will be addressed within a suite of specialist studies to be commissioned as part of the Impact Assessment Phase of the EIA (Section 10.6.5 of the Scoping Report). As you are registered on the project database, you will continue to receive information about the proposed project. It is Eskom's stance that ALL of the primary energy resources in or available to South Africa, including solar, wind, wave, ocean current, tidal energy, biomass, hydro, gas, coal and nuclear need to be harnessed using the appropriate technology to provide the electricity that South Africa requires to support its economic growth and development. Projects are already underway regarding the different energy sources. Eskom is also pursuing improvements in the utilisation of electricity. Eskom has a demand-side management and energy efficiency programme target of 3000 MW by 2012 and 8000 MW by 2025. 8000 MW would be equivalent to avoiding the construction of two large coal-fired power stations.

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	putting this thing called the wave hub out to sea and it floats on top of the ocean and uses the swell action to generate power and energy to a centre where it is then sent off to where it has to be. Not too clued up on this way, but it generates ample enough energy and power especially thinking of all the open ocean and swell we have at our grasp. Another way is by using solar panels, Due to S. Africa having such beautiful weather most of the year through, we could be using the ultraviolet rays to our advantage. There are solar panels that even pick up and build energy and power when the weather is dismal and overcast. A lot of people are getting these types of panels fitted to there houses in the U.K which to be honest does not have the most sunniest of weather most of the year through, but yet they are still managing to use all the energy and power they need, as well as sell it onto the energy and power suppliers for them to sell onto other uses. So the bottom line is, is that these three ways I have just suggested are far more economical and friendly than nuclear power, as well as far more safer too. I'm sure that there are other eco-friendly ways to produce energy. but if they can work for the whole of the U.K as well as Europe, then it must be able to work for our beautiful country S. Africa. Hopefully these w*nkers in charge will have a better think about destroying what beautiful places we have left in our country and world. I would be much obliged if someone could keep me updated on what is going to go on.	