

Attention: Mr Arico Kotze
Portfolio Committee on Energy,
3rd floor, WS 3/107, 90
Plein Street, Cape Town 8001
akotze@parliament.gov.za

5th October 2018

Submission into the Draft Integrated Resource Plan 2018

Contents

Introduction: 1
Detailed Comment: 2
1. Planning:..... 2
2. Jobs and livelihoods 3
3. Reducing Demand and increasing Energy Efficiency:..... 3
4. New Capacity: 6
5. Climate Change and Carbon budget..... 6
6. Externalities: 6
7. Nuclear: 7
8. Regional Electricity imports: 7
9. Future generations: 8
Concluding comments: 8

Introduction:

Section 3 (1) of the Electricity Generation Regulations on New Generation allows the Department of Energy (DoE) to publish an integrated resource plan. After various drafts which never saw their finalisation, we wish to commend Minister Radebe for publishing this proposed draft IRP2018. We wish for a speedy finalisation and offer our comments as part of strengthening democratic process and ensuring this IRP reflects an accountable process. We also welcome the parliamentary portfolio committee on energy (PCE) commitment to provide an opportunity for people’s voices to be heard. This is the first time this committee has invited public comment on energy matters despite requests from civil society to do so.

Our submission has not focused on the technical modelling to the same extent as was done in response to previous versions of the IRP and its updates, but SAFCEI in principle supports the submissions of groundWork this regard. All sound developmental policies of the South African government will be undermined unless we acknowledge that we live on a finite planet whose abundant ecological resources operate in one harmonious system. This beautiful earth is under threat from rapacious corporates aided and abetted by politicians, government officials and others who are sacrificing the well-being of all beings of the country for their short term greed. Society is failing in our stewardship obligations that all faiths demand of their followers.

The Green Building, Bell Crescent, Westlake Business Park, Westlake, Cape Town, South Africa PO Box 106, Kalk Bay, 7990 info@safcei.org.za +27 21 701 8145

if our overriding national concern is just and fair economic development then we have to abandon our insistence on pursuing development principally through mineral extraction, which over 150 years has mostly made us an exemplar of the 'resource curse' (The resource curse, also known as the paradox of plenty, refers to the paradox that countries with an abundance of natural resources (such as fossil fuels and certain minerals)¹, tend to have less economic growth, less democracy, and worse development outcomes than countries with fewer natural resources) and must turn instead to determined and respectful cultivation of land and people.

Repairing and maintaining healthy ecosystems is necessary to overcoming poverty and restoring dignity, and the Southern African Faith Communities' Environment Institute (SAFCEI) works alongside all sectors of society, including government, wherever possible towards the achievement of that aim. SAFCEI's IRP submission is based on essential principles contained in the Earth Charter and required for our future sustainability – and survival. SAFCEI works directly with faith communities to empower them on issues of environmental justice. As people of faith, we acknowledge that climate change is the most critical challenge that humankind faces today.

Integrated Resource Planning (IRP) uses a mathematical model which allows a number of varying technical factors such as energy demand, efficiency, cost, load factor, and so on, to come up with an energy mix that would be in the public interest, in other words, to be environmentally sound, efficient and affordable to all South Africans, particularly the poor and vulnerable.

Detailed Comment:

In the spirit of constructive engagement, we offer the following comments:

1. Planning:

Economic development is key to meeting the needs and aspirations of South African citizens. However, the current model of economic growth has been questioned as to its sustainability. The current economic model assumes a planetary system with an ever-increasing trajectory of consumption, dependent on an inexhaustible supply of inputs such as energy, and with an inexhaustible capacity to absorb all the waste and pollution. Climate change is one example that has demonstrated the fallacy of this approach. There are many others.

GDP is also a poor index of human development, as it hides inequities and rewards good and bad practice alike. For example, the mining of coal will contribute positively to local GDP, as will the clean-up of the Acid Mine Drainage that results from coal mining. Economic activities that destroy and degrade the environment should be measured differently and less positively than those that enhance environmental quality.

If GDP is supposed to be a number chosen to represent a state of development to aspire to, then in our view it is not an appropriate indicator for the deeply divided South African society. Either in place of GDP, or in addition, we believe we need to add other indicators such as the Gini coefficient or the achievement of Millennium Development Goals (MDGs).

The IRP refers to the National Development Plan (NDP) as to where it draws its mandate from. While we agree that an energy plan should seek to support and underpin the national development plan, we would also note that the NDP section on energy is somewhat outdated. The NDP refers to the IRP2010 which has now been acknowledged as outdated.

¹ https://en.wikipedia.org/wiki/Resource_curse

The Green Building, Bell Crescent, Westlake Business Park, Westlake, Cape Town, South Africa PO Box 106, Kalk Bay, 7990 info@safcei.org.za +27 21 701 8145

Further, the NDP refers to the need to conduct further research into the feasibility of nuclear power plants in South Africa. The Earthlife/SAFCEI court case and revelations emerging in the Zondo commission and elsewhere clearly indicate that the nuclear case was premised on flawed data and was part of a manipulated process of state capture towards the ends of a nuclear lobby. In SAFCEI's view, nuclear power is a distraction from energy development for the people of South Africa. To date millions of Rands have been wasted, diverted into the nuclear programme which is not necessary for energy security.

SAFCEI therefore welcomes the draft IRP which fails to see any nuclear in the short term. We would assume that as the renewable sector develops, and more attention is paid to energy efficiency and externalities, the facts would show that nuclear energy is outdated technology. Various reports conclude that there is no need for further coal or nuclear power generation (these reports include those of CSIR, NREL, Eskom, Meridian Economics, University of Cape Town and the University of Frankfurt).

2. Jobs and livelihoods

Other countries in the world have created sustainable livelihoods and jobs from renewable energy, and South Africa government data show that it has already created more than 43000 construction jobs and more than 55000 operational jobs² in the short time that solar and wind farms have been operating. Many more jobs could be possible if we transition to 100% renewables.

The Socio-economic deep dive study (DoE 2014) showed that renewable energy would be able to create thousands of jobs both direct and more importantly indirect in a process of industrialization was followed in this area. The study shows how renewable energy could have a major multiplier effect for jobs in the manufacturing sector. In our view, a local manufacturing hub for solar and wind related energy in South Africa would provide a springboard for export into the rest of Africa, rather than those countries importing from Europe or Asia.

However the jobs and economic growth related to renewable energy cannot be maximized if the renewable energy demand is throttled back through the IRP. The IRP also states in several places that the least cost IRP is to increase renewables. Therefore any deviation from the least cost scenario means an increase in electricity price.

In our understanding the inclusion of new coal in the IRP is a policy decision designed to save coal jobs. However, as recent reports have shown (include the UCT Energy Research Centre (ERC) coal study³) such interventions are likely to simply delay the inevitable and at the same time potentially undermining renewable industry development.

Job security is paramount and SAFCEI would strongly urge that parliament take an active oversight role in ensuring that those working in the coal industry are retrained and placed in emerging industries such as the renewable industry. Where workers are no longer able to make the transition due to age or ill health, they and their families should be supported.

3. Reducing Demand and increasing Energy Efficiency:

Energy efficiency has consistently been understudied in energy planning in South Africa. Energy efficiency is the least cost means of ensuring energy security. The roll out of the solar Water Heatr (SWH) programme stalled and yet, solar water heaters are a means of providing water heating for free to indigent and vulnerable communities, a means of jobs both in installation and in manufacturing, and can directly reduce the overall peak demand for the energy system.

² Operational jobs are measured in job years.

³ Burton, Jesse, Caetano, Tar, McCall, Bryce (2018) "Coal transition in South Africa - Understanding the implications of a 2°C-compatible coal phase-out for South Africa". IDDRI & Climate Strategies. available at <https://coaltransitions.org/reports/>

The Green Building, Bell Crescent, Westlake Business Park, Westlake, Cape Town, South Africa PO Box 106, Kalk Bay, 7990 info@safcei.org.za +27 21 701 8145

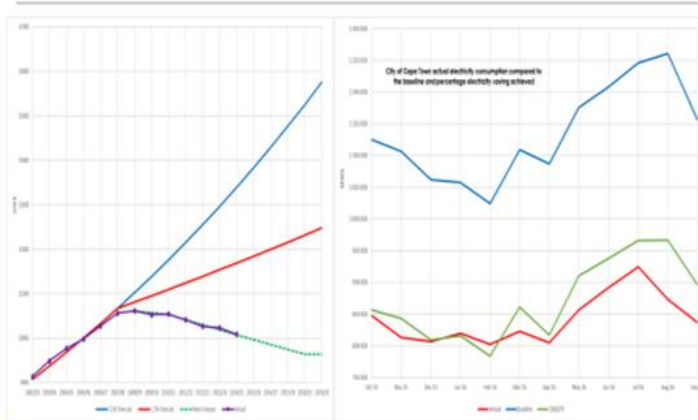
Related to this is the need to consider time of use tariffs for residential sector as well as commercial. Municipalities need to be brought into the conversation here as they can reduce their electricity peak demand and flatten the daily demand curve through incentivizing behaviour change. Providing advisory and energy efficiency installation services can also create jobs.

This current IRP has provided a much more realistic view of the projected demand into the future. In our view, previous versions of the IRP exaggerated demand in order to justify large infrastructure projects such as the nuclear fleet as well as large coal plants such as Medupi and Kusile.

However, entities like the city of Cape Town and others have flattened their demand curve and it is our view that IRP planning is still too over ambitious on the energy demand side.

Figure 1: Electricity Demand Cape Town 2006/7-2015/6

Electricity demand Cape Town 2006/7 – 2015/16



The IRP2018 acknowledges that the GDP and energy consumption trajectory are no longer directly linked and SAFCEI welcomes this. However, despite reference to embedded generation, energy efficiency etc in section 3.1.3 of the draft IRP, the draft IRP demand scenarios all show a sharp increase in the growth of demand (as per Figure 8 of the CSIR annual electricity demand forecast) which appears at odds it the trend over the last few years, Our electricity consumption trend shows an almost flat or decreasing demand.

Figure 2: draft IRP scenarios (as per Figure 8 of the CSIR annual electricity demand forecast)

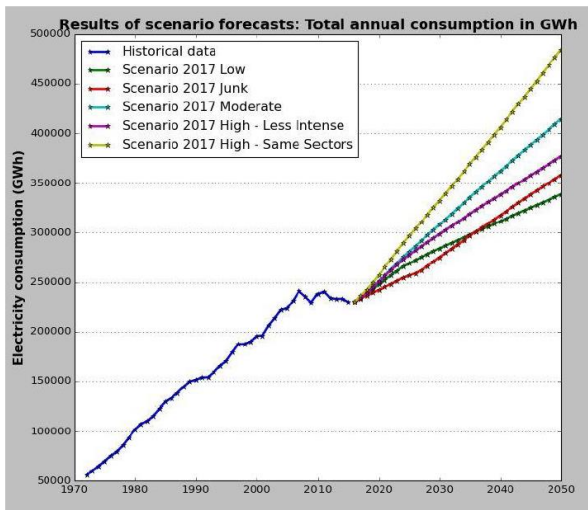
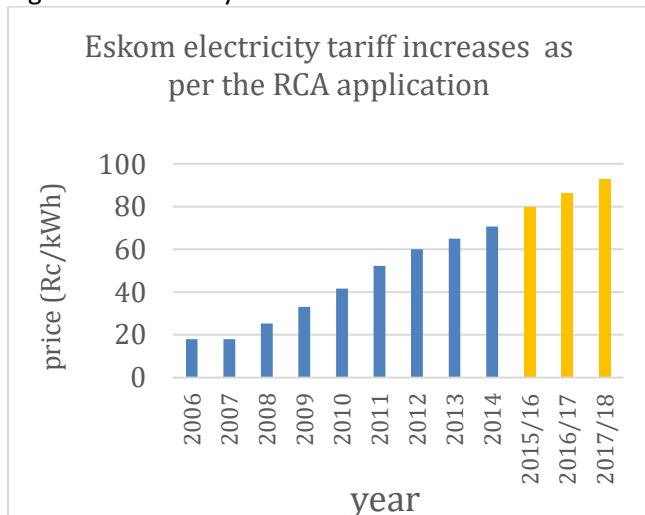


Figure 8 Recommended forecasts for national consumption of electricity using the "CSIR model"

We therefore include an extract from the SAFCEI submission to the NERSA RCA electricity application where we show how electricity tariffs have increased over the last few years. In our view, we would like to see further clarity on how price increase are likely to influence demand in the future, and for this to be included in demand calculations of the IRP2018.

Figure 3: Electricity Tariff trend: SAFCEI submission to NERSA RCA application.



4. New Capacity:

We agree with the DoE that the decommissioning of coal plants will be linked to the increasing need for new capacity. We support the no limits on new renewables build scenario as this is the least cost scenario. Such a no limits on RE would potentially enable inefficient coal power stations to be decommissioned ahead of their scheduled decommissioning. This would yield positive impacts in terms of health and environmental improvement.

5. Climate Change and Carbon budget

The Pope's Encyclical, and the the Islamic Declaration on Global Climate Change are examples that indicate that faith communities are calling on their followers to respond to climate change. Climate change and energy plans have major impacts on the poor and, at SAFCEI, we take an active part in working towards solutions that benefit the natural environment and people.

The International panel on Climate Change (IPCC) 5th Assessment report warned that the impacts of climate change would be particularly severe in parts of Southern Africa and in our own interest and as responsible global citizens, this means that South Africa needs to address climate change in all its plans and policies, including the IRP.

We echo groundWork's statement in their submission, *"This means that all countries, including South Africa, have less than twenty years to get to zero. Effectively, there is no carbon budget left to share out. Hence, equity in terms of 'common but differentiated responsibilities' must now be pursued through financial and technology transfers. This may be considered as part payment of the climate debt owed by the rich world to the poor world. But it must also be remembered that there is a climate debt from rich to poor in Africa and within South Africa. Finally, energy planning must be about a rapid transition from coal to renewables and it must be embedded in the larger conception of a just transition to a society that provides for all"*.

The outdated concept of trade-offs between environment and development needs to be replaced with the acknowledgement that future "good" development can only be low carbon development. In the current economic situation, finances should be directed towards those sectors that can result in the biggest "bang for buck". This implies that existing subsidies (direct or indirect) for coal and nuclear must be removed and channelled towards a just energy transition. Given that water is a scarce resource, there should be an emphasis on climate resilient technologies that reduce our dependence on water.

6. Externalities:

In previous submissions re externalities associated with energy technologies, SAFCEI was disappointed that the IRP failed to take anything other than carbon emissions into account in its study on externalities. This was despite the DoE having investigated externalities with regard to the integrated Energy Plan. SAFCEI therefore welcomes the inclusion of mercury, SO_x and NO_x in some measure in the determination of externalities. However, we would question the exact numbers and refer to the groundwork submission in this regard. SAFCEI believes that it is not possible to put a price on human life and that it is unethical to simply opt for coal power generators, create some financial calculation which asks them to pay extra and then allows people to become ill and die. Let us rather support a culture of human rights and force Eskom and others to clean up their act.

The IRP is also disappointing in its failure to fully take into account climate change and associated water scarcities in large part of the country. It does include some accounting of water quantity but once again fails to take into account water quality. Acid Mine drainage is one example where the cost of rehabilitation should be included in the cost of coal.

The Green Building, Bell Crescent, Westlake Business Park, Westlake, Cape Town, South Africa PO Box 106, Kalk Bay, 7990 info@safcei.org.za +27 21 701 8145

As per our 2014 input into the DoE, we restate the following, *“Drawing on various reports including the DWAF report no: P RSA 000/00/12610 used by the modelling team, the cost of treating AMD to potable water quality is given ranging from R8.87 to R10.22 rands/m3 (incremental URV). SAFCEI would like to see this cost included in the external costs of water as an additional externality related to water quality”*.

In addition, we support the groundwork submission of 2018, which goes into more detail of the pollution impacts. There is a proposal to rely on gas in the IRP2018, and it is important to raise our concerns around fracking. SAFCEI opposes fracking for environmental negative impacts, particularly water contamination. We would also hope that as gas is being seen to complement renewable energy, it would be possible that technology advances in storage could reduce gas imports in the longer term. We would like to see the IRP2018 acknowledge that increasing technology advances in storage could reduce the need for gas to complement the renewable build. The category reserved for gas should be flexible to enable gas determinations to be shifted to storage for example.

7. Nuclear:

It is our contention that future nuclear energy power plants are not necessary for South Africa. In the 2010IRP the draft IRP acknowledged that a least cost energy plan did not include nuclear but that nuclear was then forced into the final policy adjusted IRP.

Following the successful court challenge to the nuclear deal by Earthlife Africa and SAFCEI, and the subsequent attempts by President Zuma's government to force through the nuclear deal, it has become obvious that nuclear deal was not an energy issue but was part of state capture.

We believe that sufficient research into the role of nuclear in South Africa's future has shown that there is no need for nuclear energy post 2030. While we hope that Minister Radebe and his team are following best practice in their development of the IRP, it is our view that leaving the window open for further nuclear development is once again opening the door for further wastage of government funds siphoned off to feed the nuclear lobby.

Nuclear waste and decommissioning costs have historically been underestimated and we would argue that these costs should be included in full in the IRP. We will supplement this written submission with additional updated facts and figures but at this stage we provide an extract of our 2014 submission to the DoE Externalities team. *“In the UK repeated failures of the provisioning for decommissioning, including using methods similar to those used by Eskom, have resulted in future taxpayers be liable for a bill in excess of £100bn (R1.8tn) to decommission its existing nuclear facilities”*. Prof Thomas estimates the decommissioning costs of Koeberg's two reactors at R34bn. Current US estimates are around R 18 240/kw”.

8. Regional Electricity imports:

The Grand Inga scheme has been on the table for many years and large hydro projects come with their own socio-ecological costs which has been well documented. In addition, power imports come with additional transmission costs and we would like to see further detailed feasibility costs to justify such a policy adjustment in the IRP2018.

The IRP proposes to import hydro but no solar or wind based renewable energy - why not?

We also reject the idea that coal fired power projects in other countries which supply electricity to South Africa are somehow not included in our carbon footprint. We believe that climate change is a strong driver of a just energy transition where South Africa should take the opportunity to grow its renewable energy industry not only for energy but for its localisation potential.

Relying on imported energy from other countries when South Africa has abundant solar and wind energy seems short sighted and could potentially undermine energy security.

9. Future generations:

Unborn generations cannot speak for themselves. It is up to current generations to speak on their behalf. SAFCEI believes it is unfair for future generations to be left with the enormous ecological debt or suffer the consequences of a decision to go with fossil and/or nuclear which will only come into operation 20-30 years' time when South Africa's energy needs could be different from what this plan's models predict. We therefore support the idea of regular reviews of the IRP and that predicting the future beyond 2030 can only be indicative.

Ethical and accountable governance are part of the democratic ideals that people gave their lives for in the struggle against Apartheid. Limited government finances, and a growing unemployment, together with a widening gap between rich and poor, are undermining our democratic gains.

To ensure a sustainable future, a developmental IRP should aim to ensure future access to electricity for those without access and also to ensure that electricity tariffs should be regulated in such a way as to ensure affordable access. SAFCEI therefore supports the least cost high renewables scenario, that which imposes no limits on renewable energy.

Concluding comments:

We believe that a flexible approach to energy planning is necessary and regular review of the IRP is therefore necessary to determine if the energy planning is aligned with national developmental goals. We would propose that the IRP is reviewed every two years.

South Africa has embarked on an energy transition that has seen a country dependent on coal generated electricity moving towards renewable energy but such a transition must ensure that those who are dependent on the coal industry for their livelihoods are not left behind and find their place in the new renewable future.

We cannot rely on the past to plan for the future. Human induced climate change has already demonstrated that the future world will need to adapt to climate changes that we have never seen before. Our energy systems need to be flexible, and focus on energy as an enabler for human development, rather than the business as usual approach of energy for industrial growth to feed an ever consumptive economy.

It is our duty to future generations to rehabilitate and maintain an ecologically sound environment. There is a legacy of coal and nuclear energy that needs to be cleaned up and it is our duty to ensure that future generations are not compromised in their rights to a clean and healthy environment, through our actions today.

We wish the PCE well in their deliberations and request an opportunity to present at the portfolio committee should the opportunity be available.

Compiled by Liz McDaid

SAFCEI Ecojustice Programme Lead

5th October 2018 email: liziwe@mweb.co.za