LEGAL COMMENTARY ON THE DRAFT INTEGRATED RESOURCE PLAN, 2018

THIS SUBMISSION HAS BEEN PREPARED WITH THE ASSISTANCE OF CULLINAN & ASSOCIATES INCORPORATED.

EXECUTIVE SUMMARY

Purpose of comments

Greenpeace Africa has prepared comments on South Africa's draft Integrated Resource Plan 2018 ("IRP2018") in order to make a positive contribution to the process of its formulation. The commentary contained in this document is intended to assist the Department of Energy ("DoE") to develop the best possible IRP for the country in a manner that is consistent with both South African law and South Africa's international commitments. Our commentary identifies the shortfalls of the IRP and provides suggestions on how to rectify the deficiencies.

Deficiencies in the IRP

Greenpeace Africa and its legal and technical experts assessed the substance of the draft IRP against Constitutional and international obligations and analysed the extent to which the IRP gives effect to the following key energy policies, as is required by law:

- the Energy White Paper;
- the Renewable Energy White Paper;
- the National Climate Change Response White Paper and Draft Adaptation Strategy;
- the National Development Plan 2030, 2012
- the Carbon Tax Policy Paper, 2013 and
- policies aimed at emission reductions.

We find that the IRP does not give effect to national policy, and is inconsistent with national policy in a number of respects. It furthermore ostensibly fails to deal with the objectives and commitments contained in related policy documents which are analysed in the commentary below.

In addition to failing to give effect to various energy related policies, the IRP is defective for the following substantive reasons:

- the IRP fails to give effect to the "least cost" electricity mix which research has unequivocally shown should include 70% renewable energy by 2040;[1]
- the environmental impacts (on water resources, air quality, health, land and the climate) which would arise from the energy mix and procurement plans should the current iteration of the IRP be implemented, are unacceptable, unreasonable and unnecessary; and

[1] CSIR, 2016, 'Least-cost electricity mix for South Africa by 2040: Scenarios for South Africa's future electricity mix" page 29.

- the IRP continues to constrain renewable energy by capping the renewable allocation and by including multi-year pauses in its procurement, without adequate reason. It retains artificial constraints for both wind and solar, without compelling, sound or adequate reason.

The IRP is an "other measure" for purposes of section 24(b) of the Constitution. Therefore, the Minister must ensure that the IRP is reasonably able to prevent pollution and ecological degradation, and to secure ecologically sustainable development and use of natural resources and that economic and social development is justifiable with regard to ecological sustainability. In these comments, we explain why the IRP currently does not reasonably protect the environment as required in terms of section 24 of the Constitution and fails to support ecologically sustainable development. We also explain why the IRP is inconsistent with South Africa's international commitments and the latest available climate science.

Conclusions

The current iteration of the IRP fails to favour supply sources and scenarios which promote sustainable development, which most optimally achieve security of supply, affordability, job creation, localisation, mitigation of environmental impacts, diversification, improved access, improved efficiency, and protection of human health and safety. It contains no indication that the applicable principles set out in section 2 of NEMA or other environmental considerations have been duly taken into account. It contains no indication that it has been revised in line with the most up-to-date global consensus on climate science, as presented in the latest IPCC Special Report on 1.5°C.[2] If the IRP had taken these considerations into account, it is reasonable for Greenpeace Africa to conclude that the government would not have produced the iteration in its current form.

The IRP fails to adequately consider climate change impacts, fails to move away from emissions intensive technologies in the short and medium term, and accordingly, fails to give effect to its policy commitments.

Greenpeace Africa believes that in order to effectively mitigate against these environmental impacts, the IRP must:

- remove new coal from the energy mix;
- remove Kusile units 5 and 6 from the energy mix;
- decommission existing coal plants at an accelerated pace; and
- model an advanced decline input.

[2] IPCC, 2018, Special Report on Global Warming of 1.5 degrees.

NOTE: Greenpeace Africa's election not to deal with any part of or defect of the IRP must not be construed as Greenpeace Africa's acceptance of said part or defect.

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INTRODUCTION

1. The Integrated Resource Plan ("IRP") is developed in terms of the Electricity Regulation Act, 4 of 2006. It must therefore give effect to the empowering provisions under which it is made. However, its development cannot be done independently of other legal considerations, which national government is also required to implement. First and foremost, the IRP cannot be inconsistent with the Constitution of the Republic of South Africa, 1996 ("the Constitution") and must ensure that it does not conflict with the rights and freedoms entrenched under the Bill of Rights. Secondly, the IRP must be consistent with any other applicable national laws, such as the National Environmental Management Act, 107 of 1998 ("NEMA"). Thirdly, given its purpose, the IRP must be consistent with other applicable national policy.

2. South Africa has also made a number of international commitments which appear to have been largely ignored in the preparation of the draft IRP2018. It is imperative that these commitments are fully and properly canvassed and given effect to, as a minimum standard.

3. In the discussion that follows, we find that the national government's continued reliance on coal, including new coal, as proposed in the draft IRP2018 is inconsistent with the environmental right contained in section 24 of the Constitution, fails to apply the NEMA principles which are applicable to any government action that has the potential to significantly affect the environment, and furthermore fails to give effect to national policy, despite its objective to do so.

4. Thereafter, the substantive issues which arise in relation to these findings are detailed.

5. This Legal Submission is complementary to the Technical Commentary prepared by Greenpeace Africa and must be considered together with the Technical Commentary.

THE CONSTITUTION AS THE FOUNDATION FOR ANY GOVERNMENT ACTION

6. The Bill of Rights, as set out in the Constitution, is a cornerstone of democracy in South Africa. Accordingly, the State is enjoined to respect, protect, promote and fulfil the rights contained in the Bill of Rights. The Bill of Rights applies to all law, and binds the legislature, the executive and the

judiciary, and all organs of state, subject only to the limitations as provided for in section 36, or elsewhere in the Bill of Rights.[3]

7. Rights are not department specific. Each Minister, and each government department, including when acting in an executive or administrative capacity, must therefore ensure that their actions, including the making of law, policies and plans, respects, protects, promotes and fulfils all of the rights contained in the Constitution.

8. Section 24 of the Constitution creates as justiciable environmental right as a fundamental human right. It provides that:

> *Everyone has the right –*
> *(a) to an environment that is not harmful to their health or well-being; and*
> *(b) to have the environment protected, for the benefit of present and future generations, through reasonable legislative and other measures that –*
> *i. prevent pollution, and ecological degradation;*
> *ii. promote conservation; and*
> *iii. secure ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.*

9. The significance of the inclusion of the environmental right has been recognised in case law. In the matter of *Director: Mineral Development, Gauteng Region and Sasol Mining (Pty) Ltd v Save the Vaal Environment* (*Save the Vaal* case), Oliver JA emphasised that the incorporation of the environmental right in the Constitution as a justiciable, fundamental human right hailed in a new era in our South African democracy where environmental considerations will have to be accorded appropriate recognition which should translate into a change in the ideological climate of legal and administrative processes.[4] In *BP Southern Africa (Pty) Ltd v MEC for Agriculture, Conservation, Environment and Land Affairs* Claassen J confirmed that the environmental right is on par with rights of freedom of trade, occupation and profession[5] and property[6] and that the environmental right should be part and parcel of considerations dealing with property, land and freedom to trade without any *a priori* grading of the rights.

10. The environmental right must be understood in the context of section 1(1) and 2 of the Constitution which confirm the supremacy of the Constitution. Any law or conduct which is

[3] Section 7 of the Constitution of the Republic of South Africa, 1996.
[4] *Director: Mineral Development, Gauteng Region and Sasol Mining (Pty) Ltd v Save the Vaal Environment* 1999 2 SA 709 (SCA) par 19; also see *BP Southern Africa* – case (2004) 217.
[5] Section 22 of the Constitution of the Republic of South Africa, 1996.
[6] Section 25 of the Constitution of the Republic of South Africa, 1996.

inconsistent with the Constitution is invalid[7] and all obligations imposed by the Constitution must be fulfilled.[8]

11. The right to which current and future generations are entitled, is the right to an environment that is not harmful to their health or well-being. This right places a duty on the government to refrain from any action which may impact on the environment to the extent that it will be harmful to health or well-being of humans. It furthermore places a positive obligation on the government to take action to promote, protect and fulfil the right through reasonable legislative and other measures. "Other measures" is a broad statement and includes executive and administrative actions in the form of policies, plans and programmes. Section 24(b) requires that measures be taken to ensure that the development and use of natural resources (including energy resources) is "ecologically sustainable."

12. Conversely to socio-economic rights in the Constitution, the State's duty under section 24(b) is not subject to the proviso that the necessary resources are available.[9]

13. Importantly, the duty on the state is owed to current and future generations. In order to ensure that future generations also have the ability to enforce the right to have the environment protected, development must be ecologically sustainable, and the precautionary principle must be applied to avoid unjustifiable harm to the environment. The precautionary principle is expressed in the principles set out in section 2 of NEMA and requires "that a risk-averse and cautious approach is applied, which takes into account the limits of current knowledge about the consequences of decisions and actions".[10] These principles are discussed further below.

14. In giving effect to the environmental right, the State has to date adopted a range of policies and plans, enacted a range of legislation, and established departments and public sector institutions. However, the obligation is an ongoing one, which must respond to development and environmental pressures. Therefore, any new measures must ensure that they are consistent with the State's obligations to give effect to section 24.

15. Legislative measures taken to secure ecologically sustainable development includes the enactment of the NEMA, which sets out a number of principles in section 2 which apply to the actions of all organs of state that may significantly affect the environment. Development is

[7] Section 1(c) and 2 of the Constitution of the Republic of South Africa, 1996.
[8] Section 1(c) and 2 of the Constitution of the Republic of South Africa, 1996.
[9] For example, section 27 of the Constitution recognizes that everyone has a right to have access to health care, food, water and social security but only requires the state to take reasonable legislative and other measures, "within its available resources, to achieve the progressive realisation of each of these rights."
[10] Section 2 of the NEMA. The NEMA prescribes a number of national environmental management principles which must guide the interpretation, administration and implementation of the NEMA and of any other law concerned with the protection or management of the environment.

required to be socially, environmentally and economically sustainable[11] – i.e. it must amount to sustainable development. Sustainable development is defined in NEMA as follows:

> *'sustainable development' means the integration of social, economic and environmental factors into planning, implementation and decision-making so as to ensure that development serves present and future generations.*[12]

16. Similarly, the Mineral and Petroleum Resources Development Act, 2002 ("MPRDA") imposes an obligation on the state to ensure "*ecologically sustainable development of mineral and petroleum resources*".[13]

17. Energy generation and the associated procurement of electricity by the state is certainly an action that may significantly affect the environment, and accordingly, the NEMA principles must be appropriately considered and applied.

18. These NEMA principles state*, inter alia*, that sustainable development requires the consideration of all relevant factors including:

    18.1. that pollution and degradation of the environment are avoided, or, where they cannot be altogether avoided, are minimised and remedied;

    18.2. that waste is avoided, or where it cannot be altogether avoided, minimised and re-used or recycled where possible and otherwise disposed of in a responsible manner;

    18.3. that the use and exploitation of non-renewable natural resources is responsible and equitable, and takes into account the consequences of the depletion of the resource;

    18.4. that the development, use and exploitation of renewable resources and the ecosystems of which they are part do not exceed the level beyond which their integrity is jeopardised;

    18.5. that a risk-averse and cautious approach is applied, which takes into account the limits of current knowledge about the consequences of decisions and actions; and

    18.6. that negative impacts on the environment and on people's environmental rights be anticipated and prevented, and where they cannot be altogether prevented, are minimised and remedied.

[11] NEMA, section 2(3).
[12] NEMA, section 1.
[13] MPRDA, section 37.

19. In terms of the Constitutional environmental right, environmental, economic, and social factors must be balanced and integrated as part of sustainable development. These considerations apply to all actions of the state (including executive and administrative) impacting on the environment, including energy planning and procurement. The term “ecologically sustainable" qualifies both "sustainable development" and "the use of natural resources", and thus not only must the environmental, economic and social considerations be balanced and integrated order to achieve sustainable development, but also where economic and social development requires the use of natural resources, only use that is ecologically sustainable must be permitted.

20. The environmental right protects inter-generational equality because the government must ensure that its development decisions do not benefit current generations at the expense of future generations. It thus requires that the precautionary and preventative principles be followed.

21. The purpose of the IRP is to describe new generation capacity required to ensure security of supply of electricity to meet future demand. The impact that the energy sector has on the environment is not disputed and has been explicitly and consistently recognised in policy documents and legislation, some of which are referred to below. Given this, the legal requirement to develop an IRP must be read with the environmental right set out in section 24 of the Constitution. Thus, electricity planning must give effect to the environmental right, and must consider and implement the principles set out in section 2 of NEMA.

22. The current iteration of the IRP fails to favour supply sources and scenarios which promote sustainable development, which most optimally achieve security of supply, affordability, job creation, localisation, mitigation of environmental impacts, diversification, improved access, improved efficiency, and protection of human health and safety. It contains no indication that such principles or other environmental considerations have been duly taken into account. If it had, it is reasonable for Greenpeace Africa to conclude that government would not have produced the iteration in its current form.

23. Similarly to section 24 of the Constitution, the right of access to water (section 27(1)(b)) is justiciable. Section 27(1) of the Constitution provides that, *inter alia*:

> *Everyone has a right to have access to*
>
> *(b) sufficient food and water*

24. This right must be considered in light of the fact that water is a scarce resource within the country.[14]

25. The draft IRP2018 does not give adequate consideration to the vulnerability of South Africa's water resources, and further does not give effect to the right to access to adequate water.

26. This argument is grounded in the findings of the most recent Intergovernmental Panel on Climate Change (IPCC) Special Report on 1.5°C, which emphasised that limiting global warming to 1.5°C is expected to "substantially reduce the probability of drought and risks associated with water availability (i.e. water stress)", particularly in Southern Africa.[15]

27. The draft IRP in its entrenchment of coal as a significant source of energy in South Africa's energy mix through new builds of coal-fired power stations therefore increases South Africa's risk of drought and water stress.

INTERNATIONAL OBLIGATIONS

28. South Africa is a signatory to the Paris Agreement, which requires urgent and sustained action on a global scale to avoid catastrophic climate change, and to ensure that future generations have a liveable planet. South Africa ratified the Paris Agreement in 2016[16] and accordingly, the Agreement binds the South African government under section 231 of the Constitution.

29. As recognised in many national policies, South Africa is especially vulnerable to the impacts of climate change, particularly in respect of water and food security, as well as impacts on health, human settlements, and infrastructure and ecosystem services. As discussed previously, Inter- and intra-generational equity is a key component of the constitutional environmental right, which binds the actions of the government in formulating the IRP.

30. The most up-to-date scientific consensus on climate change is contained in the Special Report of the Intergovernmental Panel on Climate Change on 1.5°C (the "1.5°C Special Report") dated 8 October 2018.[17] The 1.5°C Special Report is instructive on the extent of the impact of climate change if increasingly ambitious and immediate measures are not pursued to reduce emissions. This is discussed in detail in the Technical Commentary. The report shows that an increase in 2°C in global warming compared to 1990 levels is much more dangerous than thought when the Paris Agreement was signed, as well as when the IRP2018 was drafted. Limiting warming to 1.5°C

[14] *Mazibuko and Others v City of Johannesburg and Others* 2010 (4) SA 1 (CC) par 3.
[15] IPCC, 2018, Special Report on Global Warming of 1.5 degrees - "Chapter 3: Impacts of 1.5ºC global warming on natural and human systems" at 3-7, line 26, - http://report.ipcc.ch/sr15/pdf/sr15_chapter3.pdf.
[16] See https://www.environment.gov.za/mediarelease/southafrica_ratifies_parisagreement.
[17] IPCC, 2018, Special Report on Global Warming of 1.5 degrees.

instead of 2°C would reduce risks and impacts substantially, regarding weather extremes, water scarcity, food shortages, heat-related deaths, etc. While there is no safe level of warming, the 1.5°C limit represents the only currently assessed defense line against catastrophic climate impacts. The report clearly outlines that the next twelve years are critical in terms of increasing ambition with regards to acting on climate change, and whether we can limit global warming to 1.5°C. This means "Business As Usual" can no longer apply, and that the timeframe for the IRP (until 2030) must see a significant decline in coal (at least halving coal by 2030), and aiming for zero emissions as soon as possible.

31. South Africa's national legal obligations under the Constitution and international legal obligations under the African Charter of Human Rights and international human rights law include the obligation to actively take measures to prevent foreseeable harm to human rights. The 1.5°C Special Report shows the foreseeable risks of a world where average temperatures exceed the 1.5C increase mark and the resulting impacts on human rights. South Africa must actively align its energy and climate policies with the recommendations of the 1.5°C Special Report to prevent future human rights violations.[18] The IRP2018 was drafted prior to the release of the 1.5°C Special Report and for that reason needs to be amended taking this relevant Report into account.

32. Whilst climate change related policies and actions tend to stem from the Department of Environmental Affairs, it is imperative that national government does not act in silos to address climate change. Given the direct relationship between government's procured energy mix and GHG emissions into the atmosphere, energy and electricity planning cannot occur without full and proper consideration of climate change impacts and South Africa's international obligations in relation thereto. The 2011 Climate Change Response White Paper recognises that one of the main opportunities for climate change mitigation is a less emissions-intensive energy mix, and that policy decisions must consider climate change impacts to avoid the lock-in of emissions-intensive technologies into the future.[19] The Minister of Energy is responsible for determining the energy mix in South Africa, and accordingly, this duty falls squarely on the Minister's shoulders.

33. The IRP2018 fails to adequately consider climate change impacts in light of the most recent IPCC science, fails to move away from emissions intensive technologies in the short and medium term, and accordingly, fails to give effect to its policy commitments.

[18] IPCC 1.5C Special Report, Summary for Policy Makers, approved at the First Joint Session of Working Groups I, II and III of the IPCC and accepted by the 48th Session of the IPCC, Incheon, Republic of Korea, 6 October 2018, available at http://report.ipcc.ch/sr15/pdf/sr15_spm_final.pdf

[19] Produced by the Department of Environmental Affairs and available at https://www.environment.gov.za/sites/default/files/legislations/national_climatechange_response_whitepaper.pdf.

THE NATURE AND PURPOSE OF THE IRP

34. The Integrated Resource Plan is, as defined in the Electricity Regulation Act, "a resource plan established by the national sphere of government to give effect to national policy".[20]

35. Section 34 of the Electricity Regulation Act empowers the Minister of Energy to determine, amongst others, that new generation capacity is needed to ensure the continued uninterrupted supply of electricity; the types of energy sources from which electricity must be generated, and the percentages of electricity that must be generated from such sources ('the Mix"). The Electricity Regulations on New Generation Capacity[21] establishes the Minister of Energy's duty to develop an IRP to plan for new generation capacity.[22] Regulation 4(1) provides as follows:

> *(1) The integrated resource plan shall –*
>
> *(a) be developed by the Minister after consultation with the Regulator; and*
>
> *(b) be published in the Government Gazette by the Minister.*

36. The White Paper on Energy Policy,[23] which underlies all electricity policy and planning in South Africa, states that:

> "*the IRP is a decision-making process concerned with the acquisition of least-cost energy resources, which takes into account the need to maintain adequate, reliable, safe, and environmentally sound energy services for all customers.*
>
> *The IRP approach includes:*
>
> - *the evaluation of all candidate energy supply and demand resources in an unbiased manner;*
> - *the systematic consideration of a full range of economic, environmental, social, and technological factors; the consideration of risks and uncertainties posed by different resource portfolios and external factors, such as fluctuations in fuel prices and economic conditions; and*
> - *the facilitation of public consultation in the utility planning process.*

[20] Section 1.
[21] GNR.399 of 4 May 2011 (Government Gazette No. 34262)
[22] Regulation 4 of GNR.399 of 4 May 2011.
[23] White Paper on the Energy Policy of the Republic of South Africa, 1998, Department of Minerals and Energy ISBN: 0-9584235-8-X.

The compulsory use of IRP methodologies will ensure that utilities avoid or delay electricity supply investments, or delay decommissioning decisions, when it is economical to do so, by optimising the utilisation of existing capacity and increasing the efficiency of energy supply and consumption. The use of IRP will also contribute to meeting the electricity supply industry's environmental performance."

37. The IRP accordingly comprises an electricity plan, which is required to give effect to national policy. Accordingly, it must be rational. Rationality is an element of legality, requiring the IRP to show a rational relationship between the means and the ends; a rational relationship, connection or link between the means employed in the IRP to achieve government's purpose, as well as the purpose or end itself. The process by which the decision is made (the means) must also be rationally related to the purpose of the decision.

38. Whilst "national policy" is a broad prescript, the draft IEP of 2016 identifies key energy policies as follows:

    38.1. the 1998 White Paper on the Energy Policy of the Republic of South Africa ("Energy White Paper");

    38.2. the White Paper on Renewable Energy, 2003 ("Renewable energy White Paper");

    38.3. the National Energy Efficiency Strategy of the Republic of South Africa, 2008 ("Energy Efficiency Strategy");

    38.4. the Nuclear Energy Policy for the Republic of South Africa, 2008 ("Nuclear Energy Policy");

    38.5. the Biofuels Industrial Strategy of the Republic of South Africa, 2007 ("Biofuels Strategy");

    38.6. the Electricity Basic Services Tariff (Free Basic Electricity) Policy 2003 ("Free Basic Electricity Policy"); and

    38.7. the Integrated Resource Plan 2010 (IRP2010).

39. In addition, the following national policies are directly related to energy and the energy mix of the country:

    39.1. National Development Plan 2030, 2012;

    39.2. National Climate Change Response White Paper;

    39.3. National Climate Change Adaptation Strategy (2nd Draft), 2017;

39.4. Draft Green Transport Strategy: (2017-2050), 2017.

39.5. The Beneficiation Strategy;

39.6. The National Transport Master Plan;

39.7. The proposed Carbon Tax Policy; and

39.8. National Water Resource Strategy 2 ("NWRS2")

40. The purpose of the IRP is clearly to "give effect" to, and be consistent with, these policies, as well as any other relevant national policy. If it does not do so, then it has not been validly made.

41. Broadly, we find that the IRP does not give effect to national policy, and is inconsistent with national policy in a number of respects. It furthermore ostensibly fails to deal with the objectives and commitments contained in related policy documents. We consider a number of the key national policies briefly in the next section.

KEY ENERGY POLICY ANALYSIS

The Energy White Paper

42. The White Paper on the Energy Policy of the Republic of South Africa, 1998, lays out a broad overview of the country's energy policies, and was primarily concerned with clarifying the government's policies on the supply and consumption of energy. It is the primary policy document which guides all subsequent policies, strategies and legislation within the energy sector.

43. The Energy White Paper identifies the following five key objectives, which formed the foundation and informed the development of energy policy in South Africa, and still remain relevant.[24]

43.1. increasing access to affordable energy services;

43.2. improving energy governance;

43.3. stimulating economic development;

43.4. managing energy-related environmental impacts; and

43.5. securing supply through diversity.

[24] Draft IEP, page 26.

44. The White Paper prescribes the use of IRP methodologies in the evaluation of future energy investments and the decommissioning of energy infrastructure. It requires that the IRP approach must acquire least-cost energy resources, must allow for the consideration of energy supply in an unbiased manner, and that a full range of economic, environmental, social and technological factors must be considered.[25]

45. The White Paper clearly recognises that renewables can provide "the least cost energy service, particularly when social and environmental costs are included".[26] Government policy on renewables is thus concerned with:

    45.1. ensuring that economically feasible technologies and applications are implemented;

    45.2. ensuring that an equitable level of national resources is invested in renewable technologies, given their potential and compared to investments in other energy supply options; and

    45.3. addressing constraints on the development of the renewable industry.[27]

46. However, the draft IRP is inconsistent with these requirements for the IRP process outlined in the White Paper for three reasons. Firstly, the proposed energy mix is not the least-cost scenario.[28] Secondly, the draft IRP displays a clear bias towards coal, as it has by far the greatest energy capacity mix (44.6%) when compared to the other sources of energy such as renewables.[29] Finally, and pursuant of this, this proposed investment in energy derived from coal illustrates that the government has placed more emphasis on the artificially "cheap" resource, and therefore its perceived (and disputed) economic advantages, over the environmental and social benefits of more clean and renewable energy sources.

47. Furthermore, the White Paper states that the Department of Minerals and Energy must follow a 'no regrets' approach, which means that regard must be given to the impacts that energy activities have on the environment. Thus, this approach must minimise the environmental impacts of energy activities whilst ensuring cost effectiveness. The draft IRP is incongruent with this 'no regrets' approach, especially in light of the goals of the Paris Agreement and the findings in the recent IPCC Special Report on 1.5°C report which both call for the urgent decarbonisation of the world's energy mix. An increase in South Africa's reliance on coal for energy through any new

[25] Energy White Paper, p 53.
[26] Energy White Paper, p 14.
[27] Energy White Paper, p 79.
[28] CSIR 'Formal comments on the Integrated Resource Plan (IRP) Update Assumptions, Base Case and Observations 2016', last accessed from https://www.csir.co.za/sites/default/files/Documents/IRP_Update_Assumptions_1904.pdf on 23 October 2018.
[29] Draft IRP 2018 at 41.

builds of coal-fired power stations therefore does not strike a balance between the environmental impacts of energy activities and cost-effectiveness.

The Renewable Energy White Paper

48. The 2003 White Paper on Renewable Energy supplements the White Paper on Energy Policy and recognises that the medium and long-term potential of renewable energy is significant. It sets out Government's vision, policy principles, strategic goals and objectives for promoting and implementing renewable energy in South Africa. It also informs the public and the international community of the Government's vision, and how the Government intends to achieve these objectives. It informs Government agencies and organs of their roles in achieving the objectives.

49. The Government's overall vision for the role of renewable energy in its energy economy is:

> *An energy economy in which modern renewable energy increases its share of energy consumed and provides affordable access to energy throughout South Africa, thus contributing to sustainable development and environmental conservation.*[30]

50. The White Paper only provides a defined target for the inclusion of renewable energy for the short term (up until 2013), and it is now largely outdated. However, the White Paper provides policy principles which still apply in the current energy mix scenario:

    50.1. Full cost accounting: Pricing policies will be based on an assessment of the full economic, social and environmental costs and benefits of policies, plans, programmes, projects and activities of energy production and utilisation.

    50.2. Equity: There should be equitable access to basic services to meet needs and ensure human well-being. Each generation has a duty to avoid impairing the ability of future generations to ensure their well-being.

    50.3. Global and international cooperation and responsibilities: Government will recognise its shared responsibility for global and regional issues and act with due regard for the principles contained in relevant policies and applicable regional and international agreements.

    50.4. Allocation of functions: Government will allocate functions within the framework of the Constitution to the institutions and spheres of Government that can most effectively achieve the objective of a function within the context of energy policy.

[30] Renewable Energy White Paper, page 1.

50.5. Participation: Government will encourage the inclusion of all stakeholders in energy governance with the aim of achieving equitable and effective participation.[31]

51. Given the social and environmental costs associated with the proposed energy mix which favours coal and gas and does not sufficiently curb emissions, the draft IRP2018 places both current and future generations at risk, and consequently is inconsistent with these principles.

National Climate Change Response White Paper and Draft Adaptation Strategy

52. The National Climate Change Response White Paper presents the South African Government's vision for an effective climate change response and in the long-term, a just transition to a climate-resilient and lower-carbon economy and society. This is the primary policy which gives effect to South Africa's international climate change commitments.

53. In the White Paper, government commits to building the resilience of the country, its economy and its people, and managing the transition to a climate resilient, equitable and internationally competitive lower-carbon economy and society in a manner that simultaneous addresses South Africa's over-riding national priorities for sustainable development, job creation, improved public and environmental health, poverty eradication, and social equality. In order to do this, government commits to:

53.1. effectively manage inevitable climate change impacts through interventions that build and sustain South Africa's social, economic and environmental resilience and emergency response capacity; and

53.2. make a fair contribution to the global effort to stabilise greenhouse gas (GHG) concentrations in the atmosphere at a level that avoids dangerous anthropogenic interference with the climate system within a timeframe that enables economic, social and environmental development to proceed in a sustainable manner.[32]

54. The White Paper recognises that the due to the significance of mining and minerals processing in the economy and our coal-intensive energy system, South Africa's emissions profile differs substantially from other developing countries at a similar stage of development.[33] Nevertheless, one of the main opportunities for climate change mitigation includes "moving to a less emissions-intensive energy mix, with consequent economic benefits of improved efficiency and

[31] Renewable Energy White Paper, page 26.
[32] NCCRWP, page 11.
[33] NCCRWP , page 26.

competitiveness as well as incentivising economic growth in sectors with lower energy intensities".[34]

55. The White Paper further requires that policy decisions on new infrastructure investments must consider climate change impacts to avoid the lock-in of emissions-intensive technologies into the future.[35] It further requires:

    55.1. that climate change policies and measures address the needs of the poor and vulnerable and ensure human dignity, whilst endeavouring to attain social and economic sustainability [uplifting the poor and vulnerable];

    55.2. that ecological, social and economic resources and capital be managed responsibly for current and future generations [inter- and inter- generational equity]; and

    55.3. that a robust and sustainable economy and healthy society depends on the services that well-functioning ecosystems provide, and enhancing the sustainability of the economic and social and ecological services is an integral component of an effective and efficient climate change response.[36]

56. The draft National Climate Change Adaptation Strategy (2nd Draft), 2017 ("Adaptation Strategy") is one of the most recent policy documents on climate change produced by Government. The Adaptation Strategy is described as:

> *a common reference point for climate change adaptation efforts in South Africa, and it provides a platform upon which national climate change adaptation objectives for the country can be articulated so as to provide overarching guidance to all sectors of the economy. The strategy help gauge the degree to which development initiatives at different levels of government and business integrate and reflect critical climate change adaptation, as such guides stronger coherence and coordination on climate change adaptation activities between different institutions and levels of government, particularly with regards to planning, implementation and reporting, as such provide inputs to the country's legal framework for adaptation. The strategy is the main vehicle for South Africa in meeting its international obligations under the UNFCCC as contained in the country's adaptation component of the Nationally Determined Contribution.*
>
> (our emphasis)

[34] NCCRWP, page 26.
[35] NCCRWP, page 26.
[36] NCCRWP, page 12.

57. The Adaptation Strategy once again recognises the energy intensity of South Africa's economy, with both coal mining and thermal energy production from coal-fired power plants using significant volumes of water. Maintaining the necessary water supply for power plants will need allocations to be drawn from other sectors, such as agriculture, and in some cases, transported from far away through pipelines and pumps.[37] Accordingly, the country's continued reliance on coal and carbon-intensive industries like mining will make it particularly vulnerable to changes in global carbon and trade regimes. The draft Strategy draws the following conclusions if South Africa continues to rely on coal:

> *This would put the country's energy security at risk unless the energy sector adapts to this uncertain future. Furthermore, energy and other public infrastructure may face the growing challenge of damage and loss arising from more frequent and intense extreme weather events.*[38]
>
> *South Africa will face consequences in a carbon-constrained global economy, including possible export restrictions and border controls. The prospect of a global low-carbon future, and the implications this has for the South African economy, is another reason why the country's economic model needs to become more adaptable, flexible and resilient.*[39]

58. This means that the energy sector must take heed of its contents, and electricity needs should be guided by and formulated on the basis of the commitments therein. However, the draft Strategy recognises that the IEP and the IRP which existed when it was published (November 2017) did not take into account the risks posed by climate change, particularly the water-energy nexus. The draft Strategy thus states that such consideration should inform these energy documents, rather than climate change adaptation being a standalone plan.[40]

59. Despite this, the draft IRP2018 fails to adequately consider climate change impacts, fails to move away from emissions intensive technologies in the short and medium term, continues to rely on emissions-intensive and environmental unsound coal (particularly) and gas technology. It thus fails to give effect to its policy commitments in respect of climate change response.

[37] P 54.
[38] P 74.
[39] P 75.
[40] P 54, pg 5.

National Development Plan 2030, 2012

60. The National Development Plan ("NDP") was drafted by the National Planning Commission and published in 2012. It offers a long-term perspective for South Africa. It defines a desired destination and identifies the roles different sectors of society need to play in reaching that goal. The NDP aims to eliminate poverty and reduce inequality by 2030. According to the plan, South Africa can realise these goals by drawing on the energies of its people, growing an inclusive economy, building capabilities, enhancing the capacity of the state, and promoting leadership and partnerships throughout society.

61. The NDP was however drafted in a manner which gives effect to the previous IRP (the IRP2010), which existed at the time of its formulation. Whilst there is much argument to be made that the previous IRP was in any event not aligned with the goals of the NDP itself, this is not relevant for the current purposes. Reference to previous IRP goals is outdated, no longer relevant, and should be struck from the NDP. However, the draft IRP2018 references the NDP heavily in its introductory section and is ostensibly framed by what the IRP describes as the NDP's vision, that by 2030 South Africa will have an energy sector that provides reliable and efficient energy service at competitive rates, is socially equitable through expanded access to energy at affordable tariffs and that is environmentally sustainable through reduced pollution.[41]

62. For the reasons set out in both this Legal Commentary and the Technical Commentary, Greenpeace Africa submits that this vision can only be met by including no new coal in the IRP, removing the irrational and artificial constraints on renewable energy, and speeding up the existing coal decommissioning processes due to poor plant performance and an inability to comply with the country's Minimum Emission Standards.

63. Furthermore, the environmental principles on which the NDP is premised are still relevant in the current draft IRP2018 context:[42]

    63.1. Full cost accounting: Internalise both environmental and social costs in planning and investment decisions, recognising that the need to secure environmental assets may be weighed against the social benefits accrued from their use;

    63.2. Sound policy-making: Develop coherent and aligned policy that provides predictable signals, while being simple, feasible and effective; and

[41] Draft IRP2018. page 14, para 2.
[42] NDP, pages 199 and 200.

63.3. Least regret: Invest early in low-carbon technologies that are least-cost, to reduce emissions and position South Africa to compete in a carbon-constrained world.[43]

64. Greenpeace Africa submits that the current iteration of the draft IRP does not align with these principles, despite ostensibly giving effect to the vision of the NDP, and that the vision and principles of the NDP can only be achieved by the removal of new coal from the energy mix.

Carbon Tax Policy Paper, 2013

65. The Carbon Tax Policy is concerned with the combustion of fossil fuels that emit carbon dioxide into the atmosphere, and the externalities that result due to these emissions which includes climate change. The Policy proposes that a carbon tax must be phased in to curb such emissions and lead to a smooth transition to a low-carbon economy.

66. Although this Policy emphasises the significant emissions that the energy sector has, the draft IRP does not deal with the proposed carbon tax and how it will affect South Africa's energy mix going into the future. This is indicative of the incongruence between the draft IRP and the Policy, as the Policy seeks to foster a decarbonised energy mix whilst the draft IRP further entrenches coal as South Africa's primary source of energy.

The National Water Resource Strategy 2, 2013

67. The Second National Water Resource Strategy's overarching purpose is to ensure that national water resources are protected, used, developed, conserved, managed and controlled in an efficient and sustainable manner towards achieving South Africa's development priorities in an equitable manner over the next 5-10 years.[44]

68. The Strategy acknowledges that South Africa is a water-stressed country and is facing a number of water challenges and concerns, which include security of supply, environmental degradation and resource pollution, and the inefficient use of water.

69. Furthermore, it emphasises that the most important consideration in the Strategy is that water is scarce and it requires careful management to enable provision of basic water services and equitable allocation, while meeting the needs of inclusive economic growth without threatening the integrity of aquatic ecosystems.

[43] NDP page 199 and 200.
[44] Department of Water Affairs 'The National Water Resource Strategy 2, 2013' available at http://www.dwa.gov.za/documents/Other/Strategic%20Plan/NWRS2-Final-email-version.pdf

70. The IRP2018's entrenchment of water-intensive coal as the dominant and primary component of the country's energy mix fails to give effect to the Strategy's goals of efficient and sustainable water use.

Policies aimed at emission reductions

71. In addition, there are a number of energy policies which aim to give effect to the national government's objectives and Paris Agreement commitment to reduce GHG emissions. These policies (and draft policies) include:

    71.1. The Energy Efficiency Strategy, which calls for a reduction in electricity demand through energy efficiency measures, thereby deferring the need for building new power plants,[45] and which aims to, amongst other things, reduce environmental pollution (Goal 4)[46] and carbon dioxide emissions (Goal 5).[47]

    71.2. The Biofuels Strategy, which aims to contribute toward the reduction in GHG emissions.[48]

    71.3. The Draft Green Transport Strategy (2017-2050), 2017, which aims to decrease emissions as agreed by under the Paris Agreement. It provides the Department of transport with a number of means to reduce GHG emissions in the transport sector, and in doing so, to reduce the environmental and health impacts associated therewith.[49]

    71.4. The National Transport Master Plan 2050, published in 2016, which aims to deliver a dynamic, long-term, and sustainable transportation systems framework. The Plan calls for synergy between the planning of national transportation and national energy and that the possibility of using emerging alternatives such as the exploration of new fuels. It requires the sector to reduces its GHG footprint by reducing reliance on petroleum products, and start using alternative fuels.[50] The Plan emphasises resource efficiency and clean technologies as critical for fostering a low-carbon economy.

72. For the reasons set out in this Legal Commentary, together with the Technical Commentary the IRP is however at odds with this national commitment, and accordingly does not align with national policy.

[45] Energy Efficiency Strategy of the Republic of South Africa, page 37.
[46] Above, page 5.
[47] Above, page 5.
[48] Biofuels Strategy, page 8.
[49] Draft Transport Policy, pp 25 and 26.
[50] National Transport Master Plan 2050, page 9-3.

SUBSTANTIVE ISSUES

Least cost

73. The 2016 CSIR study titled "Least-cost electricity mix for South Africa by 2040" shows unequivocally that renewable energy is less expensive than coal, and that the most economically viable electricity option for South Africa is a future energy mix that has 70% renewable generation capacity by 2040, with gas-powered generation capacity to deal with peak demand due to its high dispatchability, and coal generation capacity phased out ("the Re-optimised scenario").

74. According to research completed by the Energy Research Centre in 2018, the inclusion of the 1000MW of new coal alone in the updated draft IRP2018 will cost South Africa close to R20-billion more than is necessary, will push out renewable energy, and will make electricity more expensive.[51] A key finding of this study is that neither new coal nor new nuclear is required to meet demand at lowest cost. Therefore, a least-cost electricity build plan for South Africa does not include new coal plants. Greenpeace Africa therefore believes that this new coal has been irrationally 'forced' into the IRP preferred scenario. In essence, the Energy Research Centre found that "*the inclusion of the coal IPPs in South Africa's electricity build plan raises the total system costs compared to a scenario without the coal IPPs.*"[52]

75. We deal with the financial implications of new coal in the Technical Submission in more detail.

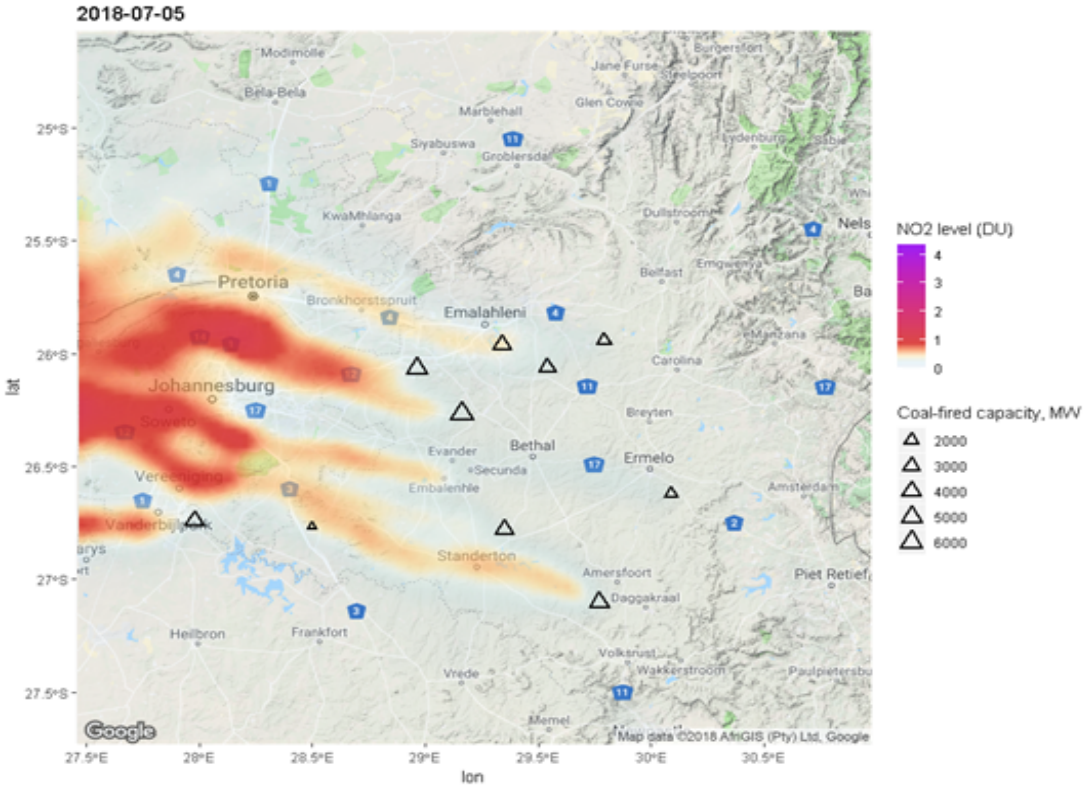
Unacceptable environmental and health impacts

76. Air pollution is a global health crisis, with up to 95% of the world's population breathing unsafe air.[53] A recent and ground-breaking analysis of satellite data from 1 June to 31 August 2018 reveals the world's largest Nitrogen Dioxide (NO2) air pollution hotspots across six continents in the most detail to date.[54] Greenpeace Africa's analysis of this data indicates that coal and transport are the two principle sources of air pollution, with Mpumalanga in South Africa topping

[51] Ireland, Gregory & Burton, Jesse. 2018. "*An assessment of new coal plants in South Africa's electricity future: the cost, emissions, and supply security implications of the coal IPP programme*." Energy Research Centre, University of Cape Town, Cape Town, South Africa at page 29 available at: http://www.ee.co.za/wp-content/uploads/2018/05/ERC-Coal-IPP-Study-Report-Finalv2-290518.pdf.
[52] As above, page 8.
[53] See https://www.stateofglobalair.org.
[54] Note that this analysis will be formally released on the 29th of October 2018 but is based on publicly available data produced by the European Space Agency's Sentinel 5P satellite collected between 1 June and 31 August 2018. The TROPOMI instrument onboard the European Space Agency Sentinel 5P satellite has been providing data on NO2 levels in the atmosphere with unprecedented detail and accuracy since June 1, 2018. Greenpeace has analysed the data and has released a global map of the worst NO2 emissions sources around the world. Greenpeace is the first organisation to process the data into averaged NO2 levels on a gridded map. The EDGAR global emissions inventory was overlaid with the satellite data to indicate the probable major sources of NO2 emissions in each hotspot.

the chart *as the world's largest Nitrogen Dioxide hotspot*. This confirms that South Africa has the most polluting cluster of coal-fired power stations in the world. Mpumalanga is home to a cluster of twelve coal fired power plants with a total capacity of over 32 gigawatts owned and operated by Eskom. South Africa is a significant global hotspot with its high concentration of coal power stations and its weak air pollution standards and low levels of compliance.[55] Nitrogen Dioxide is a dangerous pollutant itself and also contributes to the formation of PM2.5 and ozone, two of the most dangerous forms of air pollution.

77. The satellite data further reveals that the cities of Johannesburg and Pretoria are also highly affected by extreme NO2 pollution levels. The Nitrogen Dioxide is blown across from Mpumalanga and into both cities due to close proximity and regular east winds. This means that plumes of dangerous NO2 pollution regularly cover these cities and their 8 million people.



Power plant pollution plumes detected by Sentinel 5P on 5 July 2018, transported by winds blowing from Eskom's coal-fired power plants in South Africa to Johannesburg and Pretoria.

[55] Compared with many other countries South Africa has relatively weak Minimum Emission Standards (MES), that allow coal-fired power stations to emit up to 10 times more NO2 than allowed in China or Japan. Nonetheless, the majority of Eskom's old and highly polluting coal-fired power stations do not comply with these MES. In 2015 Eskom was granted a five year postponement from complying with MES. This decision was taken although postponements can only be made if "ambient air quality standards in the area are in compliance, and will remain in compliance even if the postponement is granted". But the Highveld region (covering Mpumalanga) has been declared a High Priority Area by the Department of Environmental Affairs, because it is not in compliance with the National Ambient Air Quality Standards.

78. Globally, the main sources of NO2 pollution are coal-fired power plants, followed by manufacturing/construction and transportation. NO2 is a severe respiratory irritant that inflames the lining of the lungs, which reduces the body's immunity to lung infections. Immediate effects can include coughing, wheezing, flu, and bronchitis. Longer-term effects can include the exacerbation of conditions like asthma and increasing rates of heart disease and lung cancer.

79. The IRP2018 provides for the construction of additional coal plants, together with the construction of units 5 and 6 of Kusile, which will only contribute further to the already significant air pollution in South Africa and its attendant health impacts.

80. The environmental impacts arising from the energy mix and procurement plans under the IRP2018 are unacceptable, unreasonable and unnecessary. Greenpeace Africa has described these environmental impacts in detail in the Technical Submission. For ease of reference, these are summarised as:

    80.1. new coal plants, together with the construction of units 5 and 6 of Kusile, will have significant impacts on water resources, air quality, health, land and the climate;

    80.2. both coal and gas release significant emissions which substantially contribute to climate change;

    80.3. Kusile alone increases South African's contribution to climate change by nearly 10%;[56] and

    80.4. the continued reliance on coal impacts significantly on water resources, with water scarcity an ongoing significant challenge, likely to be worsened through the effects of climate change.

81. Whilst the IRP2018 purports to balance a number of objectives, including minimising environmental impacts and water usage, it fails to given adequate consideration to increasing water scarcity. With the current energy mix, vast amounts of water will be utilised for coal, despite a declining water supply, drawing much needed water away from other uses, such as domestic and agricultural demands.

82. These impacts place both current and future generations at risk. Renewable energy is the most ecologically sustainable option for future electricity generation. Although the IRP2018 increases allocations to renewables from the previous IRP, it retains artificial constraints for both wind and solar, without adequate reason.

[56] See https://www.banktrack.org/download/kusile_power_project_factsheet/kusile_power_project_factsheet.pdf.

83. The IRP2018 accepts that the full impact of decommissioning the existing Eskom fleet has not been fully studied for this IRP update.[57] It is imperative that these studies are urgently conducted and made available for public consideration and comment.

84. In order to effectively mitigate against these environmental impacts, the IRP must:

    84.1. remove new coal from the energy mix;

    84.2. remove Kusile units 5 and 6 from the energy mix;

    84.3. decommission existing coal plants in a shorter timeframe;

    84.4. remove artificial constraints on renewable energy; and

    84.5. model an advanced decline input.

Constraints on renewables

85. Whilst the IRP2018 increases allocations to renewables from the previous IRP, it constrains renewables by capping the renewable allocation and by including multi-year pauses in its procurement, without adequate reason. It retains artificial constraints for both wind and solar, without adequate reason. Renewables are now clearly both the cheapest and the cleanest electricity option, with coal comprising a dirty, high environmental impact option.

86. Capping of renewables undermines the goals of the IRP modelling, which is detailed further in the Technical Submission. There is accordingly no justification for constraining renewable energy technologies in the IRP.

87. Retaining yearly limits for renewable energy will not provide for a "smooth roll out of renewable energy" as penned in the IRP2018.[58] Instead, the IRP should facilitate a smooth roll out of renewable energy by:

    87.1. setting an ambitious target for renewables;

    87.2. removing delays in the commissioning of renewable energy;

    87.3. allocating a portion of the renewable mix to Eskom;

    87.4. removing barriers to small scale embedded generation; and

[57] Page 61.
[58] Page 39.

87.5. removing new coal and Kusile units 5 and 6 from the IRP, together with decommissioning of older coal-fired power stations at a faster rate than anticipated.

88. It is submitted that a reasonable measure to achieve ecologically sustainable development must promote the development of renewables, unhindered by capping or pauses, over new coal development and continued coal operations.

THE IRP AS A "REASONABLE MEASURE" SUPPORTING SUSTAINABLE DEVELOPMENT

89. Given the clear link between the electricity sector and its impacts on the environment, new generation capacity and electricity planning must give effect to the state's obligations under section 24 of the Constitution. In other words, given that the fossil-fuel based energy sector is proven to negatively impact the environment, the government, and particularly the Minister of Energy who is mandated with the administration and management of South Africa's energy sources, must take reasonable legislative and other measures to protect the environment for current and future generations.

90. Further, the IRP is an "other measure" for purposes of section 24 of the Constitution. Therefore, the Minister must ensure that the IRP is reasonably able to prevent pollution and ecological degradation, and to secure ecologically sustainable development and use of natural resources and that economic and social development is justifiable with regard to ecological sustainability.

91. We are of view that the draft IRP2018 currently does not reasonably protect the environment as required by section 24 of the Constitution and further does not support ecologically sustainable development, for the following reasons:

91.1. In light of scientific evidence that the upper range of our national determined contribution will not be sufficient to mitigate the effects of climate change,[59] the electricity sector should, instead of the upper bound, apply the lower bound emissions target as the maximum. This would comply with the precautionary principle.

91.2. In light of the global scientific consensus presented in the IPCC Special Report and the foreseeable impact on human rights as a result of a world exceeding 1.5 degrees increase (from 1990 levels), the draft IRP2018 should be reviewed and based instead on the 1.5°C target.

[59] See http://climateactiontracker.org/countries/southafrica.html.

91.3. Renewable Energy is by far the most ecologically sustainable option for future electricity generation. However, the draft IRP2018 artificially constrains renewable energy penetration. There are no technical reasons for the imposed limits.

91.4. The final proposed scenario is not the most economically sustainable option in contravention of section 24 of the Constitution. The IRP should aim to identify the lowest cost options for South Africa's electricity supply. However, the IRP artificially caps renewable energy and imposes pauses in renewable energy procurement, which reduces policy certainty around renewable energy and inhibits South Africa's ability to develop local manufacturing and the associated job creation.

ALIGNMENT WITH IEP AND ABILITY TO ACHIEVE THE KEY ENERGY PLANNING OBJECTIVES

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92. The IRP must develop a mix, which will achieve the optimal balance between the key energy planning objectives:

92.1. ensure security of supply;

92.2. minimise the cost of energy;

92.3. promote job creation and localisation;

92.4. minimise environmental impacts;

92.5. minimise water consumption;

92.6. diversify supply sources;

92.7. promote energy efficiency; and

92.8. promote energy access.

93. Given that the IRP must align with the IEP, the IRP should not conflict with, or undermine the IEP or any of the objectives which the IEP aims to achieve. It is notable that the existence of an alternative model which can achieve the objectives more optimally than the current proposed energy mix, will be an indication that the IRP is not properly aligned with the IEP and White Paper, and that it is not a "reasonable measure" as envisaged by section 24 of the Constitution.

94. On the weight of the technical and legal commentary herein, Greenpeace Africa is of the view that the current phase of development will not lead to a defensible and compliant IRP, for the following reasons:

    94.1. it is not in line with international commitments and not based on the most recent IPCC climate science;

    94.2. given its major reliance on uncertain water supplies in the future, it cannot ensure security of supply;

    94.3. it does not minimise the cost of energy;

    94.4. it does not minimise environmental impacts; and

    94.5. it does not minimise water consumption.

CONCLUSION

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95. From the above, it should be clear, that Greenpeace Africa and its legal and technical experts find the current draft of the IRP wanting, and in contravention with legal and other obligations. While the draft IRP2018 has taken some steps forward in comparison to the 2016 version, it has not done so quickly or clearly enough, which means that the draft IRP2018 does not give effect to national policy, despite its purpose to do so.

96. The major deficiencies which must be attended to for the next draft of the IRP are the following:

    96.1. The draft IRP currently does not reasonably protect the environment as required in terms of section 24 of the Constitution and further does not support ecological sustainable development for the reasons provided in the submissions.

    96.2. The proposed scenario is not the least-cost scenario.

    96.3. Artificial constraints are retained for renewable energy without sufficient reason.

    96.4. The draft IRP will not enable South Africa to meet its international obligations.

    96.5. The draft IRP2018 requires substantial revision that takes account of the range of material information that has not been considered, including the IPCC's Special Report and international and national human rights law. It should be amended to eliminate unwarranted

biases and restrictions, and should take into account the comments submitted in response to the draft IRP2018 (including those in this document).

96.6. In conclusion, Greenpeace Africa believes that the IRP2018 must be finalized with full transparency and proper regard to the constitution and what is in the public interest. We call on the Department of Energy to take this opportunity to show real leadership, which will result in a better future for all South Africans.